

The Meso-what? The public perceptions of the Mesolithic

Volume 2 (of 2)

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Appendix 34
Analysis of communication channels: fiction
A: characters

ID	Named	Gender	Age	Kin	Function	Group
F01	x	x	x	x	x	x
F02		x	x	x	x	x
F03	x	x	x	x	x	x
F04	x	x	x	x	x	x
F05	x	x	x	x	x	x
F06		x	x	x		x
F07	x	x	x	x	x	x
F08	x	x	x	x	x	x
F09		x	x	x		x
F10		x	x	x		x
F11	x	x	x	x	x	x
F12	x	x	x	x	x	x
F13	x	x	x	x	x	x
F14	x	x	x	x	x	x
F15	x	x	x	x	x	x
F16	x	x	x	x	x	x
F17		x	x	x	x	x
F18	x	x	x	x	x	x
Total	13	18	18	18	15	18
%	72.2	100.0	100.0	100.0	83.3	100.0

Appendix 34
Analysis of communication channels: fiction
B: happenings

ID	Environment									People			Other
	Climate change	Melting ice	Sea level	Land rise	Tsunami	Island	Woodland	New biota	Seasons	Pop. rise or fall	Hunger	Disease	
F01			x										incursion
F02													others affecting the resources
F03													hard winter
F04													bear attack
F05												x	orca attack
F06												x	lack of game
F11												x	marooned
F14					x								
F15													wounded by aurochs, forest fire, abandoned
F16			x		x								
F17									x				
Total			2		2				1			3	8
%	0.0	0.0	18.2	0.0	18.2	0.0	0.0	0.0	9.1	0.0	0.0	27.3	72.7

Appendix 35
Analysis of communication channels: illustrations
A: characters

ID	Named	Gender	Age	Kin	Function	Group	Other	Individual
I01		x	x		x			yes
I02		x	x					yes
I03					x			yes
I04					x			yes
I05		x	x		x			yes
I06		x	x					yes
I07		x			x			yes
I08		x			x			yes
I09		x	x		x			yes
I10		x	x					yes
I11		x						yes
I12		x						yes
I13		x						yes
I14		x						yes
I15		x			x		x	yes
I16		x			x			yes
I17		x	x					yes
I18		x			x			yes
I19		x	x					yes
I20		x			x			yes
I21		x			x			yes
I22		x	x		x		x	yes

I23		x	x		x			yes
I24		x			x			yes
I25		x	x					yes
I26		x	x		x			yes
I27		x			x		x	yes
I28		x	x					yes
I29		x			x			yes
I30		x						yes
I31		x						yes
I32			x		x			yes
I33		x						yes
I35			x		x			yes
I36							x	
I37		x						yes
I38			x					yes
I39		x						yes
I40		x						yes
I41		x	x					yes
I42		x			x			yes
I43		x			x			yes
I44			x		x			yes
I45		x	x					yes
I46		x						yes
I47		x						yes
I48		x	x		x			yes
I49		x	x					yes
I50		x						yes

I51		x	x					yes
I52		x					x	yes
I53		x	x		x			yes
I54		x	x		x			yes
I55		x			x			yes
I56		x	x					yes
I57		x	x					yes
I58		x			x	x		yes
I60		x	x					yes
I61	x	x	x					yes
I62		x	x		x			yes
I63		x						yes
I65		x						yes
I66		x	x					yes
I67		x			x			yes
I68		x	x				x	yes
I69		x	x					yes
I70		x			x			yes
I71		x						yes
I72		x			x			yes
I73		x	x					yes
I74		x	x					yes
I75		x	x					yes
I76		x	x				x	yes
I77		x	x					yes
I78		x		x				yes
I79		x	x					yes

I80		x	x					yes
I81		x	x					yes
I82		x	x		x			yes
I83		x		x	x			yes
I84		x	x					yes
I85		x	x					yes
I86		x		x				yes
I87		x						yes
I88		x						yes
I89		x			x			yes
I90		x	x		x			yes
I91		x	x		x			yes
I92			x					yes
I93		x	x					yes
I94		x	x		x			yes
I95		x	x					yes
I96		x	x					yes
I97	x	x						yes
I98	x	x						yes
I99		x	x		x			yes
I100		x						yes
I101		x		x				yes
I102		x	x		x			yes
I103		x						yes
I104		x	x		x			yes
I105		x	x					yes
I106			x				x	yes

I107		x	x		x			yes
I108		x					x	yes
I109		x	x		x			yes
I110							x	
I111		x	x					yes
I112		x						yes
I113		x					x	yes
I114		x	x					yes
I115		x	x		x			yes
I116	x	x						yes
I117		x	x					yes
I118		x						yes
I121		x	x		x			yes
I124		x	x					yes
I125		x	x		x			yes
I126		x						yes
I127		x	x					yes
I128							x	
I129							x	
I130		x	x					yes
I131		x	x					yes
Total	4	112	67	4	46	1	13	120
%	3.2	90.3	54.0	3.2	37.1	0.8	10.5	96.8

Appendix 35
Analysis of communication channels: illustrations
B: settings

ID	wood-land	river	lake	sea	coast	island	estuary	water	open	upland	grass	plain	cave	hill	clearing	Dogger-land	camp	grave	house	people	spirits	other
I01					x								x							x		
I02		x											x							x		
I03	x														x							
I04	x																			x		
I05		x							x											x		
I06	x		x																	x		
I07	x		x																	x		
I08																				x		rock outcrop
I09									x		x									x		
I10																	x			x		
I11																			x			
I12																			x	x		
I13			x																			
I14		x	x																	x		
I15	x		x																	x		
I16			x																	x		
I17	x		x																	x		
I18	x																					
I19																				x		
I20	x																					
I21			x																	x		

I22			x															x			x			
I23					x														x			x		
I24	x																					x		
I25	x																					x		
I26		x																				x		
I27	x		x																			x		
I28																						x		
I29	x																					x		
I30																						x		
I31																						x		
I32	x	x																				x		
I33					x																	x		
I35	x	x																				x		
I36						x																x		
I38																						x		
I39																						x		
I40																						x		
I41					x																	x		
I42		x																				x		
I43					x																	x		
I44																						x		
I45					x																	x		
I46																						x		
I47																						x		
I48	x																					x		
I49																						x		
I50																						x		

I51																		X		X		
I52	x			x		x														X		
I53					x															X		
I54					x															X		
I55		x																		X		
I56									x	x										X		
I57									x	x										X		
I58									x	x												
I59									x													
I60	x																	x		X		
I61									x											X		
I62																		x		X		
I64								x														
I65																			x			
I66	x													x				x		X		
I67	x	x																				
I68	x	x												x						X		
I69					x																X	
I70																					X	
I71																					X	
I72		x																	x		X	
I73	x																			X	X	
I74	x																			X	X	
I75	x																			X	X	
I76																			x		X	
I77																				X	X	
I78																					X	

I79																					trap
I80	x																				
I81													x								
I82																				x	cliff foot
I83				x																x	
I84				x																	
I85				x																x	
I86	x													x						x	
I87	x																			x	
I89	x																			x	
I90		x																		x	
I91																				x	
I92					x					x										x	rock outcrop
I93	x		x																	x	
I94				x																	
I95																				x	
I96																				x	
I99	x		x																	x	
I100																				x	
I101					x															x	
I102					x					x										x	
I103			x																		
I105					x										x		x			x	
I106					x															x	
I107	x																			x	
I108					x															x	

I109									x								x			x		
I110	x		x																	x		
I111			x																			
I112																		x			x	
I113	x																x			x		
I114									x	x											x	
I115	x	x														x					x	
I117	x															x					x	
I119												x		x			x					
I120							x							x			x					
I121					x																x	
I122																		x				
I123																				x		
I124		x																x			x	
I125	x																	x			x	
I126													x								x	
I127									x												x	
I128																		x				
I129									x												x	
I130													x								x	above farm
I131									x									x			x	
Total	35	14	15	5	16	2	3	1	14	4	1	1	6	2	8	3	30	2	4	98	3	5
%	28.7	11.5	12.3	4.1	13.1	1.6	2.5	0.8	11.5	3.3	0.8	0.8	4.9	1.6	6.6	2.5	24.6	1.6	3.3	80.3	2.5	4.1

Appendix 35
Analysis of communication channels: illustrations
C: actions (1)

ID	Finding food				Food preparation and use					In settlements					Dog	Making tools (a)			
	Hunt	Gather	Fish	Bring food home	Butcher	Prepare	Cook	Eat	Store	Make camp or house	Make fire	Collect resources	Sleep	Midden	Play with dogs	Make tools	Knap	Work wood	Skins
I01		x	x	x			x	x											
I02			x	x			x					x			x				
I03	x																		
I04	x																		
I05			x	x												x			
I06					x											x			x
I07				x												x			
I08	x																		
I09				x															
I10							x												x
I11																	x		
I12																			
I13			x																
I14																			
I15			x													x			
I16	x																		
I17																x			x
I18	x																		
I19			x																
I20	x																		
I21				x															

I22			x		x				x									x	
I23			x			x	x	x										x	x
I24	x																		
I25																			
I26			x	x						x								x	x
I27	x																		
I28				x		x				x									
I29	x																		
I30				x						x									x
I31				x						x								x	x
I32						x													
I33										x									
I35				x															
I36																			
I37																			
I38																			x
I39			x																
I40																			
I41																			
I42	x																		
I43		x	x																
I44	x																		
I45				x			x		x						x			x	x
I46																			x
I47																			
I48		x									x								
I49																			

I50							x	x											
I51																			
I52																			
I53				x			x												
I54				x			x												
I55			x																
I56																	x		
I57																			x
I58																			
I60																	x		x
I61																			
I62				x	x		x												x
I63																			
I65																	x	x	
I66								x											
I67			x																
I68																x			
I69			x		x		x												
I70	x																		
I71	x																x	x	
I72			x									x							x
I73																			
I74								x											
I75											x								
I76																		x	
I77																		x	
I78																			

I79																			
I80																			
I81																			
I82	x	x			x	x									x				
I83			x																
I84																			
I85																			
I86																			
I87						x									x				x
I88																			
I89	x																		
I90			x																
I91		x		x		x	x												
I92											x								x
I93															x				x
I94	x																		
I95							x												
I96				x					x	x	x				x				
I99				x													x		
I100	x																		
I101																			
I102		x	x																
I103																			
I104			x																
I105																			
I106																			
I107				x	x					x						x	x		x

I108																			X
I109	x			x															X
I111																			
I112								x											
I114				x							x					x			
I115			x		x	x											x		
I116																			
I117					x	x													x
I118																			x
I121	x																		x
I124																x			x
I125		x															x		
I126																			
I127																			
I128																			
I129																			
I130																			
I131					x		x								x	x			
Tota	19	7	20	21	8	12	11	4	2	4	6	5	2	1	3	19	8	1	24
b%	15.8	5.8	16.7	17.5	6.7	10.0	9.2	3.3	1.7	3.3	5.0	4.2	1.7	0.8	2.5	15.8	6.7	0.8	20.0

Appendix 35
Analysis of communication channels: illustrations
D: actions (2)

ID	Making tools (b)		In the landscape		Movement					Social								
	Canoes	Clothes	Fell tree, coppice	Strip bark	Mobile	Return	Leave	Walk	Sail or boat	Dispute	Gender action	Nurse, cuddle	Talk	Hand down	Teach learn	Tell stories	Music	play
I01											x		x					x
I02													x					x
I03																		
I04																		
I05									x		x	x	x					
I06			x	x								x						x
I07			x						x			x	x					
I08																		
I09																		
I10												x	x					
I11																		
I12		x																
I13																		
I14	x								x									
I15																		
I16																		
I17			x	x					x			x						
I18																		
I19																		
I20																		
I21													x					

I22																		
I23	x								x		x	x	x		x			
I24																		
I25																		
I26		x							x		x							
I27																		
I28												x	x					
I29																		
I30																		
I31																		
I32	x					x	x											
I33																		
I35																		
I36									x									
I37																		
I38							x											
I39									x									
I40																		
I41					x			x										
I42																		
I43									x									
I44																		
I45																		
I46													x					
I47	x																	
I48													x					
I49													x	x				

I50													x					
I51																		
I52							x							x				
I53																		
I54																		
I55																		
I56											x			x				
I57														x				
I58														x				
I60																		
I61											x							
I62														x				x
I63																		
I65																		
I66														x				
I67																		
I68																		
I69																		
I70																		
I71																		
I72												x						
I73													x	x				
I74														x				
I75																		
I76																		
I77																		
I78														x	x			

I79																		
I80																		
I81																		
I82												x						
I83									x									
I84																		
I85																		
I86													x					
I87													x					
I88																		
I89																		
I90																		
I91							x								x	x		
I92																		
I93			x	x				x			x							
I94																		
I95	x											x						
I96		x									x		x			x		
I99												x	x					x
I100													x					
I101									x									
I102														x				
I103							x			x								
I104																		
I105														x				
I106										x								
I107												x		x				

I108																		x	
I109													x						
I111																			
I112													x						
I114																			
I115	x							x		x		x							
I116																			
I117																			
I118																			
I121																			
I124												x							
I125												x	x						
I126														x					
I127								x											
I128																			
I129																			
I130													x	x					
I131																			
Tota														x					
I	6	3	4	3	1	3	4	3	13	1	12	13	35	2	2	2	1	5	
%	5.0	2.5	3.3	2.5	0.8	2.5	3.3	2.5	10.8	0.8	10.0	10.8	29.2	1.7	1.7	1.7	0.8	4.2	

Appendix 35
Analysis of communication channels: illustrations
E: actions (3)

ID	Religion			Art	Other
	Ritual	Burial	Dance	Decorate	
I01					
I02				x	
I03					
I04					
I05			x		
I06					
I07					
I08					
I09					
I10					
I11					
I12					
I13					
I14					
I15					
I16					wearing headdress
I17					
I18					wearing headdress
I19					
I20					wearing headdress
I21					
I22					

I23					
I24					wearing headdress
I25			x		wearing headdress, watching dance
I26					headdress as face mask
I27					
I28					
I29					
I30					
I31					
I32					
I33					
I35					
I36					
I37					throwing harpoon
I38					
I39					
I40		x			
I41					
I42					
I43					
I44					
I45					
I46					
I47					
I48					

I49					
I50			x		wearing headdress
I51	x	x			wearing headdress
I52					
I53					
I54					
I55					bathing
I56					
I57					
I58					warming hands
I60					
I61					running away
I62					
I63					processing fibres
I65					
I66					
I67					
I68					
I69					
I70					
I71					
I72					
I73					
I74					
I75					
I76					
I77					

I78					
I79					refusing to kill
I80					waking up
I81					warmed by bear
I82					
I83					
I84					bailing
I85					rescue at sea
I86					watching farmers
I87					
I88					firing bow
I89					
I90					
I91					
I92					
I93					wearing headdress
I94					
I95					
I96					
I99					wearing headdress
I100					
I101					
I102					
I103					
I104					
I105					bailing
I106					

I107					
I108					
I109					
I111					wearing headdress
I112					
I114					
I115					
I116					psaing with bow
I117					
I118					
I121					
I124					
I125					
I126					
I127					
I128					charcoal burning
I129					
I130					watching farmers
I131					
Tota	1	2	3	1	27
%	0.8	1.7	2.5	0.8	22.5

Appendix 35
Analysis of communication channels: illustrations
F: happenings

ID	Sea level	Other
I08		x
I100		x
I105	x	
Total	1	2
%	33.3	33.3

Appendix 36
Analysis of communication channels: television programmes
A: characters

ID	Named	Gender	Age	Kin	Function	Group	Other
TV01		yes			yes		
TV02		yes	yes	yes	yes	yes	yes
TV03					yes		
TV04			yes	yes	yes	yes	
TV05			yes	yes	yes	yes	
TV06		yes	yes	yes	yes		
TV07					yes		
TV08					yes		
TV09				yes	yes		
TV10			yes		yes		
TV11			yes	yes	yes		
TV12	yes	yes	yes	yes	yes	yes	yes
TV13					yes		
TV14		yes			yes		
TV20					yes		
TV23		yes					
TV24				yes			
TV25			yes		yes	yes	yes
Total	1	6	8	8	16	5	3
%	5.6	33.3	44.4	44.4	88.9	27.8	16.7

Appendix 36
Analysis of communication channels: television programmes
B: settings

ID	woodland	coast	estuary	river	lake	spring	marsh	island	upland	cliff	cave	Doggerland	camps	people	Other
TV01											x				gorge
TV02	x	x		x						x		x	x		
TV03	x						x								
TV04	x			x			x	x					x		
TV05	x			x							x		x		
TV06							x								
TV07	x	x									x				
TV08	x		x	x	x		x								
TV09	x														
TV10	x			x											
TV11	x			x	x		x		x			x			
TV12	x														
TV13	x			x	x			x				x			
TV14	x												x	x	
TV15	x												x	x	
TV16	x				x								x	x	
TV17	x				x								x	x	
TV18	x												x	x	
TV19	x				x								x	x	
TV20					x			x							
TV21	x				x								x	x	
TV22	x				x								x	x	

TV23	x												x	x	
TV24	x				x								x	x	
TV25	x			x	x	x						x			
Total	22	2	1	8	11	1	5	3	1	1	3	4	13	10	1
%	88.0	8.0	4.0	32.0	44.0	4.0	20.0	12.0	4.0	4.0	12.0	16.0	52.0	40.0	4.0

Appendix 36
Analysis of communication channels: television programmes
C: actions (1)

ID	Finding food				Food preparation and use					In settlements							Use dogs
	Hunt	Gather	Fish	Bring food home	Butcher	Prepare	Cook	Eat	Store	Make camp or house	Make fire	Collect resources	Sleep	Make bed	Defecate	Midden	
TV01																	
TV02	x					x	x	x	x	x	x	x	x			x	
TV03	x																
TV04	x				x		x	x								x	x
TV05	x	x			x		x				x	x				x	
TV06	x	x			x	x	x	x			x						
TV07	x	x	x		x	x	x	x			x					x	
TV08	x	x	x			x	x	x			x						
TV09	x	x		x	x	x	x										x
TV10	x	x				x	x	x	x	x							
TV11										x							
TV12	x	x	x		x				x	x	x	x				x	
TV13	x						x	x		x							
TV14		x			x		x				x						
TV15	x	x				x		x		x		x	x	x	x		
TV16		x	x			x		x				x	x				
TV17	x		x							x	x		x				
TV18					x						x						
TV19	x	x	x			x					x	x					
TV20	x	x	x			x		x									

TV21		x						x				x					
TV22	x	x									x			x			
TV23	x				x												
TV24	x							x					x				
TV25	x	x						x									
Total	19	15	7	1	9	10	10	13	3	7	11	7	5	2	1	5	2
%	76.0	60.0	28.0	4.0	36.0	40.0	40.0	52.0	12.0	28.0	44.0	28.0	20.0	8.0	4.0	20.0	8.0

Appendix 36
Analysis of communication channels: television programmes
D: actions (2)

ID	Making tools							In the landscape			Movement						
	Raw material	Make tools	Invent new	Knap	Work wood	Skins	Clothes	Make clearing	Fell tree, coppice	Strip bark	Mobile	Sail or boat	Walk	Migrate	Stay	Return	Gather
TV01		x															
TV02	x	x	x	x	x	x		x	x		x	x	x	x	x	x	
TV03		x											x				
TV04	x	x		x	x				x		x	x	x				
TV05		x				x	x				x	x	x				
TV06		x						x									
TV07		x		x			x				x		x			x	
TV08		x						x				x					
TV09		x		x													
TV10		x									x	x	x				
TV11		x			x		x	x					x	x			
TV12		x		x			x				x			x			
TV13		x			x		x	x			x						
TV14																	
TV15		x								x							
TV16		x											x				
TV17		x											x				
TV18																	
TV19													x				
TV20		x											x				
TV21																	

TV22		x											x				
TV23						x							x				
TV24																	
TV25		x				x	x	x					x			x	x
Total	2	19	1	5	4	4	6	6	2	1	7	6	13	3	1	3	1
%	8.0	76.0	4.0	20.0	16.0	16.0	24.0	24.0	8.0	4.0	28.0	24.0	52.0	12.0	4.0	12.0	4.0

Appendix 36
Analysis of communication channels: television programmes
E: actions (3)

ID	Social										Religion					Art	Other
	Fight or dispute	Mark territory	Gender action	Reproduce	Teach or learn	Talk	Network	Music	Die	Play	Ritual	Spirits	Wear charm	Burial	Dance	Decorate	
TV01																	
TV02	x	x									x	x	x	x		x	
TV03																	
TV04										x							stand in dung, spits seeds in fire
TV05			x	x											x		use of moss, respecting animals
TV06			x		x			x							x		knowing the plants, dyes, medicines, link with ancestors
TV07							x										respecting animals, test for poisons
TV08					x												knowing the land, hearing the ancestors
TV09											x						respect animal, work together, wake up, hear animals
TV10																	use medicine, learn poisons
TV11		x					x										sit on platform, retreat from sea
TV12			x	x					x		x						use medicines

TV13		x	x	x	x						x	x					heat water, wash, work together, use drugs, organise work
TV14					x	x											leadership, gather water, dig latrine
TV15	x					x											team work, plan, rest, get lost, clean
TV16	x					x											WASH, mark route, sitting around
TV17						x											argue, illness
TV18	x				x	x											warm hands, team work
TV19						x											leading, work together, get lost
TV20						x											
TV21						x										x	clean camp
TV22			x		x	x											ration food,
TV23																	
TV24	x					x											group tribunal
TV25			x				x									x	plan ahead, dress up, marry
Total	5	3	6	3	6	10	3	1	1	1	4	2	1	1	2	3	20
%	20.0	12.0	24.0	12.0	24.0	40.0	12.0	4.0	4.0	4.0	16.0	8.0	4.0	4.0	8.0	12.0	80.0

Appendix 36
Analysis of communication channels: television programmes

ID	Sea level	Land rise	Climate change	Melting ice	Woodland	Island	New biota	Seasons	Tsunami	Pop. rise	Hunger	Disease	Other
TV02	x		x	x	x		x						
TV03	x	x		x			x						
TV04	x		x										
TV08	x												beavers, rainfall
TV11	x		x	x									become British
TV12	x			x		x	x	x	x				bad years
TV13	x	x	x	x		x			x				earthquake
TV14													bitten, fly infestation
TV15													rain, bitten, fire out
TV16												x	exhaustion, cold, lack of sleep
TV17											x		rain, hygiene, bitten
TV18								x					snow
TV19												x	
TV20													mice
TV21											x		exhaustion
TV22												x	exhaustion
TV23													ice
TV24			x					x					
TV25	x		x	x	x	x	x		x				flints turn pink
Total	8	2	6	6	2	3	4	3	3	0	2	3	14
%	42.1	10.5	31.6	31.6	10.5	15.8	21.1	15.8	15.8	0.0	10.5	15.8	73.7

Appendix 37
Comparison of narrative elements in popular media
A: All elements across different media

Media type	Medium	Character		Setting		Action		Happening		All narrative		All items
		Number	%	Number	%	Number	%	Number	%	Number	%	
Academic media	Academic	57	98.3	48	82.8	57	98.3	38	65.5	57	98.3	58
Informative media	Webpages	31	62.0	31	62.0	45	90.0	25	50.0	46	92.0	50
	Blogs	23	46.0	15	30.0	31	62.0	7	14.0	46	92.0	50
	Videos	22	44.0	24	48.0	34	68.0	8	16.0	43	86.0	50
	Popular Books	31	73.8	31	73.8	36	85.7	27	64.3	37	88.1	42
	Newspapers	76	48.1	78	49.4	103	65.2	29	18.4	149	94.3	158
	BBC Online	26	51.0	29	56.9	44	86.3	28	54.9	51	100.0	51
	Magazines	77	43.8	79	44.9	117	66.5	41	23.3	170	96.6	176
	Total	286	49.6	287	49.7	410	71.1	165	28.6	542	93.9	577
Imaginative media	Television	18	72.0	25	100.0	25	100.0	19	76.0	25	100.0	25
	Images	124	94.7	122	93.1	121	92.4	2	1.5	130	99.2	131
	Fiction	18	100.0	18	100.0	18	100.0	11	61.1	18	100.0	18
	Total	160	92.0	165	94.8	164	94.3	32	18.4	173	99.4	174
Educational media	Schools	41	71.9	41	71.9	52	91.2	44	77.2	56	98.2	57
	Museums	10	100.0	10	100.0	10	100.0	10	100.0	10	100.0	10
	Total	51	76.1	51	76.1	62	92.5	54	80.6	66	98.5	67

Appendix 37
Comparison of narrative elements in popular media
B: Aspects of character across different media

Medium	Named		Gender		Age		Kin		Function		Group		Other		Total items	All Items
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%		
Academic total	0	0.0	38	66.7	10	17.5	12	21.1	34	59.6	25	43.9	28	49.1	57	58
Web-pages	0	0.0	1	3.2	2	6.5	2	6.5	24	77.4	12	38.7	2	6.5	31	50
Blogs	2	8.7	5	21.7	2	8.7	1	4.3	16	69.6	5	21.7	2	8.7	23	50
YouTube videos	1	4.5	5	22.7	2	9.1	1	4.5	13	59.1	4	18.2	4	18.2	22	50
Popular books	2	6.5	8	25.8	6	19.4	5	16.1	26	83.9	19	61.3	7	22.6	31	42
Newspapers	5	6.6	8	10.5	6	7.9	2	2.6	52	68.4	15	19.7	19	25.0	76	158
BBC News	0	0.0	1	3.8	3	11.5	1	3.8	21	80.8	6	23.1	1	3.8	26	51
Magazines	1	1.3	8	10.4	10	13.0	8	10.4	58	75.3	21	27.3	7	9.1	77	176
Informative total	11	3.8	36	12.6	31	10.8	20	7.0	210	73.4	82	28.7	42	14.7	286	577
Television	1	5.6	4	22.2	4	22.2	5	27.8	5	27.8	6	33.3	6	33.3	18	25
Images	4	3.2	112	90.3	67	54.0	4	3.2	46	37.1	1	0.8	13	10.5	124	131
Fiction	13	72.2	18	100.0	18	100.0	18	100.0	15	83.3	18	100.0	9	50.0	18	18
Imaginative total	18	11.3	134	83.8	89	55.6	27	16.9	66	41.3	25	15.6	28	17.5	160	174
School resources	6	14.6	21	51.2	7	17.1	16	39.0	23	56.1	15	36.6	13	31.7	41	57
Museums	2	20.0	5	50.0	5	50.0	3	30.0	8	80.0	4	40.0	2	20.0	10	10
Educational total	8	15.7	26	51.0	12	23.5	19	37.3	31	60.8	19	37.3	15	29.4	51	67
OVERALL TOTAL	37	7.4	196	39.4	132	26.6	66	13.3	307	61.8	126	25.4	85	17.1	497	818

As % of those items that portray character, not of all items in the study sample

Appendix 37
Comparison of narrative elements in popular media
C: Aspects of setting across different media

Medium	woodland		wetland		dryland		settlement		social		spiritual		Total items	All Items
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%		
Academic total	21	43.8	42	87.5	28	58.3	3	6.3	1	2.1	0	0.0	48	58
Web-pages	25	80.6	17	54.8	4	12.9	21	67.7	6	19.4		0.0	31	50
Blogs	5	33.3	6	40.0	3	20.0	9	60.0	2	13.3		0.0	15	50
Youtube videos	9	37.5	11	45.8	4	16.7	1	4.2	1	4.2		0.0	24	50
Popular books	23	74.2	25	80.6	20	64.5	14	45.2	7	22.6	1	3.2	31	42
Newspapers	13	16.7	39	50.0	17	21.8	54	69.2	6	7.7		0.0	78	158
BBC news online	5	17.2	15	51.7	8	27.6		0.0		0.0		0.0	29	51
Magazines	25	31.6	58	73.4	27	34.2		0.0	5	6.3		0.0	79	176
Informative total	105	36.6	171	59.6	83	28.9	99	34.5	27	9.4	1	0.3	287	577
Television	22	88.0	18	72.0	7	28.0	13	52.0	10	40.0		0.0	25	25
Images	35	28.7	53	43.4	30	24.6	30	24.6	98	80.3	3	2.5	122	131
Fiction	16	88.9	12	66.7	12	66.7	15	83.3	17	94.4	2	11.1	18	18
Imaginative total	73	44.2	83	50.3	49	29.7	58	35.2	125	75.8	5	3.0	165	174
Schools	33	80.5	28	68.3	18	43.9	7	17.1	4	9.8		0.0	41	57
Museums	8	80.0	7	70.0	4	40.0		0.0	2	20.0	1	10.0	10	10
Educational total	41	80.4	35	68.6	22	43.1	7	13.7	6	11.8	1	2.0	51	67
OVERALL TOTAL	219	43.5	289	57.5	154	30.6	164	32.6	158	31.4	7	1.4	503	818

As % of those items that portray setting, not of all items in the study sample

Appendix 37
Comparison of narrative elements in popular media
D: Aspects of actions across different media (1)

Medium	Get food		Prepare food		In camp		Animals		Make tools		Forestry		Move		Total Items	All Items
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%		
Academic total	41	71.9	27	47.4	24	42.1	20	35.1	38	66.7	10	17.5	33	57.9	57	58
Web-pages	34	75.6	2	4.4	20	44.4	4	8.9	25	55.6	9	20.0	22	48.9	45	50
Blogs	12	38.7	5	16.1	10	32.3	1	3.2	11	35.5	2	6.5	9	29.0	31	50
Youtube videos	14	41.2	7	20.6	15	44.1	3	8.8	17	50.0	2	5.9	8	23.5	34	50
Popular books	29	80.6	11	30.6	14	38.9	10	27.8	25	69.4	13	36.1	26	72.2	36	42
Newspapers	36	35.0	36	35.0	31	30.1	2	1.9	29	28.2	9	8.7	43	41.7	103	158
BBC news online	14	31.8	12	27.3	12	27.3		0.0	16	36.4	3	6.8	13	29.5	44	51
Magazines	47	40.2	31	26.5	33	28.2	4	3.4	45	38.5	11	9.4	42	35.9	117	176
Informative total	186	45.4	104	25.4	135	32.9	24	5.9	168	41.0	49	12.0	163	39.8	410	577
Television	22	88.0	20	80.0	19	76.0	2	8.0	20	80.0	8	32.0	17	68.0	25	25
Images	56	46.3	25	20.7	17	14.0	4	3.3	43	35.5	4	3.3	21	17.4	121	131
Imaginative total	78	53.4	45	30.8	36	24.7	6	4.1	63	43.2	12	8.2	38	26.0	146	156
School resources	40	76.9	24	46.2	29	55.8	15	28.8	41	78.8	17	32.7	26	50.0	52	57
Museums	10	100.0	10	100.0	9	90.0	4	40.0	10	100.0	5	50.0	9	90.0	10	10
Educational total	50	80.6	34	54.8	38	61.3	19	30.6	51	82.3	22	35.5	35	56.5	62	67
Overall total	314	50.8	183	29.6	209	33.8	49	7.9	282	45.6	83	13.4	236	38.2	618	800

As % of those items that portray actions, not of all items in the study sample

Appendix 37
Comparison of narrative elements in popular media
D: Aspects of actions across different media (2)

Medium	Social		Religion		Art		Other		Total Items	All Items
	Number	%	Number	%	Number	%	Number	%		
Academic total	15	26.3	15	26.3	17	29.8	18	31.6	57	58
Web-pages	4	8.9	2	4.4	3	6.7	1	2.2	45	50
Blogs	6	19.4	8	25.8	2	6.5	1	3.2	31	50
Youtube videos	4	11.8	5	14.7	1	2.9	1	2.9	34	50
Popular books	14	38.9	11	30.6	5	13.9	7	19.4	36	42
Newspapers	13	12.6	19	18.4	2	1.9	4	3.9	103	158
BBC news online	5	11.4	8	18.2	2	4.5	3	6.8	44	51
Magazines	21	17.9	19	16.2	5	4.3	23	19.7	117	176
Informative total	67	16.3	72	17.6	20	4.9	40	9.8	410	577
Television	20	80.0	6	24.0	3	12.0	20	80.0	25	25
Images	48	39.7	5	4.1	1	0.8	27	22.3	121	131
Imaginative total	68	46.6	11	7.5	4	2.7	47	32.2	146	156
School resources	15	28.8	15	28.8	13	25.0	3	5.8	52	57
Museums	5	50.0	7	70.0	4	40.0	7	70.0	10	10
Educational total	20	32.3	22	35.5	17	27.4	10	16.1	62	67
Overall total	155	25.1	105	17.0	41	6.6	97	15.7	618	800

As % of those items that portray actions, not of all items in the study sample

Appendix 37
Comparison of narrative elements in popular media
E: Aspects of happenings across different media (1)

Medium	Climate change		Melting ice		Sea level change		Tsunami		Becoming an island		Woodland spread		New fauna or flora		Seasonality		Total items	All items
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%		
Academic total	25	65.8	19	50.0	18	47.4	2	5.3	12	31.6	19	50.0	20	52.6	1	2.6	38	58
Web-pages	16	64.0	1	4.0	19	76.0	1	4.0	14	56.0	14	56.0	5	20.0		0.0	25	50
Blogs	1	14.3	1	14.3	5	71.4		0.0	1	14.3	1	14.3	1	14.3		0.0	7	50
YouTube videos	5	62.5		0.0	4	50.0		0.0	2	25.0	1	12.5	2	25.0		0.0	8	50
Popular books	17	63.0	7	25.9	16	59.3	3	11.1	15	55.6	16	59.3	12	44.4	2	7.4	27	42
Newspapers	6	20.7	3	10.3	15	51.7	7	24.1	7	24.1	1	3.4		0.0		0.0	29	158
BBC News	3	10.7	2	7.1	8	28.6	5	17.9	4	14.3	1	3.6	2	7.1		0.0	28	51
Magazines	16	39.0	11	26.8	21	51.2	6	14.6		0.0	6	14.6	2	4.9	3	7.3	41	176
Informative total	64	38.8	25	15.2	88	53.3	22	13.3	43	26.1	40	24.2	24	14.5	5	3.0	165	577
Television	6	31.6	6	31.6	8	42.1	3	15.8	3	15.8	2	10.5	4	21.1	3	15.8	19	25
Images		0.0		0.0	1	50.0		0.0		0.0		0.0		0.0		0.0	2	131
Fiction		0.0		0.0	2	18.2	2	18.2		0.0		0.0		0.0		0.0	11	18
Imaginative total	6	18.8	6	18.8	11	34.4	5	15.6	3	9.4	2	6.3	4	12.5	3	9.4	32	174
School resources	27	61.4	18	40.9	19	43.2	1	2.3	27	61.4	16	36.4	13	29.5		0.0	44	57
Museums	7	70.0	4	40.0	5	50.0		0.0	4	40.0	2	20.0	3	30.0	1	10.0	10	10
Educational total	34	63.0	22	40.7	24	44.4	1	1.9	31	57.4	18	33.3	16	29.6	1	1.9	54	67
Overall total	104	41.4	53	21.1	123	49.0	28	11.2	77	30.7	60	23.9	44	17.5	9	3.6	251	818

As % of those items that portray happenings, not of all items in the study sample

Appendix 37
Comparison of narrative elements in popular media
E: Aspects of happenings across different media (2)

Medium	Population rise or fall		Hunger		Disease		Other		Total items	All items
	Number	%	Number	%	Number	%	Number	%		
Academic total	2	5.3		0.0		0.0	15	39.5	38	58
Web-pages	2	8.0		0.0		0.0		0.0	25	50
Blogs		0.0		0.0		0.0		0.0	7	50
YouTube videos		0.0		0.0		0.0		0.0	8	50
Popular books	6	22.2	1	3.7	1	3.7	6	22.2	27	42
Newspapers	1	3.4	1	3.4	1	3.4	1	3.4	29	158
BBC News		0.0	1	3.6	1	3.6	1	3.6	28	51
Magazines	1	2.4	1	2.4		0.0	4	9.8	41	176
Informative total	10	6.1	4	2.4	3	1.8	12	7.3	165	577
Television		0.0	2	10.5	3	15.8	10	52.6	19	25
Images		0.0		0.0		0.0	2	100.0	2	131
Fiction		0.0		0.0	3	27.3	9	81.8	11	18
Imaginative total	0	0.0	2	6.3	6	18.8	21	65.6	32	174
School resources	1	2.3		0.0		0.0	3	6.8	44	57
Museums	1	10.0	1	10.0		0.0	6	60.0	10	10
Educational total	2	3.7	1	1.9	0	0.0	9	16.7	54	67
Overall total	12	4.8	7	2.8	9	3.6	42	16.7	251	818

As % of those items that portray happenings, not of all items in the study sample

Appendix 38
Comparison of characters in popular media

Media	Nm.	Gnd.	M	F	Age	Yrs.	Eld.	Ad.	Yth.	Ch.	By.	Kin	Fm.	Ch.	S/D.	Par.	A/U.	Gp.	Anc.	Fnc.	Fd.	Mn.	Oth.	Gp.	Oth.	Total
Academic total		17	16	10	10	2	2	9	2	10	2	12	4	9						35	34	3	1	25	25	57
Academic %	0.0	29.8	28.1	17.5	17.5	3.5	3.5	15.8	3.5	17.5	3.5	21.1	7.0	15.8	0.0	0.0	0.0	0.0	0.0	61.4	59.6	5.3	1.8	43.9	43.9	
Web-pages	0	1	1	0	2	0	0	0	1	2	0	4	2	2	0	0	0		0	24	22	0	0	13	2	31
Blogs	2	6	4	3	4	1	0	4	0	1	0	2	1	1	0	0	0		0	16	16	0	1	5	2	23
YouTube videos	1	5	5	1	5	1	1	4	1	0	0	4	2	2	0	0	1	1	2	13	11	3	0	4	4	22
Popular books	2	8	8	7	6	0	1	6	0	3	0	5	4	3	0	1	1	1	1	26	22	3	6	19	7	31
Newspapers	5	8	6	5	15	5	0	11	3	3	0	6	3	2	0	0	0		1	52	50	2	1	15	19	76
BBC News	0	1	1	1	3	0	0	2	0	3	1	5	2	3	0	0	0		0	22	22	0	0	7	2	26
Popular magazines	1	9	6	7	14	2	2	8	2	8	0	11	4	8	0	1	0		2	60	57	2	3	26	9	77
Informative total	11	38	31	24	49	9	4	35	7	20	1	37	18	21	0	2	2	2	6	213	200	10	11	89	45	284
Informative %	3.9	13.4	10.9	8.5	17.3	3.2	1.4	12.3	2.5	7.0	0.4	13.0	6.3	7.4	0.0	0.7	0.7	0.7	2.1	75.0	70.4	3.5	3.9	31.3	15.8	
Television	1	6	6	3	8	3	1	3	1	6	0	9	2	8	0	1	1		5	16	16	0	0	5	3	25
Images	4	112	103	66	114	0	9	103	1	63	5	56	0	56	4	4	0		0	46	46	0	0	1	13	131
Imaginative total	5	118	109	69	122	3	10	106	2	69	5	65	2	64	4	5	1	0	5	62	62	0	0	6	16	156
Imaginative %	3.2	75.6	69.9	44.2	78.2	1.9	6.4	67.9	1.3	44.2	3.2	41.7	1.3	41.0	2.6	3.2	0.6	0.0	3.2	39.7	39.7	0.0	0.0	3.8	10.3	
School resources	6	21	19	16	7	0	2	6	2	5	2	16	2	9	2	6	0		0	23	22	0	5	15	13	

Museums	2	5	3	5	5	1	1	4	0	3	0	3	0	2	0	1	1		1	8	8	1	4	4	2	
Educational total	8	26	22	21	12	1	3	10	2	8	2	19	2	11	2	7	1	0	1	31	30	1	9	19	15	50
Educational %	16.0	52.0	44.0	42.0	24.0	2.0	6.0	20.0	4.0	16.0	4.0	38.0	4.0	22.0	4.0	14.0	2.0	0.0	2.0	62.0	60.0	2.0	18.0	38.0	30.0	
OVERALL TOTAL	24	182	162	114	183	13	17	151	11	97	8	121	22	96	6	14	4	2	12	306	292	11	20	114	76	490
%	4.9	37.1	33.1	23.3	37.3	2.7	3.5	30.8	2.2	19.8	1.6	24.7	4.5	19.6	1.2	2.9	0.8	0.4	2.4	62.4	59.6	2.2	4.1	23.3	15.5	

Note:

Nm Identified by number
Gnd Identified by gender
Yrs Identified by years of age
Eld Elders
Ad Adults
Yth Youth
Ch Child/ren
By Baby
Fm Family
S/D Son or daughter
Par Parents
A/U Aunt or uncle
Gp Groups
Anc Ancestors
Fnc Identified by function
Fd Food getting
Mn Manufacturing
Oth Other

Appendix 39
Characters in fictional stories

Name	Gender	Age	Yrs	Source	Relation	Role
Fa	Male	Adult		Chronicles of Ancient Darkness 1	father of Torak	mage
Hord, Renn's brother	Male	Adult		Chronicles of Ancient Darkness 1	nephew of Fin-Kedinn	enemy of Torak, killed by the mad bear
Fin-Kedinn	Male	Adult		Chronicles of Ancient Darkness 1-6		leader of the clan
Renn	Female	Child		Chronicles of Ancient Darkness 1-6	niece of Fin-Kedinn	friend of Torak
Torak	Male	Child	12	Chronicles of Ancient Darkness 1-6		
Oslak	Male	Adult		Chronicles of Ancient Darkness 1, 2		gave shelter to Torak, took own life when sick
Vedna	Female	Adult		Chronicles of Ancient Darkness 1, 2	mate of Oslak	
Saeunn	Female	Adult		Chronicles of Ancient Darkness 1, 2, 3, 5, 6		mage
Dyrati	Female	Child		Chronicles of Ancient Darkness 1, 4	mated with a man in Otter clan	
Krukoslik	Male	Adult		Chronicles of Ancient Darkness 1, 6		
Narrander (The Walker)	Male	Adult		Chronicles of Ancient Darkness 1, 6		mage, Soul Eater
Bera	Female	Adult		Chronicles of Ancient Darkness 2		
Dari	Male	Child	5	Chronicles of Ancient Darkness 2	son of Oslak & Vedna	
Islinn	Male	Adult		Chronicles of Ancient Darkness 2		clan leader
Kyo	Male	Adult		Chronicles of Ancient Darkness 2		
Poi	Male	Child		Chronicles of Ancient Darkness 2		
Sialot	Male	Child		Chronicles of Ancient Darkness 2		
Tenris	Male	Adult		Chronicles of Ancient Darkness 2	Torak's father's brother	mage, Soul Eater, killed by killer whale
Tiu	Male	Adult		Chronicles of Ancient Darkness 2		helps Renn to find Torak
unnamed	Male	Adult		Chronicles of Ancient Darkness 2		a sick stranger
unnamed	Female	Adult		Chronicles of Ancient Darkness 2		leader of a group that confronts Torak

Asrif	Male	Child		Chronicles of Ancient Darkness 2, 5		
Bale	Male	Child		Chronicles of Ancient Darkness 2, 5		
Detlan	Male	Child		Chronicles of Ancient Darkness 2, 5		
Etan	Male	Adult		Chronicles of Ancient Darkness 2, 6		
Thull	Male	Adult		Chronicles of Ancient Darkness 2, 6	brother of Oslak	
Akoomik	Female	Adult		Chronicles of Ancient Darkness 3		
Inuktiluk	Male	Adult		Chronicles of Ancient Darkness 3		helps Torak & Renn
Nef	Female	Adult		Chronicles of Ancient Darkness 3		mage, Soul Eater, destroys herself
Seshru	Female	Adult		Chronicles of Ancient Darkness 3	mother of Renn	mage, Soul Eater
Tanugeak	Female	Adult		Chronicles of Ancient Darkness 3		mage
unnamed	Male	Adult		Chronicles of Ancient Darkness 3		taking a message to Fin-Kedinn for Renn
unnamed	Female	Adult		Chronicles of Ancient Darkness 3		taking a message to Fin-Kedinn for Renn
unnamed	Male	Child		Chronicles of Ancient Darkness 3	son of Akoomik	servant of the Soul Eaters
Thiazzi	Male	Adult		Chronicles of Ancient Darkness 3, 5		mage, Soul Eater
Eostra	Female	Adult		Chronicles of Ancient Darkness 3, 6		mage, Soul Eater
Aki	Male	Child		Chronicles of Ancient Darkness 4		bully of Torak, pursuing him when outcast
Ananda	Female	Adult		Chronicles of Ancient Darkness 4		clan leader
Arrin	?	?		Chronicles of Ancient Darkness 4		found Torak's bow
Luta	Female	Adult		Chronicles of Ancient Darkness 4	mate of Thull	
Maheegun	Male	Adult		Chronicles of Ancient Darkness 4		clan leader
Raut	Male	Child		Chronicles of Ancient Darkness 4		
unnamed	Male	Child		Chronicles of Ancient Darkness 4	twin	joint mage
unnamed	Female	Child		Chronicles of Ancient Darkness 4	twin	joint mage
Yolun	?	?		Chronicles of Ancient Darkness 4		
Gaup	Male	Adult		Chronicles of Ancient Darkness 5		
unnamed	Male	Adult		Chronicles of Ancient Darkness 5		fisherman
unnamed	Male	Adult		Chronicles of Ancient Darkness 5	Bale's father	

unnamed	Female	Child		Chronicles of Ancient Darkness 5	Detlan's sister	
unnamed	Male	Adult		Chronicles of Ancient Darkness 5		hunter
unnamed	Female	Adult		Chronicles of Ancient Darkness 5		mad servant of Thiazzi
unnamed	Male	Adult		Chronicles of Ancient Darkness 5		bow maker
unnamed	Male	Adult		Chronicles of Ancient Darkness 5		clan leader
unnamed	Male	Adult		Chronicles of Ancient Darkness 5		clan leader
Durraïn	Female	Adult		Chronicles of Ancient Darkness 5, 6		clan leader
Aki	Male	Baby		Chronicles of Ancient Darkness 6		sick boy
Chelko	Male	Adult		Chronicles of Ancient Darkness 6	son of Krukoslik	
Dark	Male	Child		Chronicles of Ancient Darkness 6		outcast, adopted as Raven mage
Juksakai	Male	Adult		Chronicles of Ancient Darkness 6		clan leader
Narik	Male	Child		Chronicles of Ancient Darkness 6	son of Narrander	kidnapped by Eostra, died in the great fire
unnamed	Male	Adult		Chronicles of Ancient Darkness 6		mage
unnamed	Male	Adult		Chronicles of Ancient Darkness 6		hunting party
unnamed	Male	Child		Chronicles of Ancient Darkness 6		hunting party
unnamed	Female	Adult		Chronicles of Ancient Darkness 6		hunting with Mountain Hare
unnamed	Female	Adult		Chronicles of Ancient Darkness 6		
unnamed	Female	Adult		Chronicles of Ancient Darkness 6		mage
Ant	Male	Child		Hunt the Magic		finds antlers
Carr	Male	Child		Hunt the Magic		
Coll	Male	Adult		Hunt the Magic		paddling coracle
Dace	Male	Adult		Hunt the Magic		fisherman
Flynn	Male	Adult		Hunt the Magic		flint knapper
unnamed	Male	Adult		Hunt the Magic	father of Carr	
unnamed	Female	Adult		Hunt the Magic	mother of Carr	tending the campfire
unnamed	Female	Child		Hunt the Magic	sister of Carr	searching for bracket fungus
Eka	Male	Adult		Mezolith	brother of Poika	hunter

Jousten	Female	Adult		Mezolith	captive of Talja	immortal swan spirit, died in childbirth
Kiva	Female	Adult		Mezolith		
Korppi Vehlo	Female	Adult		Mezolith		healer
Poika	Male	Child		Mezolith		
Talja	Male	Elder		Mezolith		camp keeper
Tati	Male	Adult		Mezolith		
Toka	Male	Adult		Mezolith		hunter
Turha	Male	Adult		Mezolith		leader of the Owl people
unnamed	Male	Adult		Mezolith	father of Poika	hunter
Vahva	Male	Elder		Mezolith		
Vanha Konkari	Male	Elder		Mezolith		story-teller
Raven's Wing	Male	Child	8	Raven's Wing, son of True Arrow	son of True Arrow	
True Arrow	Male	Adult		Raven's Wing, son of True Arrow	father of Raven's Wing	
unnamed	Female	Child		Raven's Wing, son of True Arrow		
Acorn	Female	Child		Stone Spring	Shade's daughter	
Alder	Male	Adult		Stone Spring		healer
Ana	Female	Adult	14	Stone Spring		
Arga	Female	Child	7	Stone Spring	Ana's cousin	
Bark	Male	Adult		Stone Spring	Shade's second cousin	
Cardum	Male	Adult		Stone Spring		at the Narrows, trading with Chona
Cheek	Female	Child		Stone Spring	daughter of Eyelid	killed by accident by Zesi
Chona	Male	Adult		Stone Spring		trader, killed by Novu
Coyote	Male	Adult		Stone Spring		PalaeoIndian, left behind when the group split
Dolphin Gift	Female	Baby		Stone Spring	Ice Dreamer's	PalaeoIndian, born on boat
Eagle Seer	Male	Adult		Stone Spring		PalaeoIndian, left behind when the group split
Eyelid	Female	Adult		Stone Spring	wife of Gut	

Gall	Male	Adult		Stone Spring	brother of Shade	killed by Shade
Gentle	Male	Adult		Stone Spring		sacrificed by Zesi & Shade
Gorga	Male	Adult		Stone Spring	Magho's brother in law, Minda's father	of Jericho
Gut	Male	Adult		Stone Spring	brother of Knuckle	killed by Gall
Heni	Male	Adult		Stone Spring	friend of Kirike	
Hollow	Male	Adult		Stone Spring		
Honest	Female	Adult		Stone Spring		killed in the stone quarries
Horse Driver	Male	Adult		Stone Spring	husband of Ice Dreamer	PalaeoIndian, died on the ice
Ice Dreamer	Female	Adult		Stone Spring		PalaeoIndian
Jaku	Male	Adult		Stone Spring	Rute's husband	killed by the tsunami
Josu	Male	Adult		Stone Spring		flint worker
Jurgi	Male	Adult		Stone Spring		priest
Kano	Male	Adult		Stone Spring		knapper
Kara	Female	Adult		Stone Spring	wife of Matu	
Kirike	Male	Adult		Stone Spring	Ana's father	killed by the tsunami
Kirike	Male	Child		Stone Spring	son of Zesi & Shade	
Knot	Male	Child		Stone Spring	son of Alder	
Knuckle	Male	Adult		Stone Spring		
Lene	Female	Child		Stone Spring		killed by the tsunami
Loga	Male	Adult		Stone Spring		trading with Chona
Loyal	Female	Adult		Stone Spring	wife of True	
Magho	Male	Adult		Stone Spring		in Jericho, trading with Chona
Mammoth Talker	Male	Adult	30s	Stone Spring		PalaeoIndian, killed by the Cowards
Matu	Male	Adult		Stone Spring		survived the tsunami
Matu	Male	Adult		Stone Spring	son of Matu	
Me	Male	Child		Stone Spring		
Minda	Female	Adult	15	Stone Spring	Magho's wife's niece	of Jericho

Moon Reacher	Female	Child	8	Stone Spring		PalaeoIndian, died after Coward attack
Mother	Female	Adult		Stone Spring		
Novu	Male	Child		Stone Spring	son of Magho	of Jericho, sold to Chona
Old	Male	Child		Stone Spring		
Petru	Male	Adult		Stone Spring		priest before Jurgi
Qili	Male	Adult		Stone Spring	grandson of Heni	living to the east at the world river
Resin	Male	Adult		Stone Spring		priest
Root	Male	Adult		Stone Spring	father of Gall and Shade	forced Shade to kill him
Rute	Female	Adult		Stone Spring	Sunta's daughter, Ana's aunt	killed by the tsunami
Sabet	Female	Adult		Stone Spring	Ana's mother	already dead
Shade	Male	Adult		Stone Spring	brother of Gall	
Stone Shaper	Male	Adult	19	Stone Spring		PalaeoIndian, lost in a Coward attack
Sunta	Female	Adult	47	Stone Spring	Ana's grandmother	dies early on
Sunta	Female	Child		Stone Spring	daughter of Ana	
True	Male	Adult		Stone Spring		taken as Slave by Zesi & Shade
Wise	Male	Adult		Stone Spring		
Wolf Dancer	Male	Adult		Stone Spring		PalaeoIndian, priest, died on the ice
Zesi	Female	Adult		Stone Spring	Ana's sister	
Zuba	Female	Child		Stone Spring	Arga's granddaughter	
Agurne	Female	Adult		The Gathering Night		
Aitor	Male	Adult		The Gathering Night		Go-Between
Alaia	Female	Adult		The Gathering Night	sister of Bakar	
Alazne	Female	Child		The Gathering Night	daughter of Alaia & Amets	
Amets	Male	Adult		The Gathering Night	husband of Alaia	
Arantxa	Female	Adult		The Gathering Night	mother of Osane	
Argi	Male	Baby		The Gathering Night	of Arantxa's family	
Arrats	Male	Child		The Gathering Night		subject of a children's song

Bakar	Male	Adult		The Gathering Night	son of Nekane	
Bakar	Male	Baby		The Gathering Night	son of Kemen and Osane	
Basajaun	Male	Adult		The Gathering Night	brother of Kemen	
Edur	Male	Adult		The Gathering Night		hunter
Edur	Male	Adult		The Gathering Night		
Eguskine	Female	Adult		The Gathering Night		
Ekaitz	Male	Adult		The Gathering Night	cousin of Kemen	
Esti	Female	Child		The Gathering Night	daughter of Alaia & Amets	
Haizea	Female	Child		The Gathering Night	sister of Bakar	
Hilargi	Female	Adult		The Gathering Night	sister of Nekane	
Hodei	Male	Adult		The Gathering Night	brother of Arantxa	Go-Between
Ihintza	Female	Adult		The Gathering Night	sister of Aratntxa	
Itsaso	Female	Child		The Gathering Night		
Itzal	Male	Child		The Gathering Night	husband of Haizea, brother of Osane	
Kemen	Male	Adult		The Gathering Night	husband of Osane	hunter
Koldo	Male	Child		The Gathering Night	son of Arantxa	
Nekane	Female	Adult		The Gathering Night	mother of Bakar	Go-Between
Oroitx	Male	Child		The Gathering Night	son of Arantxa	
Ortzi	Male	Child		The Gathering Night	cousin of Haizea	
Osane	Female	Adult		The Gathering Night	wife of Kemen, daughter of Arantxa	
Sendoa	Male	Adult		The Gathering Night	husband of Sorne	hunter
Sorne	Female	Adult		The Gathering Night	sister of Nekane	
Sorne	Female	Adult		The Gathering Night	aunt of Alaia	
unnamed	Male	Adult		The Gathering Night	husband of Nekane	
unnamed	Male	Adult		The Gathering Night	husband of Arantxa	

unnamed	Male	Adult		The Gathering Night	cousin of Basajaun & Kemen	
Zeru	Male	Adult		The Gathering Night		hunter
Zigor	Male	Adult		The Gathering Night	uncle of Zorione	Go-Between
Zorione	Female	Child		The Gathering Night	cousin of Haizea	
'Ma Fingers'	Female	Elder		The Pits	mother of the archaic Fingers family	keeping up old customs
Agerod	Male	Child		The Pits	nephew of Argos	
Anna Mae Needcliff	Female	Child		The Pits	daughter of the archaeologist	20th century commentator
Argos	Male	Adult		The Pits		surrogate father figure
Asda	Female	Child		The Pits	leader of the Axes	head of the teenagers
Bedgo	Male	Child		The Pits	Berk's cousin	
Berk	Male	Child		The Pits	meat partner of Rorcus	
Berod	Female	Child	4	The Pits		
Brod	Male	Child		The Pits		
Brod	Male	Adult		The Pits	father of Brod	elk antler mattock maker, dies on pine nut gin
Broddha	Female	Child	8	The Pits		
Brodil	Female	Child	6	The Pits		
Burin	Female	Child		The Pits	member of the Pits	
Chert	Female	Child		The Pits	child of Brod & Eels	
Cud	Male	Child		The Pits	member of the Pits	
Dug	Male	Adult		The Pits		maker of salted pine nuts
Elin Rainmaker (Eels)	Female	Child		The Pits	member of the Pits, married Brod	
Falco	Male	Adult		The Pits	son of Ma Fingers	
Freya	Male	Child		The Pits	child of Brod & Eels	
Gargas	Male	Child		The Pits	friend of Brod	

Gerard	Male	Adult		The Pits		20th century, lab technician
Grub	Male	Adult		The Pits	son of Ma Fingers	
Gundestrup	Female	Child		The Pits	Treak's god-daughter	
Harrup	Male	Child		The Pits	brother of Asda	
Hayta	Male	Child		The Pits	Brod's meat sharer	
Horl Stendevenger	Male	Adult		The Pits		hunter who crossed the ridge
J S Needcliff	Male	Adult		The Pits	archaeologist	20th century commentator
Leister	Male	Adult		The Pits		bowman
Nesta	Female	Child		The Pits	Vert's sister	
Norbert Arthagarth Haagerbarta (Arf)	Male	Child		The Pits		has visions
Rorcus	Male	Child		The Pits	brother of Gargas	
Spider	Male	Child		The Pits	member of the Pits	
Stub	Male	Adult		The Pits	son of Ma Fingers	
Stump	Male	Child		The Pits	friend of Harrup	
Treak	Male	Adult		The Pits		shaman (Bedeviller)
Turtlejuice	Male	Child		The Pits	friend of Bedgo	
unnamed	Female	Adult		The Pits	mother of Brody	
unnamed	Female	Elder		The Pits	mother of Arf	
unnamed	Female	Child		The Pits	twin, sister of Stump	
unnamed	Female	Child		The Pits	twin, sister of Stump	
unnamed	Male	Adult		The Pits	half-brother of Leister	
unnamed	Female	Adult		The Pits	mother of Anna Mae	20th century commentator
Vert(igern)	Male	Child		The Pits	friend of Brod	
Viger Wildgoose	Male	Child		The Pits	leader of the Pits	
Woody	Male	Child		The Pits	Gargas's meat partner	
Man	Male	Adult		The Whitestone Stories 1		
Spirit of the earth	Female	Spirit		The Whitestone Stories 1		

Spirit of the great waters	Female	Spirit		The Whitestone Stories 1		
Spirits of the trees	?	Spirit		The Whitestone Stories 1		
Angry Aurochs	Male	Adult		The Whitestone Stories 2	brother of the boy	
He whom all the forest loves	Male	Child		The Whitestone Stories 2		
unnamed	Female	Adult		The Whitestone Stories 2	mother of the boy	
unnamed	Male	Adult		The Whitestone Stories 2	father of the boy	
Wrestles the Wolf	Male	Adult		The Whitestone Stories 2	brother of the boy	
Lightfoot	Female	Child		The Whitestone Stories 3		
unnamed	Female	Adult		The Whitestone Stories 3	mother of Lightfoot	
unnamed	Male	Adult		The Whitestone Stories 3	father of Lightfoot	
unnamed	Male	Adult		The Whitestone Stories 3		wiseman of the people
unnamed	Female	Adult		The Whitestone Stories 3		stranger who looked after Lightfoot

Appendix 40
Comparison of settings in popular media
A: the natural environment

MEDIA	forest	wet	coast	estuary	river	lake	spring	marsh	island	inland or dry	upland	cliff	open	downs	plain	light soils	cave	valley	Dogger -land	Total items
Academic total	22	1	39	7	20	26	2	11	5	3	14	1	1	1	3	13	16	2	5	48
Academic %	45.8	2.1	81.3	14.6	41.7	54.2	4.2	22.9	10.4	6.3	29.2	2.1	2.1	2.1	6.3	27.1	33.3	4.2	10.4	
Web-pages	25	2	7		9	5		1	1	2	1		1						2	31
Blogs	5	1	1		2	3		1		1			2						2	15
Youtube videos	9		5		6	2		1			1		1				2			24
Popular books	23	2	19	5	14	16	1	4	2	1	9		8		1	12	3	2	4	31
Newspapers	13	1	8	4	9	7	17	4			5	2	1				8	3	13	78
BBC news online	5	1	2		8	5	3	1	3	2	3						4		2	29
Popular magazines	25	2	21	10	20	13	4	10	14		11	7	3	1	5		2	6	2	79
Informative total	105	9	63	19	68	51	25	22	20	6	30	9	16	1	6	12	19	11	25	287
Informative %	36.6	3.1	22.0	6.6	23.7	17.8	8.7	7.7	7.0	2.1	10.5	3.1	5.6	0.3	2.1	4.2	6.6	3.8	8.7	
Television	22		2	1	8	11	1	5	3		1	1					3		4	25
Images	35	6	16	3	14	15			2		6		14		1		6		3	122
Fiction	16		5	1	6	6	1		2		8		1				4	3	1	18
Imaginative total	73	6	23	5	28	32	2	5	7	0	15	1	15	0	1	0	13	3	8	165
Imaginative %	44.2	3.6	13.9	3.0	17.0	19.4	1.2	3.0	4.2	0.0	9.1	0.6	9.1	0.0	0.6	0.0	7.9	1.8	4.8	
School resources	33	2	13		11	16		9	1		2	1	2	1		3	7		7	41
Museums	8		2		3	4	1				1		1	1			1		3	10
Educational total	41	2	15	0	14	20	1	9	1	0	3	1	3	2	0	3	8	0	10	51
Educational %	80.4	3.9	29.4	0.0	27.5	39.2	2.0	17.6	2.0	0.0	5.9	2.0	5.9	3.9	0.0	5.9	15.7	0.0	19.6	
OVERALL TOTAL	219	17	101	24	110	103	28	36	28	6	48	11	34	3	7	15	40	14	43	503
%	43.5	3.4	20.1	4.8	21.9	20.5	5.6	7.2	5.6	1.2	9.5	2.2	6.8	0.6	1.4	3.0	8.0	2.8	8.5	

Appendix 40
Comparison of settings in popular media
B: the human environment

MEDIA	settlement	people	spirits	Total items
Academic total	3	1		48
Academic %	6.3	2.1	0.0	
Web-pages	21	6		31
Blogs	9	2		15
Youtube videos	1	1		24
Popular books	14	7	1	31
Newspapers	54	6		78
BBC news online				29
Popular magazines		5		79
Informative total	99	27	1	287
Informative %	34.5	9.4	0.3	
Television	13	10		25
Images	30	98	3	122
Fiction	15	17	2	18
Imaginative total	58	125	5	165
Imaginative %	35.2	75.8	3.0	
School resources	7	4		41
Museums		2	1	10
Educational total	7	6	1	51
Educational %	13.7	11.8	2.0	
OVERALL TOTAL	164	158	7	503
OVERALL %	32.6	31.4	1.4	

Appendix 41
Comparison of actions in popular media
A: Actions concerning food and in settlements

MEDIA	Finding food					Food preparation and use					In settlements							Total items	
	hunt	gather	fish	farm	bring food home	butcher	prepare	cook	eat	store	make camp, house	build things	make fire	collect resources	sleep	make beds	defecate		midden
Academic total	41	16	28	1	1	6	12	6	18	6	19	1	1		2			8	57
Academic %	71.9	28.1	49.1	1.8	1.8	10.5	21.1	10.5	31.6	10.5	33.3	1.8	1.8	0.0	3.5	0.0	0.0	14.0	
Web-pages	33	20	10	2				1		1	16		2				1	3	45
Blogs	8	4	6	3			1	1	4		8		1					1	31
Youtube videos	9	6	10	4		1		5	3		13	1	3		1				35
Popular books	29	20	22	3	1	5	5	5	6	1	11	1	3	5	1	2		2	35
Newspapers	29	4	17	4		5		11	25	1	22	7	4	1				2	103
BBC news online	11	5	6			2		3	9		9	1	2	1					44
Popular magazines	35	16	16	4		8	11	9	17	8	24	5	2	4	1	1	1	5	117
Informative total	154	75	87	20	1	21	17	35	64	11	103	15	17	11	3	3	2	13	410
Informative %	37.6	18.3	21.2	4.9	0.2	5.1	4.1	8.5	15.6	2.7	25.1	3.7	4.1	2.7	0.7	0.7	0.5	3.2	
Television	19	15	7		1	9	10	10	13	3	7		11	7	5	2	1	5	25
Images	19	7	19		21	9	12	12	4	2	4		6	6	2			1	121
Imaginative total	38	22	26	0	22	18	22	22	17	5	11	0	17	13	7	2	1	6	146
Imaginative %	26.0	15.1	17.8	0.0	15.1	12.3	15.1	15.1	11.6	3.4	7.5	0.0	11.6	8.9	4.8	1.4	0.7	4.1	
School resources	34	12	25	6	6	6	9	14	2	21	9	4	1	5	1	15	3	33	51
Museums	10	9	7	0	1	5	5	3	4	5	6	2	5	2	0	1	0	2	10
Educational total	44	21	32	6	7	11	14	17	6	26	15	6	6	7	1	16	3	35	61
Educational %	72.1	34.4	52.5	9.8	11.5	18.0	23.0	27.9	9.8	42.6	24.6	9.8	9.8	11.5	1.6	26.2	4.9	57.4	
OVERALL TOTAL	236	118	145	26	30	50	53	74	87	42	129	21	40	31	11	21	6	54	617
OVERALL %	38.2	19.1	23.5	4.2	4.9	8.1	8.6	12.0	14.1	6.8	20.9	3.4	6.5	5.0	1.8	3.4	1.0	8.8	

Appendix 41
Comparison of actions in popular media
B: Actions concerning use of animals, tool-making and forestry

MEDIA	With animals		Making tools									Forestry				TOTAL
	control animals	use dogs	raw material	make tools	invent new	knap flint	work wood	work skins	make canoes	make pots	make clothes	make clearing	fell trees or coppice	tap sap	strip bark	
Academic total	1	19	8	35	6	14	8	6	10	8	7	7	6			57
Academic %	1.8	33.3	14.0	61.4	10.5	24.6	14.0	10.5	17.5	14.0	12.3	12.3	10.5	0.0	0.0	
Web-pages		4		21			6	2				9				45
Blogs		1	3	8	2	4	2	2				2				31
Youtube videos	1	2	1	15	7	2			2	1		1	1			35
Popular books	1	10	6	18	9	4	12	7	9	1		11	8			36
Newspapers		2	3	21		5	4	4	2		2	7	1	1		103
BBC news online			2	9			5	2	4			3				44
Popular magazines	2	2	12	25		12	15	6	7		3	10			1	117
Informative total	4	21	27	117	18	27	44	23	24	2	5	43	10	1	1	411
Informative %	1.0	5.1	6.6	28.5	4.4	6.6	10.7	5.6	5.8	0.5	1.2	10.5	2.4	0.2	0.2	
Television		2	2	19	1	5	4	4			6	6	2		1	25
Images		4		20		8	1	24	6		3		4		3	121
Imaginative total	0	6	2	39	1	13	5	28	6	0	9	6	6	0	4	146
Imaginative %	0.0	4.1	1.4	26.7	0.7	8.9	3.4	19.2	4.1	0.0	6.2	4.1	4.1	0.0	2.7	
School resources	10	14	5	9	15	8	9	9	1	10	17	2	7	1	2	51
Museums	0	4	5	10	2	9	8	7	1	0	5	3	4	1	0	10
Educational total	10	18	10	19	17	17	17	16	2	10	22	5	11	2	2	61
Educational %	16.4	29.5	16.4	31.1	27.9	27.9	27.9	26.2	3.3	16.4	36.1	8.2	18.0	3.3	3.3	
OVERALL TOTAL	14	45	39	175	36	57	66	67	32	12	36	54	27	3	7	618
OVERALL %	2.3	7.3	6.3	28.3	5.8	9.2	10.7	10.8	5.2	1.9	5.8	8.7	4.4	0.5	1.1	

Appendix 41
Comparison of actions in popular media
C: Actions concerning movement of people

MEDIA	Movement										TOTAL
	mobile	sailing or boating	walk	migrate	explore	stay	leave	return	gather	visit	
Academic total	13	10	4	24	2	3	4	1	2		57
Academic %	22.8	17.5	7.0	42.1	3.5	5.3	7.0	1.8	3.5	0.0	
Web-pages	20	1	1			1		1			45
Blogs	2	2		6		1					31
Youtube videos	7	1									35
Popular books	17	13	6	18	4	3		3	4		36
Newspapers	23	3	1	9		6	1	2	5	5	103
BBC news online	5	3	1	1		5	1			3	44
Popular magazines	17	4	2	5		3	6	14	5		117
Informative total	91	27	11	39	4	19	8	20	14	8	411
Informative %	22.1	6.6	2.7	9.5	1.0	4.6	1.9	4.9	3.4	1.9	
Television	7	6	13	3		1		3	1		25
Images	1	13	3				4	3			121
Imaginative total	8	19	16	3	0	1	4	6	1	0	146
Imaginative %	5.5	13.0	11.0	2.1	0.0	0.7	2.7	4.1	0.7	0.0	
School resources	2	3	2	1	2	1	1	1	4	1	51
Museums	8	3	1	2	0	0	1	1	0	0	10
Educational total	10	6	3	3	2	1	2	2	4	1	61
Educational %	16.4	9.8	4.9	4.9	3.3	1.6	3.3	3.3	6.6	1.6	
OVERALL TOTAL	109	52	30	45	6	21	14	28	19	9	618
OVERALL %	17.6	8.4	4.9	7.3	1.0	3.4	2.3	4.5	3.1	1.5	

Appendix 41
Comparison of actions in popular media
D: Actions concerning social relationships

MEDIA	Social															TOTAL
	fighting or disputes	compete	marking territory	treat special	gender action	marry	have children	nurse or cuddle	teach or learn	talk	tell stories	networks	music	play	die	
Academic total	7					2			2		1	8	1	1	1	57
Academic %	12.3	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	1.8	14.0	1.8	1.8	1.8	
Web-pages	3													1		45
Blogs	1	1			1	3						1		1		31
Youtube videos	2				1							1				35
Popular books	5		4	3	5	5	2		3	1	3	8	3	2		36
Newspapers	1		3	6		1			1						1	103
BBC news online		1	1	3												44
Popular magazines	1		3	4	1	2			4		3	10				117
Informative total	13	2	11	16	8	11	2	0	8	1	6	20	3	4	1	411
Informative %	3.2	0.5	2.7	3.9	1.9	2.7	0.5	0.0	1.9	0.2	1.5	4.9	0.7	1.0	0.2	
Television	5		3		6		3		6	10		3	1	1	1	25
Images	1				12			13	2	36	2		1	5		121
Imaginative total	6	0	3	0	18	0	3	13	8	46	2	3	2	6	1	146
Imaginative %	4.1	0.0	2.1	0.0	12.3	0.0	2.1	8.9	5.5	31.5	1.4	2.1	1.4	4.1	0.7	
School resources	4	2	5	1	2	10	3	2	6	2	13	3		7	6	51
Museums	2	0	1	1	0	0	1	0	1	0	1	4	1	0	1	10
Educational total	6	2	6	2	2	10	4	2	7	2	14	7	1	7	7	61
Educational %	9.8	3.3	9.8	3.3	3.3	16.4	6.6	3.3	11.5	3.3	23.0	11.5	1.6	11.5	11.5	
OVERALL TOTAL	25	4	20	18	28	21	9	15	23	49	22	30	6	17	9	618
OVERALL %	4.0	0.6	3.2	2.9	4.5	3.4	1.5	2.4	3.7	7.9	3.6	4.9	1.0	2.8	1.5	

Appendix 41
Comparison of actions in popular media
E: Actions concerning beliefs and symbols

MEDIA	Religion								Art	Other	TOTAL
	calendar	ritual	spirits	taboo	wear charm	burial	votive	dance	decorate		
Academic total		8	1		1	14		1	19	19	57
Academic %	0.0	14.0	1.8	0.0	1.8	24.6	0.0	1.8	33.3	33.3	
Web-pages		2				3			3		45
Blogs	1	5				5			2	1	31
Youtube videos		2			1	4	1	1	1	1	35
Popular books		5	4	3		9	2	4	5	7	36
Newspapers	6	9				4			2	4	103
BBC news online	1	1				6			2	3	44
Popular magazines	3	6				8	4		5	23	117
Informative total	11	30	4	3	1	39	7	5	20	39	411
Informative %	2.7	7.3	1.0	0.7	0.2	9.5	1.7	1.2	4.9	9.5	
Television		4	2		1	1		2	3	20	25
Images		1				2		3	1	27	121
Imaginative total	0	5	2	0	1	3	0	5	4	47	146
Imaginative %	0.0	3.4	1.4	0.0	0.7	2.1	0.0	3.4	2.7	32.2	
School resources	4	1	1	1	1			2	13	3	51
Museums	0	4	1	0	0	2	2	1	4	3	10
Educational total	4	5	2	1	1	2	2	3	17	6	61
Educational %	6.6	8.2	3.3	1.6	1.6	3.3	3.3	4.9	27.9	9.8	
OVERALL TOTAL	15	40	8	4	3	44	9	13	41	92	618
OVERALL %	2.4	6.5	1.3	0.6	0.5	7.1	1.5	2.1	6.6	14.9	

Appendix 42
Comparison of happenings in popular media

MEDIA	Environment									People			Other	Total items
	Climate change	Melting ice	Sea level	Land rise	Tsunam i	Island	Woodland	New biota	Seasons	Pop. rise or fall	Hunger	Disease		
Academic	25	19	12	13	2	12	19	20	1	2			15	38
Academic %	65.8	50.0	31.6	34.2	5.3	31.6	50.0	52.6	2.6	5.3	0.0	0.0	39.5	
Web-pages	16	1	19	1	1	14	14	5		2				25
Blogs	1	1	5			1	1	1						7
Youtube videos	5		4			2	1	2						8
Popular books	17	7	15	4	3	15	16	12	2	6	1	1	7	27
Newspapers	6	3	15		7	7	1			1	1	1	1	29
BBC news online	3	2	8		5	4	1	2			1	1	1	16
Popular magazines	16	11	19	5	6		6	2	3	1	1		4	41
Informative total	64	25	85	10	22	43	40	24	5	10	4	3	13	153
Informative %	41.8	16.3	55.6	6.5	14.4	28.1	26.1	15.7	3.3	6.5	2.6	2.0	8.5	
Television	6	6	8	2	3	3	2	4	3		2	3	10	19
Images			1										2	2
Imaginative total	6	6	9	2	3	3	2	4	3	0	2	3	12	21
Imaginative %	28.6	28.6	42.9	9.5	14.3	14.3	9.5	19.0	14.3	0.0	9.5	14.3	57.1	
Schools	27	18	18	4	1	27	16	13		1			3	43
Museums GB	7	4	5			4	2	3	1				3	10
Educational total	34	22	23	4	1	31	18	16	1	1	0	0	6	53
Educational %	64.2	41.5	43.4	7.5	1.9	58.5	34.0	30.2	1.9	1.9	0.0	0.0	11.3	
OVERALL TOTAL	104	53	117	16	26	77	60	44	9	11	6	6	31	227
OVERALL %	45.8	23.3	51.5	7.0	11.5	33.9	26.4	19.4	4.0	4.8	2.6	2.6	13.7	

Appendix 43
List of value-laden words and phrases in popular media

Item	Source	Year	Description	Words	Theme	Value
PB04	Winbolt	1943	industries modified for the worse by Spanish immigrants, flint working in decline but some skill making pygmy flints, queer symbolic designs, decline of art, more of a struggle to live, little leisure for art, bows and advance on spears, elementary crude religion	advance	Advanced	pos.
PM113	Current Archaeology	2010	advanced and sophisticated wood working, cannot be overstated	advanced	Advanced	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	advanced	Advanced	pos.
PM173	Past Horizons	2015	simple British hunting societies, sophisticated, more advanced than recognised	advanced	Advanced	pos.
N35	Mail Online 14 Jul	2013	simple but ahead of the times	ahead of times	Advanced	pos.
PB33	McKie	2006	teeth better than modern, healthy way of life, sophisticated and clever, life harsh but with leisure and less authoritarian, egalitarian	better	Advanced	pos.
N13	Daily Telegraph	2003	modern, civilised behaviour, had a sense of home	civilised	Advanced	pos.
Wp13	Time Traveller Kids	?	making proper houses, an easier place to live, strange things	easier	Advanced	pos.
B39	History in an Hour	2013	transitional period, houses as light structures unable to withstand harsh weather, evolved ly in tools	evolved	Advanced	pos.
N50	S Times	1997	obdurate, women would be happier without farming	happier	Advanced	pos.
BN43	English 'beat French to frogs legs' claim after Wiltshire dig finds	2013	a Heston Blumenthal style menu	Heston Blumenthal	Advanced	pos.
N05	Daily Mail	2013	a Heston Blumenthal style menu	Heston Blumenthal	Advanced	pos.
N103	Sun	2013	shock discovery, sensational find, a Heston Blumenthal style menu	Heston Blumenthal	Advanced	pos.
N156	Times	2013	extravagant feasting, a Heston Blumenthal style menu, really rich diet	Heston Blumenthal	Advanced	pos.
N38	Mail Online	2013	a Heston Blumenthal style menu	Heston Blumenthal	Advanced	pos.

N39	Mail Online	2013	a Heston Blumenthal style menu	Heston Blumenthal	Advanced	pos.
N77	Guardian	2013	shock revelation, completely taken aback, a Heston Blumenthal style menu, entertaining discovery	Heston Blumenthal	Advanced	pos.
N90	Independent	2013	shocked, a Heston Blumenthal style menu	Heston Blumenthal	Advanced	pos.
BN47	Amesbury in Wiltshire confirmed as oldest UK settlement	2014	a Heston Blumenthal style menu	Heston Blumenthal	Advanced	pos.
TV24	Digging for Britain	2015	important, exciting, rare, unique	important	Advanced	pos.
N36	Mail Online	2013	important step towards the formal construction of time, sophistication, enriches our understanding	important step	Advanced	pos.
PM45	British Archaeology	1998	worked hard for their living, complex, organised and intensive, outstanding finds, innovative archaeology	innovative	Advanced	pos.
Wp06	Encyclopaedia Britannica	2014	greater innovation and diversity, greater hunting efficiency	innovative	Advanced	pos.
N13	Daily Telegraph	2003	modern, civilised behaviour, had a sense of home	modern	Advanced	pos.
N28	Leic Chron 19 Mar	1870	savage, barbarous, more enterprising or progressive	more enterprising	Advanced	pos.
N106	Times	1937	not such destitute savages as has been generally supposed	not savage	Advanced	pos.
N28	Leic Chron 19 Mar	1870	savage, barbarous, more enterprising or progressive	progressive	Advanced	pos.
Wp13	Time Traveller Kids	?	making proper houses, an easier place to live, strange things	proper	Advanced	pos.
TV02	Meet the Ancestors	2003	a violent time not all peaceful, had a good life well fed and nourished but ..., use of bow and arrow revolutionised hunting	revolutionised	Advanced	pos.
PB28	Wickham-Jones	1994	structures flimsy but warm, good knowledge of the land, technical skill, society sophisticated and complex with rich diversity, very different to our own way of life unlike any other, not unsophisticated, evocative, remarkable, incredible, leaving little impact on environment, not savages living on the verge of starvation but sophisticated hunter-gatherers in tune with their environment, liking the Mesolithic in contrast with the Neolithic	sophisticated	Advanced	pos.
TV04	Time Team 11 (8)	2004	highly sophisticated tools, incredible craftsmen, spiritual and artistic, not eking out a living on the edge, highly practical lifestyle	sophisticated	Advanced	pos.
TV05	Bushcraft	2004	teeth better than modern, healthy way of life, sophisticated and clever, life harsh but with leisure and less authoritarian, egalitarian	sophisticated	Advanced	pos.

PB34	Oppenheimer	2006	most sophisticated flourishing of the hunter-gatherer lifestyle, golden age, striking and rich novelty, post-glacial springtime of environmental rebirth and cultural efflorescence	sophisticated	Advanced	pos.
BN10	Fight on to save Stone Age Atlantis	2007	far more sophisticated than we give credit for	sophisticated	Advanced	pos.
PB36	Wickham-Jones	2010	sophisticated knowledge of the land, and a detailed understanding of the way the world worked, made few lasting changes to the world, did not live in a garden of Eden, not happy hippies living in harmony with their environment	sophisticated	Advanced	pos.
PM113	Current Archaeology	2010	advanced and sophisticated wood working, cannot be overstated	sophisticated	Advanced	pos.
PM116	Current Archaeology	2010	substantial, sophisticated	sophisticated	Advanced	pos.
PB38	Oliver	2012	a hellish moment, technologically sophisticated, sophistication and complexity of way of life, rich, comfortable and satisfying, high mobility kept people lean and fit but hard on the elderly and disabled	sophisticated	Advanced	pos.
PM126	Current Archaeology	2012	sophisticated lifestyle	sophisticated	Advanced	pos.
Wp31	Cliffe at Hoo Historical Society	2012	sophisticated hunting and gathering	sophisticated	Advanced	pos.
B19	Journey into Darkness: A Newly Discovered Mesolithic Lunar Calendar	2013	sophisticated calendar, sophistication of early hunter-gatherers	sophisticated	Advanced	pos.
PM134	British Archaeology	2013	ingenious, sophisticated	sophisticated	Advanced	pos.
PM137	British Archaeology	2013	sophisticated kit, clear prose, inspiring	sophisticated	Advanced	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	sophisticated	Advanced	pos.
PM145	Current Archaeology	2013	almost mythical Clark, immense of site, sophisticated carpentry	sophisticated	Advanced	pos.
B41	Mesolithic #Ireland: Irish Hunter-Gatherers #archeology #Irish #burial #life	2014	sophisticated burial practices and belief system	sophisticated	Advanced	pos.
PM173	Past Horizons	2015	simple British hunting societies, sophisticated, more advanced than recognised	sophisticated	Advanced	pos.

TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	sophisticated	Advanced	pos.
N61	Guardian	1986	unsuspected degree of specialisation in tool making, sophistication	sophistication	Advanced	pos.
N49	S Telegraph	2007	extraordinary settlement, revolutionising conventional thinking, remarkably well preserved, skilled craftsmen rather than ruthless hunters, sophisticated manufacturing, unprecedented insight	sophistication	Advanced	pos.
BN38	'World's oldest calendar' discovered in Scottish field	2013	sophistication	sophistication	Advanced	pos.
N155	Times	2013	more sophisticated than thought	sophistication	Advanced	pos.
N36	Mail Online	2013	important step towards the formal construction of time, sophistication, enriches our understanding	sophistication	Advanced	pos.
N37	Mail Online	2013	sophistication	sophistication	Advanced	pos.
N54	S Times 14 Jul	2013	civilisation's late starters, unsuspected sophistication	sophistication	Advanced	pos.
N88	Independent	2013	sophisticated, step towards the formal construction of time	sophistication	Advanced	pos.
V27	Beyond the Grave	2014	people knew what they were doing and not the first time done, sophistication of ritual	sophistication	Advanced	pos.
TV12	Oliver	2011	defying the odds in a hostile world, intrepid, finely worked, delicate, lived close to nature lightly on the land, leading isolated lives, astonishing, feeling a part of nature, enveloped and depending on it spiritually, cataclysmic, people different and special, people surviving against odds, poignant and intimate footprints	defying odds	Adventurous	pos.
PB08	Coon	1957	formidable hunter, did not differ from other animals	formidable	Adventurous	pos.
TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	hardy	Adventurous	pos.
TV21	10,000 BC	2015	have total respect for the Stone Age ancestors, more intelligent than us, failure feels like letting everyone down and being a burden to the group	intelligent	Adventurous	pos.

TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	intelligent	Adventurous	pos.
TV12	Oliver	2011	defying the odds in a hostile world, intrepid, finely worked, delicate, lived close to nature lightly on the land, leading isolated lives, astonishing, feeling a part of nature, enveloped and depending on it spiritually, cataclysmic, people different and special, people surviving against odds, poignant and intimate footprints	intrepid	Adventurous	pos.
N29	Lincolnshire Echo	1907	beautifully made, extraordinary keen sight	beautiful	Beautiful	pos.
TV01	Time Team 6 (4)	1999	beautifully made tools	beautiful	Beautiful	pos.
PB42	Pryor	2014	rich resource of animals and plants, Britain dry, craggy, bleak and inhospitable, beauty and drama of landscape, exposed and bleak	beauty	Beautiful	pos.
B08	Blue-eyed Mesolithic Caveman?	2014	an ancient Marlboro Man, cool, swarthy, handsome	cool	Beautiful	pos.
PB42	Pryor	2014	rich resource of animals and plants, Britain dry, craggy, bleak and inhospitable, beauty and drama of landscape, exposed and bleak	drama	Beautiful	pos.
PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	elegant	Beautiful	pos.
Wp38	Archaeoart	2008	mysterious and dangerous woodland, highly skilled, profound knowledge, moving with grace, "Physically, they would have been like gymnasts or 'Free-Runners'; spiritually they were wild and free, and at one with their world"	grace	Beautiful	pos.
B08	Blue-eyed Mesolithic Caveman?	2014	an ancient Marlboro Man, cool, swarthy, handsome	handsome	Beautiful	pos.
N92	Independent 12 Sep	2014	engaging enthusiasm, dismally untelegenic, porsche of the Mesolithic, top quality flint	porsche of the Mesolith	Beautiful	pos.
N10	D Mirror	2014	stunningly beautiful, rudimentary spears	stunningly beautiful	Beautiful	pos.

B08	Blue-eyed Mesolithic Caveman?	2014	an ancient Marlboro Man, cool, swarthy, handsome	swarthy	Beautiful	pos.
N91	Independent 2 May	2014	catastrophic event	catastrophic	Catastrophic	neg.
N41	Mail Online 2 May	2014	devastating Doggerland, suffered dramatically	devastating	Catastrophic	neg.
PB39	Cunliffe	2013	living at environmental extremes but broader basis for subsistence, more reassuring, had leisure to enjoy varied diet, Atlantic facade a highly congenial environment, competent sailors, complex belief systems	broader basis	Complex	pos.
PM109	British Archaeology	2010	considerable investment, communal effort	communal	Complex	pos.
TV10	Wild Food	2007	sense of community, people thriving	community	Complex	pos.
PB28	Wickham-Jones	1994	structures flimsy but warm, good knowledge of the land, technical skill, society sophisticated and complex with rich diversity, very different to our own	complex	Complex	pos.
PM37	Rowley-Conwy	1997	simple nomadic and egalitarian then more complex sedentary, socially hierarchical, using cemeteries	complex	Complex	pos.
PM45	British Archaeology	1998	worked hard for their living, complex, organised and intensive, outstanding finds, innovative archaeology	complex	Complex	pos.
PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	complex	Complex	pos.
TV07	Wild Food	2007	complex way of life, living with and alongside nature without destroying it, a lot to teach us	complex	Complex	pos.
BN15	Cannibalism theory over bone find	2009	complexity	complex	Complex	pos.
PB38	Oliver	2012	a hellish moment, technologically sophisticated, sophistication and complexity of way of life, rich, comfortable and satisfying, high mobility kept people lean and fit but hard on the elderly and disabled	complex	Complex	pos.
B31	Worcestershire Arch & Arch S	2013	period is notoriously ephemeral, little archaeological trace, complex society, varied and rich	complex	Complex	pos.

PB39	Cunliffe	2013	living at environmental extremes but broader basis for subsistence, more reassuring, had leisure to enjoy varied diet, Atlantic facade a highly congenial environment, competent sailors, complex belief systems	complex	Complex	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	complex	Complex	pos.
TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	complex	Complex	pos.
PM109	British Archaeology	2010	considerable investment, communal effort	considerable investment	Complex	pos.
Wp06	Encyclopaedia Britannica	2014	greater innovation and diversity, greater hunting efficiency	diverse	Complex	pos.
TV19	10,000 BC	2015	may be modern day man can't do living as a group	group	Complex	pos.
TV21	10,000 BC	2015	have total respect for the Stone Age ancestors, more intelligent than us, failure feels like letting everyone down and being a burden to the group	group	Complex	pos.
PM37	Rowley-Conwy	1997	Simple nomadic and egalitarian then more complex sedentary, socially hierarchical, using cemeteries	hierarchical	Complex	pos.
PM45	British Archaeology	1998	worked hard for their living, complex, organised and intensive, outstanding finds, innovative archaeology	intensive	Complex	pos.
PM45	British Archaeology	1998	worked hard for their living, complex, organised and intensive, outstanding finds, innovative archaeology	organised	Complex	pos.
TV14	10,000 BC	2015	better at exploiting environment, efficient, organised	organised	Complex	pos.
B31	Worcestershire Arch & Arch S	2013	period is notoriously ephemeral, little archaeological trace, complex society, varied and rich	rich	Complex	pos.
PB28	Wickham-Jones	1994	structures flimsy but warm, good knowledge of the land, technical skill, society sophisticated and complex with rich diversity, very different to our own	rich	Complex	pos.

PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	rich	Complex	pos.
PB34	Oppenheimer	2006	most sophisticated flourishing of the hunter-gatherer lifestyle, golden age, striking and rich novelty, post-glacial springtime of environmental rebirth and cultural efflorescence	rich	Complex	pos.
TV09	Wild Food	2007	diet very healthy and fitting our physiology, not scraping a living, using all of a rich environment	rich	Complex	pos.
PB38	Oliver	2012	a hellish moment, technologically sophisticated, sophistication and complexity of way of life, rich, comfortable and satisfying, high mobility kept people lean and fit but hard on the elderly and disabled	rich	Complex	pos.
N156	Times	2013	extravagant feasting, a Heston Blumenthal style menu, really rich diet	rich	Complex	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	rich	Complex	pos.
PB42	Pryor	2014	rich resource of animals and plants, Britain dry, craggy, bleak and inhospitable, beauty and drama of landscape, exposed and bleak	rich	Complex	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	structured	Complex	pos.
B31	Worcestershire Arch & Arch S	2013	period is notoriously ephemeral, little archaeological trace, complex society, varied and rich	varied	Complex	pos.

PB03	Hawkes	1943	no advance in cultural standards, loss of art a sad decline, poor indigenous population, lack of economic plenty, shadowy Tardenoisians, degeneration of feebly barbed harpoons, “poor little groups of hunters and food-gatherers scattered round the fringes and in the clearings of the dripping forests”, modern visitor “would not think that the foundations of his civilization were being laid”	decline	Degenerate	neg.
PB04	Winbolt	1943	industries modified for the worse by Spanish immigrants, flint working in decline but some skill making pygmy flints, queer symbolic designs, decline of art, more of a struggle to live, little leisure for art, bows and advance on spears, elementary crude religion	decline	Degenerate	neg.
PB03	Hawkes	1943	no advance in cultural standards, loss of art a sad decline, poor indigenous population, lack of economic plenty, shadowy Tardenoisians, degeneration of feebly barbed harpoons, “poor little groups of hunters and food-gatherers scattered round the fringes and in the clearings of the dripping forests”, modern visitor “would not think that the foundations of his civilization were being laid”	degeneration	Degenerate	neg.
PB03	Hawkes	1943	no advance in cultural standards, loss of art a sad decline, poor indigenous population, lack of economic plenty, shadowy Tardenoisians, degeneration of feebly barbed harpoons, “poor little groups of hunters and food-gatherers scattered round the fringes and in the clearings of the dripping forests”, modern visitor “would not think that the foundations of his civilization were being laid”	loss of art	Degenerate	neg.
PB04	Winbolt	1943	industries modified for the worse by Spanish immigrants, flint working in decline but some skill making pygmy flints, queer symbolic designs, decline of art, more of a struggle to live, little leisure for art, bows and advance on spears, elementary crude religion	worse	Degenerate	neg.
PB13	Woodman	1963	somewhat bleak way of life	bleak	Empty	neg.
PB42	Pryor	2014	rich resource of animals and plants, Britain dry, craggy, bleak and inhospitable, beauty and drama of landscape, exposed and bleak	bleak	Empty	neg.
B28	Bensozia (Teviec)	2014	wonderful site, scholarly jackdaws out to render everything boring, people just being savage?	boring	Empty	neg.
V05	A story of a Mesolithic hunter	2010	never-ending wood, thick heavy ground, cold damp air	cold damp	Empty	neg.
V05	A story of a Mesolithic hunter	2010	never-ending wood, thick heavy ground, cold damp air	thick heavy	Empty	neg.

PM09	O'Malley, M	1980	at one with environment, balanced diet, primitive, contented	at one	Harmonious	pos.
PM09	O'Malley, M	1980	at one with environment, balanced diet, primitive, contented	balanced	Harmonious	pos.
TV12	Oliver	2011	defying the odds in a hostile world, intrepid, finely worked, delicate, lived close to nature lightly on the land, leading isolated lives, astonishing, feeling a part of nature, enveloped and depending on it spiritually, cataclysmic, people different and special, people surviving against odds, poignant and intimate footprints	close to nature	Harmonious	pos.
V29	The Stone Age (World History)	2013	transitional period, content to be better hunter-gatherers	content	Harmonious	pos.
PM09	O'Malley, M	1980	at one with environment, balanced diet, primitive, contented	contented	Harmonious	pos.
PB33	McKie	2006	teeth better than modern, healthy way of life, sophisticated and clever, life harsh but with leisure and less authoritarian, egalitarian	egalitarian	Harmonious	pos.
TV17	10,000 BC	2015	Mes man no moans and in equilibrium with their environment which we've lost	equilibrium	Harmonious	pos.
PM84	Current Archaeology	2007	Europe's Garden of Eden	Garden of Eden	Harmonious	pos.
BN46	Prehistoric North Sea 'Atlantis' hit by 5m tsunami	2014	paradise in the Mesolithic, Garden of Eden	Garden of Eden	Harmonious	pos.
TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	in touch	Harmonious	pos.
TV04	Time Team 11 (8)	2004	way of life unlike any other, not unsophisticated, evocative, remarkable, incredible, leaving little impact on environment, not savages living on the verge of starvation but sophisticated hunter-gatherers in tune with their environment, liking the Mesolithic in contrast with the Neolithic	in tune	Harmonious	pos.
PB33	McKie	2006	teeth better than modern, healthy way of life, sophisticated and clever, life harsh but with leisure and less authoritarian, egalitarian, living at environmental extremes but broader basis for subsistence,	leisure	Harmonious	pos.
PB39	Cunliffe	2013	more reassuring, had leisure to enjoy varied diet, Atlantic facade a highly congenial environment, competent sailors, complex belief systems	leisure	Harmonious	pos.

TV04	Time Team 11 (8)	2004	way of life unlike any other, not unsophisticated, evocative, remarkable, incredible, leaving little impact on environment, not savages living on the verge of starvation but sophisticated hunter-gatherers in tune with their environment, liking the Mesolithic in contrast with the Neolithic	little impact	Harmonious	pos.
N85	Independent	2009	paradise lost	paradise	Harmonious	pos.
BN46	Prehistoric North Sea 'Atlantis' hit by 5m tsunami	2014	paradise in the Mesolithic, Garden of Eden	paradise	Harmonious	pos.
TV05	Bushcraft	2004	highly sophisticated tools, incredible craftsmen, spiritual and artistic, not eking out a living on the edge, highly practical lifestyle	spiritual	Harmonious	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	spiritual	Harmonious	pos.
TV07	Wild Food	2007	complex way of life, living with and alongside nature without destroying it, a lot to teach us	with nature	Harmonious	pos.
PB42	Pryor	2014	rich resource of animals and plants, Britain dry, craggy, bleak and inhospitable, beauty and drama of landscape, exposed and bleak	exposed	Marginal	neg.
PB42	Pryor	2014	rich resource of animals and plants, Britain dry, craggy, bleak and inhospitable, beauty and drama of landscape, exposed and bleak	inhospitable	Marginal	neg.
PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	dangerous	Miserable	neg.
Wp38	Archaeoart	2008	mysterious and dangerous woodland, highly skilled, profound knowledge, moving with grace, "Physically, they would have been like gymnasts or 'Free-Runners'; spiritually they were wild and free, and at one with their world"	dangerous	Miserable	neg.
TV20	10,000 BC	2015	no proper relationships, women must have been miserable, all work work work, can't looked very nice, gruelling work	miserable	Miserable	neg.

PB36	Wickham-Jones	2010	sophisticated knowledge of the land, and a detailed understanding of the way the world worked, made few lasting changes to the world, did not live in a garden of Eden, not happy hippies living in harmony with their environment	no Eden	Negative	neg.
PB36	Wickham-Jones	2010	sophisticated knowledge of the land, and a detailed understanding of the way the world worked, made few lasting changes to the world, did not live in a garden of Eden, not happy hippies living in harmony with their environment	no harmony	Negative	neg.
PM53	Thorpe	2000	not a golden age of harmony with nature and peaceful coexistence	not harmonious or peace	Negative	neg.
PB02	Childe	1942	impression of extreme poverty, scope for progress was very small, taking tedious steps constrained by environment	constrained	Passive	neg.
V13	Eddie from Ohio - "Let's Get Mesolithic"	2001	obedient, submissive, knuckle dragging	obedient	Passive	neg.
PB05	Childe	1944	lived parasitically on nature	parasitical	Passive	neg.
Wp33	Clwyd-Powys Archaeological Trust	2012	passive user of his environment	passive	Passive	neg.
N119	Times 25 Apr	1966	subject to the forest and affected it scarcely more than the animals in it	subject	Passive	neg.
V13	Eddie from Ohio - "Let's Get Mesolithic"	2001	obedient, submissive, knuckle dragging	submissive	Passive	neg.
N41	Mail Online 2 May	2014	devastating Doggerland, suffered dramatically	suffered	Passive	neg.
N47	S Express	2006	seriously delicious and healthy food	delicious	Pleasant	pos.
V09	Mesolithic Cooking of Acorns, Sloes and Nettle Crisps	2011	before sour, bitter, after really nice, sweet	nice	Pleasant	pos.
N141	Times 4 Feb	1997	neither pleasant nor entirely unpleasant	pleasant	Pleasant	pos.
V09	Mesolithic Cooking of Acorns, Sloes and Nettle Crisps	2011	before sour, bitter, after really nice, sweet	sweet	Pleasant	pos.
PM51	British Archaeology	1999	surprising lack of fish, extraordinary carpentry skills, enterprise and positive approach to land management	positive	Positive	pos.
PB34	Oppenheimer	2006	most sophisticated flourishing of the hunter-gatherer lifestyle, golden age, striking and rich novelty, post-glacial springtime of environmental rebirth and cultural efflorescence	springtime	Positive	pos.

Wp38	Archaeoart	2008	mysterious and dangerous woodland, highly skilled, profound knowledge, moving with grace, "Physically, they would have been like gymnasts or 'Free-Runners'; spiritually they were wild and free, and at one with their world"	wild (positive)	Positive	pos.
PM67	Wickham-Jones	2003	famine food	famine	Precarious	neg.
PM175	Past Horizons	2015	mobile hand to mouth existence	hand to mouth	Precarious	neg.
PB03	Hawkes	1943	no advance in cultural standards, loss of art a sad decline, poor indigenous population, lack of economic plenty, shadowy Tardenoisians, degeneration of feebly barbed harpoons, "poor little groups of hunters and food-gatherers scattered round the fringes and in the clearings of the dripping forests", modern visitor "would not think that the foundations of his civilization were being laid"	lack	Precarious	neg.
PB10	Stone	1958	savages, precarious means of livelihood	precarious	Precarious	neg.
N28	Leic Chron 19 Mar	1870	savage, barbarous, more enterprising or progressive	barbarous	Primitive	neg.
Wp44	Belfast Hills	?	made basic tools	basic	Primitive	neg.
PB04	Winbolt	1943	industries modified for the worse by Spanish immigrants, flint working in decline but some skill making pygmy flints, queer symbolic designs, decline of art, more of a struggle to live, little leisure for art, bows and advance on spears, elementary crude religion	elementary	Primitive	neg.
V13	Eddie from Ohio - "Let's Get Mesolithic"	2001	obedient, submissive, knuckle dragging	knuckle dragging	Primitive	neg.
N54	S Times 14 Jul	2013	civilisation's late starters, unsuspected sophistication	late starters	Primitive	neg.
PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	not support population	Primitive	neg.

PB03	Hawkes	1943	no advance in cultural standards, loss of art a sad decline, poor indigenous population, lack of economic plenty, shadowy Tardenoisians, degeneration of feebly barbed harpoons, “poor little groups of hunters and food-gatherers scattered round the fringes and in the clearings of the dripping forests”, modern visitor “would not think that the foundations of his civilization were being laid”	poor	Primitive	neg.
PM03	Woodman	1976	Mesolithic as poor relation of Irish prehistory, breakthrough	poor relation	Primitive	neg.
PB02	Childe	1942	impression of extreme poverty, scope for progress was very small, taking tedious steps constrained by environment	poverty	Primitive	neg.
N105	Times 28 Jul	1933	primitive	primitive	Primitive	neg.
PM09	O'Malley, M	1980	at one with environment, balanced diet, primitive, contented	primitive	Primitive	neg.
PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	primitive	Primitive	neg.
Wp35	Scottish History Online	2009	primitive Stone Age people	primitive	Primitive	neg.
N10	D Mirror	2014	stunningly beautiful, rudimentary spears vast knowledge of plants and animals, simple shelters, flimsy tents,	rudimentary	Primitive	neg.
PB26	Wymer	1991	flint-working never clumsy always skilled, microliths ingeniously made	simple	Primitive	neg.
PM37	Rowley-Conwy	1997	simple nomadic and egalitarian then more complex sedentary, socially hierarchical, using cemeteries	simple	Primitive	neg.
N147	Times 16 Jul	2005	simple but ingenious, left very little evidence behind	simple	Primitive	neg.
N35	Mail Online 14 Jul	2013	simple but ahead of the times	simple	Primitive	neg.
V04	How to make an Ancient Mesolithic style arrow for Primitive Archery Hunting	2014	appears crude but simple for minimal effort	simple	Primitive	neg.
PM 170	Current Archaeology	2015	simple British hunting societies	simple	Primitive	neg.

PM173	Past Horizons	2015	simple British hunting societies, sophisticated, more advanced than recognised	simple	Primitive	neg.
TV12	Oliver	2011	defying the odds in a hostile world, intrepid, finely worked, delicate, lived close to nature lightly on the land, leading isolated lives, astonishing, feeling a part of nature, enveloped and depending on it spiritually, cataclysmic, people different and special, people surviving against odds, poignant and intimate footprints	isolated	Scattered	neg.
PB03	Hawkes	1943	no advance in cultural standards, loss of art a sad decline, poor indigenous population, lack of economic plenty, shadowy Tardenoisians, degeneration of feebly barbed harpoons, “poor little groups of hunters and food-gatherers scattered round the fringes and in the clearings of the dripping forests”, modern visitor “would not think that the foundations of his civilization were being laid”	scattered	Scattered	neg.
TV06	Wild Food	2007	acute memory and attention to detail	acute	Skilled	pos.
BN34	Severn Estuary fossils reveal Stone Age fire starting	2013	adept at manipulating environment, highly adaptable	adaptable	Skilled	pos.
TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	adaptable	Skilled	pos.
Wp30	A Town Unearthed	2011	adept hunter-gatherers	adept	Skilled	pos.
B07	Mount Sandel, a Mesolithic Campsite	2013	adept at exploiting the natural world, sturdy huts	adept	Skilled	pos.
BN34	Severn Estuary fossils reveal Stone Age fire starting	2013	adept at manipulating environment, highly adaptable	adept	Skilled	pos.
TV05	Bushcraft	2004	highly sophisticated tools, incredible craftsmen, spiritual and artistic, not eking out a living on the edge, highly practical lifestyle	artistic	Skilled	pos.

PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	careful	Skilled	pos.
PB33	McKie	2006	teeth better than modern, healthy way of life, sophisticated and clever, life harsh but with leisure and less authoritarian, egalitarian, living at environmental extremes but broader basis for subsistence,	clever	Skilled	pos.
PB39	Cunliffe	2013	more reassuring, had leisure to enjoy varied diet, Atlantic facade a highly congenial environment, competent sailors, complex belief systems	competent	Skilled	pos.
TV12	Oliver	2011	defying the odds in a hostile world, intrepid, finely worked, delicate, lived close to nature lightly on the land, leading isolated lives, astonishing, feeling a part of nature, enveloped and depending on it spiritually, cataclysmic, people different and special, people surviving against odds, poignant and intimate footprints	delicate	Skilled	pos.
TV06	Wild Food	2007	acute memory and attention to detail	detail	Skilled	pos.
PB36	Wickham-Jones	2010	sophisticated knowledge of the land, and a detailed understanding of the way the world worked, made few lasting changes to the world, did not live in a garden of Eden, not happy hippies living in harmony with their environment	detailed understanding	Skilled	pos.
PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	efficient	Skilled	pos.

PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	efficient	Skilled	pos.
TV14	10,000 BC	2015	better at exploiting environment, efficient, organised	efficient	Skilled	pos.
PM51	British Archaeology	1999	surprising lack of fish, extraordinary carpentry skills, enterprise and positive approach to land management	enterprising	Skilled	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	excellent	Skilled	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	expert	Skilled	pos.
PM81	British Archaeology	2007	expert cremation	expert cremation	Skilled	pos.
N29	Lincolnshire Echo	1907	beautifully made, extraordinary keen sight	extraordinary	Skilled	pos.
PM51	British Archaeology	1999	surprising lack of fish, extraordinary carpentry skills, enterprise and positive approach to land management	extraordinary	Skilled	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	fine	Skilled	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	fine	Skilled	pos.
PB28	Wickham-Jones	1994	structures flimsy but warm, good knowledge of the land, technical skill, society sophisticated and complex with rich diversity, very different to our own	good knowledge	Skilled	pos.
Wp06	Encyclopaedia Britannica	2014	greater innovation and diversity, greater hunting efficiency	greater efficiency	Skilled	pos.
PB15	Jessup	1970	flint workmanship of a high standard	high standard workmans	Skilled	pos.

Wp38	Archaeoart	2008	mysterious and dangerous woodland, highly skilled, profound knowledge, moving with grace, “Physically, they would have been like gymnasts or ‘Free-Runners’; spiritually they were wild and free, and at one with their world”	highly skilled	Skilled	pos.
PB26	Wymer	1991	vast knowledge of plants and animals, simple shelters, flimsy tents, flint-working never clumsy always skilled, microliths ingeniously made	ingenious	Skilled	pos.
N147	Times 16 Jul	2005	simple but ingenious, left very little evidence behind	ingenious	Skilled	pos.
PM134	British Archaeology	2013	ingenious, sophisticated	ingenious	Skilled	pos.
TV05	Bushcraft	2004	highly sophisticated tools, incredible craftsmen, spiritual and artistic, not eking out a living on the edge, highly practical lifestyle	practical	Skilled	pos.
Wp38	Archaeoart	2008	mysterious and dangerous woodland, highly skilled, profound knowledge, moving with grace, “Physically, they would have been like gymnasts or ‘Free-Runners’; spiritually they were wild and free, and at one with their world”	profound knowledge	Skilled	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	robust	Skilled	pos.
PB28	Wickham-Jones	1994	structures flimsy but warm, good knowledge of the land, technical skill, society sophisticated and complex with rich diversity, very different to our own	skill	Skilled	pos.
PB23	Ritchie	1981	skilled navigation, too easy to emphasise the squalor and uncertainty of the way life and to contrast unfavourably with the Neolithic but may have met their needs more readily leaving more time for leisure, “hunters keep bankers' hours', was one assessment of the hunting and gathering communities of the 'original affluent society'”	skilled	Skilled	pos.
PB26	Wymer	1991	vast knowledge of plants and animals, simple shelters, flimsy tents, flint-working never clumsy always skilled, microliths ingeniously made	skilled	Skilled	pos.
N49	S Telegraph	2007	extraordinary settlement, revolutionising conventional thinking, remarkably well preserved, skilled craftsmen rather than ruthless hunters, sophisticated manufacturing, unprecedented insight	skilled	Skilled	pos.

PB04	Winbolt	1943	industries modified for the worse by Spanish immigrants, flint working in decline but some skill making pygmy flints, queer symbolic designs, decline of art, more of a struggle to live, little leisure for art, bows and advance on spears, elementary crude religion	some skill	Skilled	pos.
N61	Guardian	1986	unsuspected degree of specialisation in tool making, sophistication	specialisation	Skilled	pos.
B07	Mount Sandel, a Mesolithic Campsite	2013	adept at exploiting the natural world, sturdy huts	sturdy	Skilled	pos.
PM116	Current Archaeology	2010	substantial, sophisticated	substantial	Skilled	pos.
N76	Guardian	2012	substantial	substantial	Skilled	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	superb craftsmen	Skilled	pos.
PB26	Wymer	1991	vast knowledge of plants and animals, simple shelters, flimsy tents, flint-working never clumsy always skilled, microliths ingeniously made	vast knowledge	Skilled	pos.
PM63	Wickham-Jones, C	2002	something out of the ordinary	out of the ordinary	Special	pos.
TV24	Digging for Britain	2015	important, exciting, rare, unique	rare	Special	pos.
TV12	Oliver	2011	defying the odds in a hostile world, intrepid, finely worked, delicate, lived close to nature lightly on the land, leading isolated lives, astonishing, feeling a part of nature, enveloped and depending on it spiritually, cataclysmic, people different and special, people surviving against odds, poignant and intimate footprints	special	Special	pos.
TV24	Digging for Britain	2015	important, exciting, rare, unique	unique	Special	pos.
PB36	Wickham-Jones	2010	sophisticated knowledge of the land, and a detailed understanding of the way the world worked, made few lasting changes to the world, did not live in a garden of Eden, not happy hippies living in harmony with their environment	few changes	Stagnant	neg.
PB31	Pryor	2004	transitional between ice ages and postglacial, between hunting/gathering and farming, more hunting than gathering, not enough plant food in British climate, remarkable having dogs, society changed very little in the Mesolithic	little change	Stagnant	neg.

PB03	Hawkes	1943	no advance in cultural standards, loss of art a sad decline, poor indigenous population, lack of economic plenty, shadowy Tardenoisians, degeneration of feebly barbed harpoons, “poor little groups of hunters and food-gatherers scattered round the fringes and in the clearings of the dripping forests”, modern visitor “would not think that the foundations of his civilization were being laid”	no advance	Stagnant	neg.
PB02	Childe	1942	impression of extreme poverty, scope for progress was very small, taking tedious steps constrained by environment	small scope	Stagnant	neg.
N04	Daily Mail	2003	enigmatic Mesolithic	enigmatic	Strange	neg.
PM82	British Archaeology	2007	enigmatic flints	enigmatic	Strange	neg.
N153	Times	2012	enigmatic postholes	enigmatic	Strange	neg.
Wp38	Archaeoart	2008	mysterious and dangerous woodland, highly skilled, profound knowledge, moving with grace, “Physically, they would have been like gymnasts or ‘Free-Runners’; spiritually they were wild and free, and at one with their world”	mysterious	Strange	neg.
N110	Times 17 Jul	1942	Mesolithic as one of the mysteries of the Stone Age, obscure	mystery	Strange	neg.
N110	Times 17 Jul	1942	Mesolithic as one of the mysteries of the Stone Age, obscure	obscure	Strange	neg.
PB04	Winbolt	1943	industries modified for the worse by Spanish immigrants, flint working in decline but some skill making pygmy flints, queer symbolic designs, decline of art, more of a struggle to live, little leisure for art, bows and advance on spears, elementary crude religion	queer	Strange	neg.
Wp13	Time Traveller Kids	?	making proper houses, an easier place to live, strange things	strange	Strange	neg.
N148	Times	2005	unusual	unusual	Strange	neg.
TV20	10,000 BC	2015	no proper relationships, women must have been miserable, all work work work, can't looked very nice, gruelling work	all work	Struggling	neg.
TV23	10,000 BC	2015	sloes as “caveman crack”, all work and no play due to the incessant search for food and firewood	all work	Struggling	neg.

PB03	Hawkes	1943	no advance in cultural standards, loss of art a sad decline, poor indigenous population, lack of economic plenty, shadowy Tardenoisians, degeneration of feebly barbed harpoons, “poor little groups of hunters and food-gatherers scattered round the fringes and in the clearings of the dripping forests”, modern visitor “would not think that the foundations of his civilization were being laid”	feeble	Struggling	neg.
TV20	10,000 BC	2015	no proper relationships, women must have been miserable, all work work work, can't looked very nice, gruelling work	gruelling	Struggling	neg.
PB38	Oliver	2012	a hellish moment, technologically sophisticated, sophistication and complexity of way of life, rich, comfortable and satisfying, high mobility kept people lean and fit but hard on the elderly and disabled	hard	Struggling	neg.
PB33	McKie	2006	teeth better than modern, healthy way of life, sophisticated and clever, life harsh but with leisure and less authoritarian, egalitarian	harsh	Struggling	neg.
V42	Mesolithic Age	2014	getting food tedious and slow, varied by season	slow	Struggling	neg.
PB04	Winbolt	1943	industries modified for the worse by Spanish immigrants, flint working in decline but some skill making pygmy flints, queer symbolic designs, decline of art, more of a struggle to live, little leisure for art, bows and advance on spears, elementary crude religion	struggle	Struggling	neg.
V42	Mesolithic Age	2014	getting food tedious and slow, varied by season	tedious	Struggling	neg.
PB02	Childe	1942	impression of extreme poverty, scope for progress was very small, taking tedious steps constrained by environment	tedious steps	Struggling	neg.
PB23	Ritchie	1981	skilled navigation, too easy to emphasise the squalor and uncertainty of the way life and to contrast unfavourably with the Neolithic but may have met their needs more readily leaving more time for leisure, “hunters keep bankers' hours', was one assessment of the hunting and gathering communities of the 'original affluent society'”	affluent	Successful	pos.
PB38	Oliver	2012	a hellish moment, technologically sophisticated, sophistication and complexity of way of life, rich, comfortable and satisfying, high mobility kept people lean and fit but hard on the elderly and disabled living at environmental extremes but broader basis for subsistence,	comfortable	Successful	pos.
PB39	Cunliffe	2013	more reassuring, had leisure to enjoy varied diet, Atlantic facade a highly congenial environment, competent sailors, complex belief systems	congenial	Successful	pos.

BN31	Scottish dig unearths '10,000-year-old home' at Echline	2012	cosy inside the house	cosy	Successful	pos.
PB27	Bewley	1994	supermarket of the Stone Age, an easy place	easy	Successful	pos.
PM56	British Archaeology	2001	easy and healthy lifestyle	easy	Successful	pos.
PB34	Oppenheimer	2006	most sophisticated flourishing of the hunter-gatherer lifestyle, golden age, striking and rich novelty, post-glacial springtime of environmental rebirth and cultural efflorescence	efflorescence	Successful	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	enjoyable	Successful	pos.
N156	Times	2013	extravagant feasting, a Heston Blumenthal style menu, really rich diet	extravagant	Successful	pos.
TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	flourished	Successful	pos.
Wp38	Archaeoart	2008	mysterious and dangerous woodland, highly skilled, profound knowledge, moving with grace, "Physically, they would have been like gymnasts or 'Free-Runners'; spiritually they were wild and free, and at one with their world"	free	Successful	pos.
PB34	Oppenheimer	2006	most sophisticated flourishing of the hunter-gatherer lifestyle, golden age, striking and rich novelty, post-glacial springtime of environmental rebirth and cultural efflorescence	golden age	Successful	pos.
TV02	Meet the Ancestors	2003	a violent time not all peaceful, had a good life well fed and nourished but ..., use of bow and arrow revolutionised hunting	good life	Successful	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	good life	Successful	pos.
PM56	British Archaeology	2001	easy and healthy lifestyle	healthy	Successful	pos.
N47	S Express	2006	seriously delicious and healthy food	healthy	Successful	pos.

PB33	McKie	2006	teeth better than modern, healthy way of life, sophisticated and clever, life harsh but with leisure and less authoritarian, egalitarian	healthy	Successful	pos.
TV09	Wild Food	2007	diet very healthy and fitting our physiology, not scraping a living, using all of a rich environment	healthy	Successful	pos.
PM93	Current Archaeology	2008	h-g diet healthier than modern	healthy	Successful	pos.
PB42	Pryor	2014	highly structured life, rich conceptual realms, remarkably robust houses, life was good, highly efficient, fine boat-builders, expert fishermen, superb craftsmen in bone and flint, excellent hunters, remarkably high standard of living	high standard of living	Successful	pos.
PB38	Oliver	2012	a hellish moment, technologically sophisticated, sophistication and complexity of way of life, rich, comfortable and satisfying, high mobility kept people lean and fit but hard on the elderly and disabled	satisfying	Successful	pos.
PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	success	Successful	pos.
PB32	Finlayson	2005	rich understanding of their environment, they were not primitive savages grubbing out an existence close to the subsistence margin, very successful economy, rich culture, carefully established strategies, complex, elegant paddles, clearly not small groups struggling for survival, winters without houses and danger of travel in primitive open boats, dangerous and efficient predators, way of life a great success but could not support levels of population of social complexities of our own civilisation	successful	Successful	pos.
TV10	Wild Food	2007	sense of community, people thriving	thriving	Successful	pos.
TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	thriving	Successful	pos.

TV02	Meet the Ancestors	2003	a violent time not all peaceful, had a good life well fed and nourished but ..., use of bow and arrow revolutionised hunting	well fed	Successful	pos.
TV12	Oliver	2011	defying the odds in a hostile world, intrepid, finely worked, delicate, lived close to nature lightly on the land, leading isolated lives, astonishing, feeling a part of nature, enveloped and depending on it spiritually, cataclysmic, people different and special, people surviving against odds, poignant and intimate footprints	surviving	Surviving	neg.
TV25	Horizon: First Britons	2015	sophisticated, intelligent and adaptable manipulating the environment, in touch with landscape, hardy and adaptable, thrived, respect for them, just like us just as intelligent, coping with environmental change, surviving, flourished, ancient, culturally complex, laid the foundations for the modern age	surviving	Surviving	pos.
V43	Letter cutting in Portland stone with a piece of mesolithic chert	2014	bigger, hairier hands	bigger	Ugly	neg.
N92	Independent 12 Sep	2014	engaging enthusiasm, dismally untelegenic, porsche of the Mesolithic, top quality flint	dismally untelegenic	Ugly	neg.
V43	Letter cutting in Portland stone with a piece of mesolithic chert	2014	bigger, hairier hands	hairier	Ugly	neg.
V09	Mesolithic Cooking of Acorns, Sloes and Nettle Crisps	2011	before sour, bitter, after really nice, sweet	bitter	Unpleasant	neg.
PB38	Oliver	2012	a hellish moment, technologically sophisticated, sophistication and complexity of way of life, rich, comfortable and satisfying, high mobility kept people lean and fit but hard on the elderly and disabled	hellish	Unpleasant	neg.
V50	Mesolithic Housemate	2007	food not very nice	not nice	Unpleasant	neg.
N63	Guardian 4 Feb	1997	taste cannot be described as pleasant	not pleasant	Unpleasant	neg.
V09	Mesolithic Cooking of Acorns, Sloes and Nettle Crisps	2011	before sour, bitter, after really nice, sweet	sour	Unpleasant	neg.
PM18	Sloan	1986	squalid hunters and scavengers	squalid	Unpleasant	neg.
N141	Times 4 Feb	1997	neither pleasant nor entirely unpleasant	unpleasant	Unpleasant	neg.
PB04	Winbolt	1943	industries modified for the worse by Spanish immigrants, flint working in decline but some skill making pygmy flints, queer symbolic designs, decline of art, more of a struggle to live, little leisure for art, bows and advance on spears, elementary crude religion	crude	Unskilled	neg.

V04	How to make an Ancient Mesolithic style arrow for Primitive Archery Hunting	2014	appears crude but simple for minimal effort	crude	Unskilled	neg.
PB26	Wymer	1991	vast knowledge of plants and animals, simple shelters, flimsy tents, flint-working never clumsy always skilled, microliths ingeniously made	flimsy	Unskilled	neg.
PB28	Wickham-Jones	1994	structures flimsy but warm, good knowledge of the land, technical skill, society sophisticated and complex with rich diversity, very different to our own	flimsy	Unskilled	neg.
B39	History in an Hour	2013	transitional period, houses as light structures unable to withstand harsh weather, evolved significantly in tools	light structure	Unskilled	neg.
V06	Battle of the flint axes: mesolithic versus neolithic	2006	Neolithic polished axe more durable, cleaner cut	not as durable or clean	Unskilled	neg.
B39	History in an Hour	2013	transitional period, houses as light structures unable to withstand harsh weather, evolved significantly in tools	unable	Unskilled	neg.
TV02	Meet the Ancestors	2003	a violent time not all peaceful, had a good life well fed and nourished but ..., use of bow and arrow revolutionised hunting	violent	Violent	neg.
PB08	Coon	1957	formidable hunter, did not differ from other animals	animal	Wild	neg.
N119	Times 25 Apr	1966	subject to the forest and affected it scarcely more than the animals in it	animals	Wild	neg.
N28	Leic Chron 19 Mar	1870	savage, barbarous, more enterprising or progressive	savage	Wild	neg.
B28	Bensozia (Teviec)	2014	wonderful site, scholarly jackdaws out to render everything boring, people just being savage?	savage	Wild	neg.
PB10	Stone	1958	savages, precarious means of livelihood	savages	Wild	neg.
TV12	Oliver	2011	defying the odds in a hostile world, intrepid, finely worked, delicate, lived close to nature lightly on the land, leading isolated lives, astonishing, feeling a part of nature, enveloped and depending on it spiritually, cataclysmic, people different and special, people surviving against odds, poignant and intimate footprints	astonishing	Wonderful	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	astonishing	Wonderful	pos.

PM147	Current Archaeology	2013	remarkable, in use for astonishing length of time, exciting time for Mesolithic studies, one of the most conceptual breakthroughs	astonishing length of ti	Wonderful	pos.
PB41	Milner et al.	2013	exciting, air of mystery, fascinating	exciting	Wonderful	pos.
PB41	Milner et al.	2013	exciting, air of mystery, fascinating	exciting	Wonderful	pos.
TV24	Digging for Britain	2015	important, exciting, rare, unique	exciting	Wonderful	pos.
PB41	Milner et al.	2013	exciting, air of mystery, fascinating	exciting	Wonderful	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	fantastic	Wonderful	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	fascinating	Wonderful	pos.
TV05	Bushcraft	2004	highly sophisticated tools, incredible craftsmen, spiritual and artistic, not eking out a living on the edge, highly practical lifestyle	incredible	Wonderful	pos.
TV13	Time Team Special	2013	phenomenally destructive, horrific, sophisticated, defining moment in history, complex, astonishingly rich, sensational find, fascinating, fantastic land of plenty, enjoyable lifestyle, finely craft and more advanced gadgets, more spirituality than today, greater awareness of the natural world, culture full of magic and mysticism	magical	Wonderful	pos.
PB34	Oppenheimer	2006	most sophisticated flourishing of the hunter-gatherer lifestyle, golden age, striking and rich novelty, post-glacial springtime of environmental rebirth and cultural efflorescence	striking	Wonderful	pos.

Appendix 44
List of museum displays analysed

ID	Museum	Location	Gallery area	Gallery section	Created	Website	Visit
M01	Amesbury History Centre	Amesbury	(dispersed elements within history centre)		2006	http://www.amesburyhistorycentre.co.uk/visit-us/	08/12/15
M02	British Museum	London	Europe before farming			http://www.britishmuseum.org/explore/galleries/europe/room_51_europe_10,000-800_bc.aspx	15/07/15
M03	Cheddar Man	Cheddar			2010	https://www.cheddargorge.co.uk/explore/museum-of-prehistory	09/12/15
M04	Great North Museum: Hancock	Newcastle	Ice Age to Iron Age		2009	https://greatnorthmuseum.org.uk/	11/02/16
M05	Hull and East Riding Museum	Hull	prehistoric galleries	discrete area, untitled	1989	http://www.hullcc.gov.uk/portal/page?_pageid=221,631546&_dad=portal&_schema=PORTA	22/02/16
M06	Mesolithic Museum	Abinger			1952 (2011)	n/a	07/12/15
M07	Museum of London	London	London before London	Movable Feasts		http://www.museumoflondon.org.uk/london-wall/whats-on/galleries/london-london/	15/07/15
M08	Rotunda Museum	Scarborough		Star Carr	2016	http://www.scarboroughmuseumstrust.com/#!/rotunda-museum/cvsd	08/02/16
M09	West Berkshire Museum	Newbury		Flint and fur, Thatcham in the Middle Stone Age	2014	http://www.westberkshireheritage.org/west-berkshire-museum	n/a
M10	Yorkshire Museum	York		After the Ice: Yorkshire's Prehistoric People	2013	http://www.yorkshireremuseum.org.uk/	25/09/15
M11	Archeon	Alphen aan den Rijn	Prehistory	Mesolithic	1994	http://www.archeon.nl/index.html	31/10/15

M12	Museet in Stenholt Skov	Kragelund	(one room only)		1989	http://www.museummidtjylland.dk/index.php/abningstider/klosterlund-museum.html also smartphone app https://sites.google.com/site/stoneagebogs/general-information/lake-boelling-smartphone-app , and schools website http://www.nilen.dk/projekter/boellingsoe/index.htm	26/10/15
M13	Nationalmuseet	København	Danish Prehistory	Mesolithic	2008	http://en.natmus.dk/	22/10/15
M14	Schloss Gottorf	Schleswig	Stone Age Hunters & From hunting comes farming		1990-91	http://www.schloss-gottorf.de/	29/10/15
M15	Stadsmuseum	Göteborg	Prehistoric Time	Palaeolithic-Mesolithic (being redeveloped)	1995	http://goteborgsstadsmuseum.se/en	20/10/15
M16	Vedbækfundene	Gammel Holtegård	From the forest to the sound		1984	http://museer.rudersdal.dk/FrontEnd.aspx?id=529	23/10/15

Appendix 45

Narrative elements found in museum displays

Part A: characters, settings, actions and happenings

ID	Panels	Characters	Settings	Actions	Happenings
M01	9 panels, 4 cases, 1 diorama, 2 handling sets	hunter-gatherers, ancestors, Amie, mother, father, aunt, uncle, woodworkers and carvers (Amie's story narrative connects the displays)	spring	flint knapping, making microliths and tools, making knives or arrowheads or spearheads, wood working, heating water with rocks or baking meat or sweat lodge, owning territory, following a regular annual route, childbirth, sewed skins, woodworking, make clothes, erecting pine posts, decorating the posts, marking water?, marking migration route?, use as hunting platform?, returning to special places, moving with the seasons, people dying, giving mother's bones to the water, leaving old and infirm behind, being dragged away from sick mother	flints turning magenta after immersion in spring
M02	1 case	hunter-gatherers, hunter, shaman	thick forests, Doggerland, seashore	hunted, fished, gathered, moved campsites, domesticated dogs, making antler headdresses, making and using antler spears, making microliths and arrows, managing forest, clearing trees, making items from wood, symbolic throwing axes into rivers, eating shellfish, making jewellery, throwing hazelnut shells on fire, extracting and using birch resin, making birch bark containers, using fungus to make fire	warmer climate, seasonality, sea level rise, becoming an island
M03	10 panels, 5 cases, 2 dioramas, 1 outside area	Cheddar Man, hunter-gatherer, early twenties, hunter – characteristics: courage and the strength to persevere, knowledge of the natural world and navigational ability, compassion and reverence for all life, patience and intuition, attention to details and to patterns of behaviour, shamans, healer, visionary, priest, artist, psychologist and	cave, gorge, woodland	blow to head, burial in the cave, hunting seals and fish, painting face may be spiritual, wearing necklace of teeth to signify courage, storing water in a bladder, wearing clothes to symbolise skill, using bow and arrow, lighting fire, blowing horn, skinning, sewing, use drugs, mediate with animal spirits, flint knapping, trading flint between tribes, making tools, eating animals, making tallow lamps, making clothing, bedding and tents, making glue, waterproofing, working skins, making thread, making fastenings, digging pits, grubbing up roots, working skins, coppicing, felling trees, wood working, making hurdles, windproofing, making matting, baskets, fish traps and snares, making tents, making fire	sea level rise, forests grew

M04	2 panels, 1 case, 1 figure, 2 AV units	hunter-gatherers, old people, young men, a woman, clan	land-bridge to the continent, forest, clan	move into NE England, create settlements, shape the landscape, build house, link to place, seasonal occupation, roaming land for plants, killing animals, nomadic existence, eating shellfish, preparing seal skins, charring hazelnuts to store, grind into flour, made tools, knapping flint, hunting, fishing, gathering or trading flint, sharpening flints, hauling in a harpoon, trek, searching for food, woman doing as she is told, conflict between the young and the old	ice retreat and melt, sea level rise, Britain became an island, climate warmed, forests blanket land, animals colonise
M05	5 panels, 2 cases, 1 diorama, soundscape, replica	woman, child, hunter-gatherers, nomadic people, settlers	marshy land link to continent, scrub with clumps of trees, camps, open landscape, rivers, low hills and shallow meres, chalk hills, lake, woods, uplands	hunting, gathering, roaming the landscape, fishing, collect shellfish, scraping hide, making fire, sewing clothes, bringing carcass back to site, moving from site, ritual hunting dance with headdress, digging roots, felling tree, making barbed points, preparing food, building shelter, making dug-out boat, make harpoons and needles, flint knapping, making flint tools, woodworking, storing food by drying and salting, preparing medicines and drugs, bringing back firewood, hunting with dogs	ice melted, plants and animals return, climate improved, glacial retreat leaving debris
M06	8 panels, 5 cases, excavation	small bands, women, children	forest, lakes, rivers	built huts and shelters, abandoning of house, digging for stone, making storage pits, using natural hollows to make shelter, hunting animals for meat and fur, hunting using dogs, hunting, fishing, collecting, using tools and weapons, making microliths, bringing flint to site, knapping, wandering, gathering, foraging, grub up roots, gather plants, tipping arrows with poison, butchery, working wood and bone, cutting vegetable foods, cleaning and thinning skins, making clothes, make clearings, fell trees, work wood, work antler, make birch bark containers, make paddles and handles and other tools	collapse of roof after abandonment, sea level rise making Britain an island, ice melting, changes in climate zones

M07	2 panels, 4 cases	foragers, up to 20 people round a hearth	birch scrub, pine forest, deciduous woodland, river	moving back into the Thames valley, routines of movement and residence, maintain clearings, hunt animals, gather plants, renew friendships, re-establish seasonal camps, travel by boat, developing tools, carpentry, grubbing up roots, working bone and antler into tools, scraping animal hide, making and using poisoned tipped arrows, using hunting-magic, herb-lore, oral tradition, craft skills, selection and shaping of flint, microscope analysis, modern experiment, adapting to changing conditions, excavation, discarding tools and bone, gather round hearth, extract marrow, storing bones, telling stories, singing songs, butchery, antler working, plant processing, allocating tasks by age or gender or kinship or skill, soften antler in water, gathering flint from river, symbolic deposition of tools in	climate warming, rising sea level, Britain cut off from continent
M08	3 panels, 1 case, 1 AV unit	small groups of hunters, shaman, John Moore	lake in woodland, settlement	came and established a site, hunting, fishing, collecting materials, kept dogs for hunting, made tools, butcher animals, collect/gather plants, lit fires, built structures, took part in rituals, travelled in boats, wore jewellery, visiting site in summer, settling for longer periods, building wooden platform, wear headdress as hunting disguise or by shaman during ritual, making headdress, collecting antlers, making bodkins, axes and mattocks, removing marrow, making barbed points after soaking in water, rule about disposing of animals, heating stones to boil liquids, making containers, working flint, preparing animal hides, covering buildings with hides, burning birch bark rolls as torches or tapers of for resin, fixing tools with resin, cutting and shaping wood, travelled into landscape, travel on foot and clear pathways to coast to collect flint	climate change, changing plants and animals
M09	1 panel, 1 case	hunters	lake	moving with the herds, coming back from time to time, staying longer, finding flint for tools, transport along river, flaking flint, eating nuts, flint knapping, making tools, mining flint nodules, digging for roots and bulbs, chopping wood, butchering meat, working wood, hunting, scraping	beavers damming the lake

M10	10 panels, 5 cases, 1 diorama, 4 AV units	images of men, women and children on wall plaques, drawings of people in the display cases, 19 women of all periods in one, 6 men, 5 women, 4 boys, 3 girls on the plaques, 2 men, 1 girl, 1 ? on the drawings	woodland, lake, lake edge, animals and plants, coast	return to the north, made tools, built house, hunting, fishing, work wood, develop new tools, dig up food, mine flint, resharpen axe, making microliths, foraged, journey across lake, work bone for tools, make clothes from skins, cover shelters, making fastenings from sinew and tendons, kill and butcher animals, gather plants, make fires, make beads, wear jewellery, cook food, keeping warm, bringing nodules of flint from the coast, working flint, making bones, making antler points, digging holes, roots and tubers, peeling birch bark – rolling and drying bark, making fires, rituals to call on nature, decoration, celebration, making frontlets, use in ceremony, use in hunting, cooking food, exchanging furs and flint, eating human brains, making houses, using hedgehog spines as toothpicks, eating hedgehogs, decorate skin with pigments, have parties	ice age ends, climate improved, ice receded, new landscape
M11	2 panels, reconstructions	the live enactors	woodland, lakeside	paddling in boat, interaction with the environment, making and using tools, hunting, gathering, fishing, fowling, making dugout canoe	sea level rise
M12	10 panels, 7 cases	collectors Anchersen, Holdgård, Jensen, hunters, illustrations of man and woman, lakeside settlement: 12 people depicted, 2 male hunters with bows, one man knapping, one boy, one woman with baby, boy carrying wood, woman by hearth, woman scraping skins, one person by lake edge, 2 men in canoe = 7 men, 3 women, men at front of picture; Painting of three men with dogs hunting an aurochs; various Mesolithic people	woodland, lake, camp, swamp, bog, stream, the whole history of the lake and people by it	building museum, collecting flints, excavation, making displays, hunting, flint knapping, making tools, using bow drill, carrying wood, scraping skins, paddling boat, making arrows, drying meat	growth of woodland, swamp and bog, development of the lake, changing nature of the woodland

M13	13 panels, 27 cases, 1 aurochs	hunters, man, woman, shamans, hunter in video on wall, skeletons – Vedbæk woman and child, Korsør Nor man	forest, wetlands, lakes, rivers, other world of spirits, European cultures	harpooning animals, deposit bones in lake as sacrifice, inventing bow, hunting from boats, driving animals into water to hunt with harpoon and spear, butcher elk, extract marrow, make fish spears, chisels and axes of bone, shamans dancing in trance, spirit travel in other world, using dogs, making music, move in winter to forest or higher ground and rest of year by lakes and rivers, fishing with spears and nets, excavation, leaving bone refuse, eating dogs, burying dogs, warding off evil with ornamentation and amulets, perform rituals, wearing animal teeth as amulets, making tools of antler, ascribing magical properties, using weapons as status symbols, finding sites during dredging, fishermen finding artefacts in North Sea, mythology using bear and elk, collecting shellfish, making dugout boats, finding flint on beach, picking fruit and nuts, obtaining artefacts from farmers, piling up refuse in middens, burying and cremating the dead, spreading ochre in graves, blows to head, sailing in boats, cooking plants and fish in pots, fighting, killing man with spear, scalping child, copying artefacts from farming cultures,	woman drowning in lake, North Sea flooding the forest, immigration of aurochs, eradication of aurochs, elk and bear, rising sea levels, artefacts washing up on coast, spread of farming, tilting of the land
M14	11 panels, 25 cases, 4 dioramas, 1 mirror, 1 wall	humanity mirror, Images of lake among woodland with hand fishing from dugout, hand of hunter lining up arrow on beaver, hands of person picking from tree, family, hunters, figure of woman archaeologist, modern knapper in video, hunters and gatherers, Mandible of a woman between 25 and 30. Left femur of a woman between 30 and 60. Left humerus of a strong/robust man not older than 50. Right tibia of a	thick forest, birch-pine, pine-hazel, mixed oak, lake, fireplace, foreign tribe, beach, farmers, vegetation motif in cases	hunting, gathering, fishing, fowling, hunting with bow, fish harpooned, gathering and roasting hazelnuts, making arrows, finding sites by dredging, preparing tools, sleeping, making arrowheads, pulling bark off tree, excavation and excavation methods, laying mats, eating, repairing weapons and tools, field walking, flint knapping, using tools, working wood, dogs dig up the dead?, killing and dismembering people? decorating artefacts, deciphering messages, making pots	rising temperatures, woodland animals replacing tundra ones, ice melt, flooding dry land, molehills revealing finds, modern agencies destroying sites

M15	8 cases, 1 wall	footprints in sand, invisible knapper sitting on rock	coastal sand and sea, inlet	knapping, decorating tool, fishing	changing sea levels
M16	2 panels, 24 cases, 11 dioramas, replicas, 1 interactive	3 burials – man, couple, woman and baby, figure spearing boar, hunters, food-gatherers, gatherers, community of 40-60, elders	autumn forest, winter marsh, forest fringe in spring, spring lake and stream, summer fjord, settlement, summer Sound, agricultural peoples to the south, other groups nearby	making a bow, making things from animals and trees, hunting, fishing, fowling, burying dog, burying people, paddling boat, fire making, scraping skin, woodworking, cooking, importing goods, handing down the generations, leaving waste, excavation, using ethnography, going into the forest on short expeditions, harpooning fish, setting fish traps, felling and trimming wood, use digging sticks, carrying baskets, making arrows, waterproofing baskets, burial inside houses, 2 hour trek and return, defend territory, man killed by arrow, cannibalism, extracting marrow, consuming another's qualities, storing food, drying fish, curing foods, administering food distribution, burying differently by gender and age, belief in life after death and have close links between living and dead, exchanging gifts, settling disputes, settling permanently, making pots	seasonality, food shortages, over-exploitation or over-population or climate change forcing adoption of farming

Appendix 45

Narrative elements found in museum displays

Part B: judgements, descriptions, special features and Mesolithic sites

ID	Judgements	Descriptions	Special features	Sites
M01	shocking and extraordinary concentration of finds, prospering		site special, nothing like it in the area, 3,000 years older than Stonehenge, the highest yield of Mesolithic flints per metre square in the UK, richest Mesolithic deposits in Europe, animal remains as being 'of international significance', the longest continually occupied place in the UK	Blick Mead, Stonehenge
M02			extremely tiny microliths unique to Britain	Star Carr, Broxbourne, River Lea, Meilgård, Howick
M03	the peak of weapons specialisation		DNA descendant local teacher, descended from the cannibals, and from African humans	Gough's Cave
M04	developed skills to survive in a hostile environment		the oldest house in England	Eltringham, Howick, various other sites
M05	life was hard and uncertain, few people, fought for survival, varied and healthy diet		Britain's earliest dog	Star Carr, Brandesburton, Carnaby Top, Kilham, Brigham, Hasholme Grange, Holme on Spalding Moor, Everingham, Newbald, Brough
M06				Abinger Common, Howick, Oakhanger, Cherill, Portland, Shippea Hill, Star Carr, Thatcham
M07	resourceful foragers, often hostile environment, survival strategies			various sites, focus on Three Ways Wharf (Uxbridge)

M08	understand the local geography and landscape extremely well	Other parts of life at Star Carr can only be imagined. What sounds and smells would have greeted people at the lake site? They might have heard the calls of animals, of flint being knapped, water lapping at the lake edge and wind rustling through the trees. Familiar smells may have been smoke from food cooking on wood fires, the dampness of the swamp and the	one of the most important Early Mesolithic sites ever found, more barbed points than anywhere else in the world, earliest carpentry ever found	Star Carr
M09			one of the most important Middle Stone Age sites in the country	Thatcham, Star Carr
M10	skill, ingenuity, wonderful artefacts, mysterious people, expertly struck		frontlets unique in Britain, rare artefacts, unique insight	Star Carr
M11			oldest dugout boat in the world	Bergumermeer, Drentse Pesse
M12	n/a	n/a	n/a	n/a
M13	effective hunting by experienced hunters		natural processes and human activity shaping the landscape	Klosterlund, ref. to Star Carr

M14	able seamen, life in forest was hard		the oldest – Dane, hunting bow, string instrument	Holmegård, Ulkestrup, Skottemarke, Tåderup, Vig, Åmosen, Mullerup, Sønder Hadsund, Melsted, Vedbæk, Lundby, Agernæs, Sværdborg, Jorløse Mose, Øgårde, Stensby, Bjernede, Garbølle, Ubberup, Dybsø Fjord, Søholm, Tude Å, Silkeborg Sø, Skærbæk, Strøby Egede, Carstensminde, Brende Å, Værebro Å, Vestergårds Mose, Gundsømagle Holme, , Glostrup Mose, Helsinge, Villingbæk, Klampenborg, Argus Bank, Kongemose, Sønderho, Hvide Sande, Storstrømmen, Skallingen, Århus harbour, the Little Belt, Køge Bay, Fakse Bay, Engesvang, Bølling Sø, Fanø, Egemark, Resen Mose, Ryemarksgård, Veksø, Ertebølle, Korsør Nor, Broksø, Stensore, Dyrholmen, Gudsø Vig, Kolding Fjord, Lille Knabstrup, Braband, Maglelyng, Virksund, Bergmandsdal, Ølby Lyng, Grisby, Kolind, Dragsholm, Melby, Haraldsted, Vantore, Vejro, Ringsted Å,
M15			dioramas, timeline, humanity mirror	Udstølp, Neverkær, Nivågård, Duvense, Lammershagen, Sårup
M16				Västra Frölunda, Hisingen and others
M17	quite a complex community, fairly advanced implements and hunting methods, close knowledge of raw materials, highly developed culture, entirely dependent on natural resources		ecological display, booklet description of social life of hunter-gatherers, ecological zones described	Vedbæk: Bøgebakken, Vedbæk Boldbaner

Appendix 46
Analysis of communication channels: museum displays
A: actions

ID	Named	Gender	Age	Kin	Function	Group	Other	Individual
M01	x	x		x	x		x	yes
M02					x			
M03	x		x		x			yes
M04		x	x		x	x		yes
M05		x	x	x	x		x	yes
M06		x	x	x		x		
M07					x	x		
M08					x	x		
M09					x			
M10		x	x					
M11		x	x		x			yes
M12		x	x		x	x		
M13		x	x	x	x			yes
M14		x	x		x			yes
M15							x	
M16		x	x	x	x	x		yes
Total	2	10	10	5	13	6	3	8
%	12.5	62.5	62.5	31.3	81.3	37.5	18.8	50.0

Appendix 46
Analysis of communication channels: museum displays
B: settings

ID	wood -land	wet	coast	estuary	river	lake	spring	marsh	upland	open	downs	cave	Dogger -land	camp	people	spirits	Other
M01							x										
M02	x		x										x				
M03	x											x					gorge
M04	x												x		x		
M05	x				x	x			x	x	x		x	x			
M06	x				x	x											
M07	x				x												
M08	x													x			
M09						x											
M10	x		x			x											
M11	x					x											
M12	x				x	x		x						x			
M13	x	x			x	x									x	x	
M14	x		x			x									x		
M15			x	x													
M16	x		x	x		x		x							x		
Total	13	1	5	2	5	9	1	2	1	1	1	1	3	3	4	1	1
%	81.3	6.3	31.3	12.5	31.3	56.3	6.3	12.5	6.3	6.3	6.3	6.3	18.8	18.8	25.0	6.3	6.3

Appendix 46
Analysis of communication channels: museum displays
C: actions (1)

ID	Finding food				Food preparation and use					In settlements							Use dogs
	Hunt	Gather	Fish	Bring food home	Butcher	Prepare	Cook	Eat	Store	Make camp or house	Building monument or structure	Make fire	Collect resources	Sleep	Make bedding	Midden	
M01	x						x				x						
M02	x	x	x					x				x					x
M03	x	x	x					x	x	x		x			x		
M04	x	x	x			x		x	x	x							
M05	x	x	x	x		x			x	x		x	x				x
M06	x	x	x		x	x			x	x							x
M07	x	x			x	x			x							x	
M08	x	x	x		x	x	x			x	x	x	x			x	x
M09	x	x			x			x									
M10	x	x	x		x		x			x		x					
M11	x	x	x														
M12	x					x											
M13	x	x	x		x		x	x								x	x
M14	x	x	x			x		x						x	x		
M15			x														
M16	x		x			x	x		x			x				x	x
Total	15	12	12	1	6	8	5	6	6	6	2	6	2	1	2	4	6
%	93.8	75.0	75.0	6.3	37.5	50.0	31.3	37.5	37.5	37.5	12.5	37.5	12.5	6.3	12.5	25.0	37.5

Appendix 46
Analysis of communication channels: museum displays
D: actions (2)

ID	Making tools									In the landscape				Movement						
	Raw material	Make tools	Invent new	Knap	Work wood	Skins	Canoes	Pottery	Clothes	Make clearing	Fell tree, coppice	Tap sap	Strip bark	Mobile	Sail or boating	Walk	Migrate	Stay	Leave	Return
M01		x		x	x				x					x						x
M02		x								x		x		x						
M03		x		x	x	x			x		x									
M04		x		x		x								x			x			
M05		x		x	x	x	x		x		x			x					x	
M06	x	x		x	x	x			x	x	x			x						
M07	x	x	x	x	x	x				x	x			x	x					
M08	x	x		x	x	x								x	x	x				
M09	x	x		x	x	x								x	x					
M10	x	x	x	x	x				x								x			
M11		x					x								x					
M12	x	x		x		x									x					
M13	x	x	x		x		x							x	x					
M14		x			x			x					x							
M15		x		x																
M16		x			x	x		x							x	x		x	x	x
Total	7	16	3	11	11	9	3	2	5	3	4	1	1	9	7	2	2	1	2	2
%	43.8	100.0	18.8	68.8	68.8	56.3	18.8	12.5	31.3	18.8	25.0	6.3	6.3	56.3	43.8	12.5	12.5	6.3	12.5	12.5

Appendix 46
Analysis of communication channels: museum displays
E: actions (3)

ID	Social										Art					Other	
	Fight or dispute	Mark territory	Treat special	Reproduce	Teach or learn	Stories	Network	Music	Die	Ritual	Spirits	Wear charm	Burial	Votive	Dance		Decorate
M01		x	x	x					x				x				sweat lodge, leave sick behind
M02														x		x	
M03	x						x				x		x			x	wearing clothes and jewellery as symbols, blowing horn, using medicines
M04	x						x										woman doing as she is told
M05										x					x		prepare medicines and drugs
M06																	
M07					x	x	x	x		x				x			gather round hearth, allocating tasks, by age, gender, kinship or skill
M08										x						x	making headdress
M09																	

M10							x			x						x	making frontlets, eating human brains, have parties, make toothpicks
M11																	
M12																	
M13	x		x				x	x		x	x	x	x	x	x		mythology, copying artefacts
M14	x															x	deciphering messages
M15																x	
M16	x				x		x						x				cannibalism, administering food, life after death
Total	5	1	2	1	2	1	6	2	1	5	2	1	4	3	2	6	9
%	31.3	6.3	12.5	6.3	12.5	6.3	37.5	12.5	6.3	31.3	12.5	6.3	25.0	18.8	12.5	37.5	56.3

Appendix 46
Analysis of communication channels: museum displays
F: happenings

ID	Environment								People		Other
	Climate change	Melting ice	Sea level	Land rise	Island	Woodland	New biota	Seasons	Pop. rise or fall	Hunger	
M01											flints turn colour
M02	x		x		x			x			
M03			x			x					
M04	x	x	x		x	x	x				
M05	x	x					x				
M06	x	x	x		x						roof collapse
M07	x		x		x						
M08	x						x				
M09											beaver dam
M10	x	x									
M11			x								
M12						x					environmental change
M13			x	x			x				woman drowning
M14	x	x	x				x				
M15			x								
M16	x							x	x	x	over exploitation
Total	9	5	9	1	4	3	5	2	1	1	6
%	90	50	90	10	40	30	50	20	10	10	60

APPENDIX 47

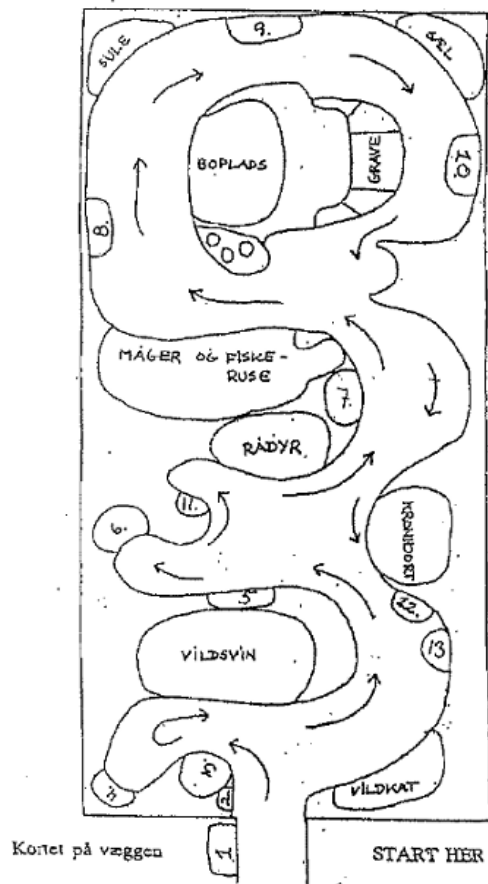
VEDBÆK MUSEUM WORKSHEET

Vedbækfundene Rudersdal Museer



GÅ PÅ JAGT I JÆGERENS OMRÅDE

Nu skal du på jagt i jægerens område. Du skal gå på jagt efter viden om jægerstenalderen. På kortet er der numre. Det er de steder, du skal stå, når du skal løse opgaverne. Find dine svar ved at læse teksterne og bruge øjnene.



Kender du din fortid?

Nr. 1	Kortet på væggen ved indgangen til udstillingen viser territoriet, hvor jægerfolket har skaffet sig føden. Hvilke naturtyper har jægerfolket udnyttet?
Nr. 2	Når jægeren skal finde dyrene i skoven, må han kende deres spor. Hvilket dyr har efterladt sig spor her? Hvad kan man spore dyret på? Nævn sporene.
Nr. 3	Her ses et egern i vild flugt. Hvilket dyr er egernet på flugt fra? Dette dyr har et meget kraftigt bid. Kig på underkæben i den runde montre under egernet. En stenalderkvinde fæet en sådan underkæbe med sig i graven. Kvinden har brugt underkæben som smykke. Hvorfor, tror du, hun ville gå rundt med sådan en underkæbe som smykke?
Nr. 4	Find buerne og skriv hvilket materiale jægerne brugte til at fremstille buer af? Hvilket materiale blev brugt til buestreng?
Nr. 5	Bast er snor, som er fremstillet af plantefibre. Hvilket træ er bedst til at fremstille bast af? Hvad blev bast brugt til?
Nr. 6	Hvilket dyr er gået i fælden? Hvorfor, tror du, stenalderjægeren brugte fælder? Hvad tror du stenalderjægeren skulle bruge dyret i fælden til?
Nr. 7	Hvilken pil skal jægeren bruge til fuglejagt, hvis han ikke vil lave hul i fjerdragten?

VEDBÆKFUNDENE

Rudersdal Museer

Nr. 8	<p>Stenalderfolket brugte vandet til at fiske i, men også som transportvej, hvis de for eksempel skulle besøge andre bopladser. Hvad kaldes bådene stenalderfolket sejlede i?</p> <p>Hvad var bådene fremstillet af?</p> <p>Se på kortet, der hænger over stamnehåden og læs teksten med <i>Import</i> Hvilke områder har stenalderjægere fra Vedbæk været i forbindelse med?</p> <p>Hvordan ved vi, at stenalderjægerne fra Vedbæk har været i forbindelse med disse områder?</p>
Nr. 9	<p>Sælfangst i Øresund havde stor betydning for stenalderfolket. Nævn 3 dele på sælen, der var særlig vigtige for stenalderjægeren og fortæl hvad de blev brugt til.</p> <p>1)</p> <p>2)</p> <p>3)</p>
Nr. 10	<p>Som smykker brugte jægerfolket forskellige dyretænder, ledender og andre ting fra dyrene. Hvilke dyr er der tænder fra i smykkerne fra Vedbækgravene?</p> <p>Hvorfor mon jægerfolket brugte dyretænder til smykker? Hvad tror du?</p>
Nr. 11	<p>Til at jage sæler anvendte jægeren harpuner.</p> <p>Hvad er denne harpun fremstillet af?</p> <p>Hvad er linen fremstillet af?</p> <p>Hvad brugte de flintknivene til?</p>
Nr. 12	<p>Se på montron. Hvilke redskaber kunne kronhjortens mellemfødsben bruges til? Nævn nogle af dem.</p>
Nr. 13	<p>Hvilken træsort er bedst til padleårer?</p> <p>Hvilken slags økse er bedst til at fælde træet med?</p>

Appendix 48
List of school resources analysed

ID	Authors	Year	Title	Series	Place	Publisher	Source	Category	TES rating
S01	Boyle, M E	1921	Man before History		London:	George G Harrap	Batho collection	popular account	n/a
S02	Quennell, Marjorie & C H B	1921	Everyday Life in the Old Stone Age	The Everyday Life Series	London:	B T Batsford	Batho collection	pupil book	n/a
S03	Rutley, Cecily M	1924	Book I The First Children (The Old Stone Age)	Children of Other Days	Leeds:	E J Arnold & Son	Batho collection	story	n/a
S04	Rutley, Cecily M	1924	Children of other days, Teacher's handbook to Books I., II. and III.	Children of Other Days	Leeds:	E J Arnold & Son	Batho collection	teacher handbook	n/a
S05	Dobson, D	1928	The teaching of prehistory in schools		London:	Historical Association	Corbishley 1994	teacher guide	n/a
S06	Airne, C W	1932	The Story of Prehistoric and Roman Britain	Told in Pictures	Manchester:	Sankey, Hudson & Co.	Batho collection	illustrated guide	n/a
S07	Wolstencroft, H P	1947	From Prehistoric Times to the Renaissance	Our Historical Heritage	London:	University of London Press	Batho collection	popular account	n/a
S08	Breuil, H (trans. M Boyle)	1949	Beyond the Bounds of History		London:	P R Gawthorn	Corbishley 2012	illustrated guide	n/a
S09	Dobson, D	1950	Early Man		Harmondsworth:	Penguin Books	Worcester University	illustrated guide	n/a
S10	Titterton, A F	1957	The Stone Age	Looking at the Past 1 Ancient Civilisations	London:	Ginn & Co.	Batho collection	popular account	n/a
S11	Sellman, R R	1958	Prehistoric Britain	Methuen's Outlines	London:	Methuen	Batho collection	popular account	n/a
S12	Quennell, C H B & M	1959	Everyday Life in Prehistoric Times	The Everyday Life Series	London:	B T Batsford	Batho collection	popular account	n/a

S13	Peach, L du G	1961	Stone Age Man in Britain: an adventure from history	Ladybird History		Ladybird Books		illustrated guide	n/a
S14	Doncaster, Islay	1962	Life in Prehistoric Times	Evidence in Pictures	London:	Longman	Batho collection	popular account	n/a
S15	Bowood, R & Lampitt, R	1966	Earliest times to the Norman Conquest,	Our Land in the Making		Ladybird Books		illustrated guide	n/a
S16	Osborn, Jane R	1968	Stone Age to Iron Age	Focus on History	London:	Longman	Batho collection	popular account	n/a
S17	Sauvain, Phillip A	1970	Lord and Peasant (old stone age to 1485 AD)	Lively History	Amersham:	Hulton Educational Publications	Batho collection	activity guide	n/a
S18	Paton Walsh, Jill	1975	The Island Sunrise Prehistoric Britain	The Mirror of Britain	London:	Andre Deutsch	Batho collection	popular account	n/a
S19	Sauvain, Phillip A	1976	Prehistoric Britain	Imagining the Past	London:	Macmillan Education	Batho collection	illustrated guide	n/a
S20	Freeman-Grenville, G S P	1979	Atlas of British History from prehistoric times until 1978		London:	Rex Collings	Batho collection	atlas	n/a
S21	Jamieson, Alan	1979	Prehistoric and Roman Britain	Openings in History	London:	Hutchinson	Batho collection	illustrated guide	n/a
S22	Dawson, I	1983	Prehistoric Britain	Studies in Evidence	Edinburgh:	Holmes	Batho collection	activity guide	n/a
S23	Nichol, Jon	1983	Prehistoric Britain	Evidence	Oxford:	McDongall Basil Blackwell	Batho collection	activity guide	n/a
S24	Atkins, Sinclair	1985	From Stone Age to Conquest		Amersham:	Hulton Educational Publications	Batho collection	illustrated guide	n/a
S25	Corbishley, M	1989	Prehistoric Britain		London	British Museum Press		activity guide	n/a
S26	Corbishley, M; Darvill, T & Stone, P	2000	Prehistory	Teacher's Guides	London	English Heritage		activity guide	n/a
S27	James, G M	2000	The British time scale		Bristol:	Clinical Press	Batho collection	timeline	n/a
S28	Griffiths, K	2003	Raven's Wing, son of True Arrow	Dales Folk?	Bainbridge	Yorkshire Dales National Park	Images	story	n/a

S29	Lee, E	2006	Wolf Brother teacher's booklet		Harlow:	Pearson Educational	http://www.pearsonschoolsandfecolleges.co.uk/Secondary/Drama/14-16/NewWindmillsFiction/Resources/U-Z/WolfBrother.pdf	teacher guide	n/a
S30	Smith, P	2008	Prehistory teacher's kit		Swindon:	English Heritage	Worcester University	activity sheets	4.8
S31	anon.	2010	Chronicles of Ancient Darkness teachers' notes		London:	Orion Children's Books	https://www.hachettechildrens.co.uk/assets/hachettechildrensbooks/downloads/teachers%20resources/The%20Chronicles%20of%20Ancient%20Darkness%20Teachers	activity guide	n/a
S32	Cruz, E	2011	Early man				TES Connect, https://www.tes.co.uk/teaching-resource/early-man-6128900	powerpoint	4
S33	Cruz, E	2011	Prehistoric Man and Beasts!!!				TES Connect, https://www.tes.co.uk/teaching-resource/prehistoric-man-and-beasts--6147970	powerpoint	4
S34	anon	2013	Hunt the Magic		York	Yorkshire Museum		museum worksheet	n/a
S35	Helliwell, E	2013	Life in the Mesolithic		York:	University of York		activity pack	n/a
S36	Mackay, E	2013	Wolf Brother's Wildwoods		Edinburgh:	Forestry Commission Scotland	http://www.forestry.gov.uk/pdf/fcms123.pdf/\$FILE/fcms123.pdf	outdoor activity guide	n/a
S37	pippa1990	2013	Step into ... the Stone Age				TES Connect, https://www.tes.co.uk/teaching-resource/step-into-the-stone-age-powerpoint-6374008	powerpoint	4.8

S38	anon (L T)	2014	Stone Age, Iron Age, Bronze Age timeline				TES Connect, https://www.tes.co.uk/teaching-resource/stone-age-iron-age-bronze-age-timeline-6444819	powerpoint	4.1
S39	anon.	2014	Stone Age storytelling		London:	Museum of London	TES Connect, https://www.tes.co.uk/teaching-resource/stone-age-storytelling-6446801	activity guide	5
S40	anon.	2014	Stone Age to Iron Age Primary School's Guide			KS2History	TES Connect, https://www.tes.co.uk/teaching-resource/stone-age-to-iron-age-primary-school-s-guide-6425567	teacher guide	n/a
S41	anon.	2014	Prehistory at a glance		London:	Museum of London	TES Connect, https://www.tes.co.uk/teaching-resource/prehistory-stone-age-to-iron-age-resources-6446800	timeline	n/a
S42	anon.	2014	Brighton & Hove prehistory – notes for teachers			Royal Pavilion & Brighton Museums	TES Connect, https://www.tes.co.uk/teaching-resource/brighton-museum-archaeology-teacher-pack-6446818	teacher guide	n/a
S43	anon.	2014	All about Mesolithic Brighton			Royal Pavilion & Brighton Museums	TES Connect, https://www.tes.co.uk/teaching-resource/brighton-museum-mesolithic-6446974	powerpoint	n/a
S44	Barker, M L	2014	Journey Through the Stone Age Class Assembly				TES Connect, https://www.tes.co.uk/teaching-resource/journey-through-the-stone-age-class-assembly-6452533	assembly play	4.7

S45	Biddulph, K	2014	Four timelines for Stone Age to Iron Age Britain				TES Connect, https://www.tes.co.uk/teaching-resource/four-timelines-for-stone-age-to-iron-age-britain-6439508	timeline	5
S46	hayley65690	2014	Littlenose The Leader Guided Reading Booklet				TES Connect, https://www.tes.co.uk/teaching-resource/littlenose-the-leader-guided-reading-booklet-6451536	reading activity	4
S47	Pryor, F, Morris, H & Joyner, L	2014	Stone Age to Iron Age - overview and depth	Primary History 66: 20-28	London:	Historical Association	TES Connect, https://www.tes.co.uk/teaching-resource/stone-age-to-iron-age--overview-and-depth-6433770	teacher guide and activities	5
S48	QueenDerbyshire	2014	Stone Age Timeline of events				TES Connect, https://www.tes.co.uk/teaching-resource/stone-age-timeline-of-events-	timeline	n/a
S49		2014	Prehistoric Britain: Mesolithic		Horley:	PlanBee Resources	PlanBee, http://www.planbee.com/history/346/	activity guide	n/a
S50	anon.	2015	Stone Age to Iron Age teachers' resource pack			KS2History	TES Connect, https://www.tes.co.uk/teaching-resource/stone-age-to-iron-age-planning-and-resource-pack-11015639	activity guide	n/a
S51	Ayan, A K	2015	Stone Age Tools and Weapons				TES Connect, https://www.tes.co.uk/teaching-resource/stone-age-tools-and-weapons-	powerpoint	4

S52	Ingle, B	2015	Britain in the Stone Age				TES Connect, https://www.tes.co.uk/teaching-resource/britain-in-the-stone-age-11033325	assembly play	n/a
S53	Nolan, E	2015	Investigating British History – Stone Age to Iron Age				TES Connect, https://www.tes.co.uk/teaching-resource/y3-history-investigating-british-history--stone-age-to-iron-age-11033602	powerpoint	n/a
S54	Nolan, E	2015	Stone Age to Iron Age: timeline	Y3 History Investigating British History			TES Connect, https://www.tes.co.uk/teaching-resource/y3-history-investigating-british-history--stone-age-to-iron-age-11033603	timeline	n/a
S55	Russell, S	2015	Stone Age to Iron Age assembly				TES Connect, https://www.tes.co.uk/teaching-resource/stone-age-to-iron-age-assembly-11033199	assembly play	n/a
S56	Tidd, M, Biddulph, K, Taylor, T, Pearson, J, Aronovsky, I &	2015	KS2 History 'cheat sheets'				TES Connect, https://www.tes.co.uk/teaching-resource/ks2-history-cheat-sheets-6440511	teacher guide	4.8
S57	Wood, P A	2015	Prehistoric Britain powerpoint				TES Connect, https://www.tes.co.uk/teaching-resource/prehistoric-britain-powerpoint-11001670	powerpoint	3

Appendix 49

Narrative elements found in school resources

Part A: characters, settings, actions and happenings

ID	Characters	Settings	Actions	Happenings
S01	Azilians, fishers, Maglemose race, Tardenoisian race, women, children, youths	forest	made small tools for fixing to wood or bone as harpoons, burial of skulls	climate change
S02	Azilians, long-headed, round-headed peoples, fishermen, chiefs, archaeologists, hunter	races living together, mild, westerly winds, rising waters, forests, temperate	move into new land, bury skulls, painting body, cremating bodies, domesticated dog, painting stones as tallies, exchanging goods, desiring shells or feathers, interpreting painted pebbles as letters, finding canoes, fishing from boat, using tools, using dogs for hunt and security, fearing fellow men, dread of magic and evil spirits	ice retreat, land rising
S03	Boy, Girl, father, men, other clan	cave, sea side, other clan, marsh, riverside, forest	playing in snow, moving to new cave and back to riverside, meeting other clan, fighting clan, chatting with clan, paddling, catching shellfish, eating shellfish, making necklaces, making harpoons, fishing, riding wooden logs, making dugout canoe, excavation, use of	snowing, rains flooding cave
S04	man, hunter	forest, marsh, plains, rivers, snow and ice, land joined to France	hunting	
S05	races	forests	hafting microliths, eating shellfish, inventing stone axe, felling timber, making canoes, domesticating dog	changing sea level and climate, new flora and fauna
S06	new peoples, races			climate change, islands formed
S07		caves	could cut and shape bone, ivory and horn into new and sharper tools, had new tools and tool-making methods, sewing skins for clothing, decorating cave walls with animals	

S08	fishermen, hunters, old chief, young woman, children, dog, son, man, tribes of hunters	sea-shore, cavern, cave, forest, pine forest, flooded marshes, islands and loops in river, villages	eating shellfish, fishing, collecting shellfish, migration, discovery by Piette, hunting, use fur to keep warm, watch children, playing, eating snails, wearing crowns of shells, keeping churingas of ancestors' souls, carrying faggots, cooking fish and snails, foretelling hunting success with pebbles, warming by fire, patting dog, painting rock wall, following deer and elk, leaving shell mounds of waste, working shells as ornaments, making canoes, burying dead, working bone and antler, domesticated dog, welcoming home from fishing and hunting, mending harpoon, dancing, hauling canoe ashore	rising sea level, new animals, climate change
S09	tribes, fishermen	forest, sea-shore	eating fish and shellfish, leaving heaps of shells, making saws and knives with microliths, catching fish, tamed dogs, cutting down trees, making dug out canoes, crossing rivers and lakes in boats	weather warmer and wetter, animals changed, forests grew
S10	strangers from the east	sea shores, river banks, open sandy land, forest	chop down trees, make dugout canoes, making tools and weapons, using flint from the shore, hunting, fishing, collecting shellfish, perforating stones as net sinkers	climate warming, growth of forest, land rising and sinking, disappearing land bridge
S11	20 people, men, women, baby	coasts, marsh edges, caves, Pennines, southern North Sea land	revising hunting methods and weapons, using bow and dog in hunting, felling and working wood, making arrows, new ways to work flint, grinding stone, fishing, fowling, collecting shellfish and nuts, making dugout canoes, making huts, burying dead – illustration of chopping tree, working antler, bringing home carcass, paddling canoe, holding	ice retreat, climate change, change in animals and vegetation
S12		seaside	making microliths for hunting, rock painting, gathering honey, rubbish heaps, extracting marrow, domesticated dog, fishing from boats	weather warmer, encroaching forest
S13	men and women depicted in the illustrations in gendered roles	chalk hills, forest, swamp, uplands	came across to England from France, made bows and arrows, making a house, made tools, flint knapping, skinning animals, hunting, sewing clothing, catch fish, sit around fire, making canoes for travel, kept dogs – illustrations of hunting bear, bringing home a deer, stretching skin, holding baby, talking to old man, drying/cooking meat, flint knapping, sewing clothes, fishing with line, making and paddling canoe, characters depicted in gendered roles	
S14	groups of hunter-fishers	dense forest, sea shore	picked nuts and berries, hunted using bows and arrows, fished with antler spear and from boats with nets and hooks, making canoes and skin covered boat for sea fishing, ate shellfish	warmer climate, became an island

S15	hunters, fishermen, gatherer, new people	pine forest, lakes, sea	built settlements on rafts, made tools, cut down trees, making boxes out of birch bark and antler headdresses, crossing the sea – illustration of lake settlement, spear fishing from canoe, making a spear	ice retreat, growth of forest, warming climate, Britain an island, sea submerging land connection with France
S16	men, women, children	lakes, sea, river	hunted, made tools and weapons, fishing, made dugout canoes – Sorrell illustration of Star Carr: making headdress, scraping skin, butchering deer, nursing baby, knapping flint, working wood	weather warmer and damper, new animals
S17	group, family of man, woman and girl	joined to continent, lakes, marshes, birch and willow	hunted, collected, trained dogs, made fishing nets, used bow and arrow, devised containers, storing berries and nuts, cooked meat, making fire, flint knapping – illustration of family with dog going hunting and gathering	Ice Age ended
S18	tribes, wanderers, hunters, fowlers, strand-loopers	caves, forest, river and lake edges, sandy places	decorating pebbles, making tools, bow and arrow hunting, moving northwards in Europe, inventing axes and boats, clearing woodland, making huts and platforms, working skins, fishing, making tools and ornaments, fire lighting, domesticated dog, using antler headdress in hunting or in ceremonies, wandering, collecting shellfish	climate change, warming, ice retreat, sea level rise, land rise, forest growth and change, severing land bridge
S19	hunters, fishermen, nomads	lake	made and paddled boats, fished, hunted, used dogs, cut down trees, using tools, moving site after 2 years – illustration of bringing back fish and deer, sitting talking or knapping	sea level rise hiding other sites
S20	men, woman/girl	forest camp, lake	illustration of chopping wood, cooking fish, butchering deer, fishing from boat and asking what is house made of	sea level rise cutting Britain off
S21			using dogs in hunting, making houses	
S22	group of archaeologists	wet, marshy ground	finding the site, excavations, wanting to know about how they lived, work out size of camp and how many people might have lived there, put down brushwood layer, moving elsewhere to hunt in summer, analysis of antler and animal bones, eating meat, removing marrow, gathering and eating wild plants and fruit, making tools, felling trees, cutting brushwood, scraping skins, making ornaments, digging up roots, using boats, storing birch bark, making necklaces or lucky charms, antler headdresses for hunting or hunting luck ceremonies, use of ethnography, asking questions of the evidence, writing up the findings, Sorrell's drawing and how he made it	decay of artefacts above ground, survival of those in and below brushwood

S23	men, women, children, hunters, gatherers	trees, cave, cliff, marsh, river, sea, lake, settlement	hunting deer, make birch branch platform, build huts, artist sing evidence to make drawing, using evidence of way of life, using mask for dances and ceremonies, carving harpoon, leaving site to find food, compare then with today, use ethnography – illustration of making fire, flint knapping, scraping hide, paddling boat, working antler, wearing antler mask, fishing, sewing clothes, bringing food back to camp	
S24	wanderer, men, women, children, baby	thick forest, low-lying gravel or sand near river or lake, camp	domesticated the dog, finding dog skeletons, using antler frontlet for hunting or fertility rites in ritual dance or stalking, fishing, flint flaking, making weapons and tools, digging up roots, rely on vegetable food, hunting, fishing, gathering, sewing clothing – illustration of tending fire, pounding food, nursing baby, carrying carcass, talking	glacier retreat, sea level rise, Britain an island, growth and changes in forest, new animals
S25	men, hunters	woodland	hunted, fished, gathered, made tools, clothes, housing and boats – illustration of hunting a red deer with bows and spear, match artefacts with today's, hunting game	ice melt, sea level rise, Britain an island, forest grew and changes
S26	groups	woodland, caves, territories, forest edges of river, lake and coast	return to Britain, hunting, seasonal movement, burning clearings for living in and hunting, trading for raw materials and tools, felling trees, building a platform, use of boats, domesticated dog, making and repairing tools, processing skins, making clothes, headdresses for ceremonies or stalking, wearing ornaments, making occasional visits to site as well as living there, adopting smaller territories	ice retreat, warming climate, new plants and animals, severing of land bridge, higher populations, peat preserving finds
S27		woodland, coast, rivers, lakes	hunting, making tools, domestic dog, forest clearances, using boats, exchanging tools, reducing mobility	climate warming, sea level rise, woodland and changes therein, Dover Straights breached, Britain isolated
S28	father, son, girl, other group, elder brother	stream in clearing, woodland, tarn	hunting, chased away by others, dropping flint core, resting at camp, burning a clearing, tend fire, gather wood, butcher the kill, collect water, drinking water, attacked by girl, given back the core, making arrows, sourcing flint and chert, making seasonal camps, drying meat, fighting between clans, conflict settled by elders, eating berries and nuts, leaving body to rot down in open, fouling water	killed by boar, special powers in nature to ensure hunting success
S29				
S30	hunter-gatherers		made tools	end of Ice Age, Britain became an island

S31	Torak, father, hunter-gatherers	dark forest, the Raven camp, the Wide Water, the Ice River, the Cave and the Deep Forest	quest to stop the bear, using ethnography, using plants as medicine, making artefacts of birch bark	evil demon in a bear, father killed by bear
S32	men, women, children	woodland, open, lake or sea, camp	fishing and fowling from boats, tending fire, cooking, flint knapping etc (hard to make out)	
S33			hunting Megaloceras to extinction	
S34	Carr, father, mother, sister, Ant, Flynn, Dace, Coll, female shaman	lake, woodland	take headdress to shaman, looking for stones to heat to cook with, eating berries, collecting bracket fungus to make fire, collecting antler to make harpoons, flint knapping, fishing, paddling coracle, using headdress in ceremony, shaman dancing	
S35	hunter-gatherers, 4 teenagers, 2 children	trees	caught and collected wild foods, made arrows, eating fish, made huts of wood and skins, buried dead and puts human bones in caves, wore antler headdresses, hunting, fishing, butchering, gathering, following deer, running, making rock art as hunting magic and religious	Britain became an island, warming climate
S36	hunter-gatherers, pioneers, fisher, children, Torak	forest, extended family groups	exploring, settling, exploratory reconnaissance, land inscribed with cultural values by the experience of generations, rich in stories, memories and meaning, seasonal mobility, made tools of wood, making fire, clearing by burning, taming a brown bear, valued dogs, making tools, working wood or hide or bone, skinning and cutting, flint knapping, building huts and shelters, cooking, storing, discarding in midden, hunting, using boats, walking along animal tracks, making beads, sharing, respecting nature, gathering together, belief in people-animal fluidity – illustrations of Raven camp, Torak and butchering	sea level rise, climate change, forest change
S37			hunting deer with bow and arrows	
S38				Ice Age ends, climate warming, megaflood cutting Britain off from Europe
S39	hunter-gatherer groups, I, elders, father, baby brother, archaeologists, community up to 20	land bridge, forest	travelling, eating roots, nuts, berries and fish, preparing weapons, telling stories, listening to the elders, flint knapping, put to bed, sleep, creating clearings, discovery of Three Ways Wharf, meticulous recording, making tools, working hides, belief in hunting magic	climate warming, growth of woodland, Britain cut off
S40			invented canoe, made smaller tools, fish as well as hunt	sea level rise, Britain an island

S41	hunter gatherers	woodland	move in and out of Britain, manage the land, create clearings, lure prey, making weapons, new tools	climate warming, growth of woodland, Britain cut off
S42	small bands, hunter-gatherers, small family	forest and water	knapping, new weapons – bow and arrow, developed microliths, made tools, ate fish, shellfish and plants, seasonal mobility, slash and burn to control landscape, clear land, grub up roots, set up camp, returning every year, hunted animals, made shelter or tent, harvest fruits and nuts, gather shellfish, catch fish	climate warming, forest, new game, sea level, end of land bridge to France, new vegetation
S43	dog as narrator, archaeologists, a few families, tribe mother, man	Doggerland, thick forest	hunting, excavation, discover evidence, set up camp, gather nuts and fruit, seasonal visits to camp, making shelters, filling rubbish pits, knapping, gluing microliths to spears and arrows, eat seabirds, make	end of Ice Age, climate warmer, trees grow, sea level rising making Britain an island
S44	Sally, Bob, Elizabeth, Jimmy, Iggy, Grut, Og, Erg	woodland	modern shelter hunting with bow & arrow, make necklace, drying fish, knapping, making shoes	climate warming, woodland growth
S45		Doggerland	wearing deer antlers in ceremonies, building houses	end of Ice Age, Storegga tsunami, flooding Doggerland
S46	hunter-gatherers	forest	staying in one place for longer, working flint, hunting, making proper houses, eating hazelnuts	end of Ice Age, glaciers melt, sea level rise cutting Britain off from Europe, forests grew
S47	communities, hunter-gatherers	woodland, grassland, lakes	arrival in Britain, new research changing ideas – small, permanent villages built, burning forest cover to attract game	Britain an island, temperatures rise, forests grow
S48			building settlements	Britain an island, climate warmed, ice melts,
S49	hunter gatherers, group	lakeside, forest, marsh, Doggerland, camp	returning to site again and again, hunt and eat fish, birds and animals, making houses, tending fire, working skins, cooking, bringing back carcass and fish, beaching coracle, picking shellfish off beach, food off trees and forest, tying boat to platform, making boats, butchering animals, cooking meat, roasting hazelnuts, make clothes from skins, make and use headdress either in hunt or hunting ceremony, taking down and moving houses, people moved around a lot	climate change, better for plants and animals, sea level rise, land bounce, cutting Britain off
S50	wanderers		invented canoe, made smaller tools, fish as well as hunt, making tools, dig up artefacts, nomadic	end of Ice Age, sea level rise, Britain an island
S51			making arrows and carpentry tools, making stone tools	

S52	mum, children		hunting, gathering, painting in caves, move from one camp to the next, make bows and arrows, cut down trees, walking, make camp, heating stones, eating deer	
S53			making finer, smaller tools and the first canoes, fish, hunt, domesticated dog	
S54				warmer climate, forests grow
S55				end of Ice Age, Britain became an island
S56		lakes	small territory around a lake	end of Ice Age, land bridge flooded, warmer climate, new species
S57	hunter-gatherers		made more complex tools, made campsites	end of Ice Age, Britain became an island

Appendix 49
Narrative elements found in school resources
Part B: judgements, descriptions, special features and Mesolithic sites

ID	Judgements	Descriptions	Special features	Sites	Notes
S01	cared nothing for art, weak, conventional designs, roughly made tools			Holderness, Ofnet	
S02	herdsman rather than hunter, not a care-free life, useful rather than cunning technology, life easier			Ofnet, Oban	
S03	wet and miserable				
S04	dependent on the chase	lists edible plants in the forest			
S05	primitive, "Man is tied down to the mere business of getting food, and apparently his standard of living was lowered considerably."				reprinted as late as 1950
S06	inferior peoples, numerous and primitive races who never equalled the cave Men, eked out a precarious existence				
S07	a much more dangerous enemy to wild animals, skilful and artistic				really more a description of the Upper Palaeolithic, very old-fashioned, following Westropp
S08	indifferent hunters of small game	lived in huts on piles and faggots in marsh	first occurrence of dog	Sierra de Sintra, Mas d'Azil, in south Scandinavia, Tagus	first mention of the Mesolithic by name, earliest pictorial depictions of the period

S09	difficult to get enough to eat, forced to live by the sea-shore, all time devoted to getting enough to eat, did not make the important discoveries that led to real civilisation				
S10	tiny and neat but weak tools			Perth	the first up-to-date account of the Mesolithic in a school book
S11	technically competent but no artistic achievement, buried dead with less care			Selmeston, Farnham	
S12	a pleasant loafing life				
S13	more intelligent, had better brains				woefully out of date and refers to it as Neolithic
S14				Star Carr	the first mention of Star Carr
S15	well-made tools and weapons			Star Carr	
S16	made better weapons			Star Carr	
S17	more advanced			Star Carr	
S18	impoverished Azilian, less well worked artefacts, vigour and intelligence of Maglemosians, talented, simpler and poorer people also, simple way of life, "The achievements of ancient hunters are worthy of our astonishment and respect."			Star Carr	
S19				Star Carr	
S20				Oakhanger Warren, King Arthur's Cave, Kelling Heath, Hall Hill, Risby Warren, Victoria Cave, Star Carr	
S21				Star Carr	

S22			the first hunters' settlement found in Britain	Star Carr 7600 BC	
S23	flimsy huts			Star Carr	
S24	life became harder, skilful	only 20,000 in Britain		Star Carr	
S25	skilled			Poulton	Poulton thought to be Mesolithic at the time
S26	life became more complicated		earliest dog in Britain	Star Carr	
S27				Star Carr, Cheddar Man, Gough's Cave	
S28				Malham Tarn	
S29					
S30					
S31					
S32					
S33					
S34					
S35				Star Carr, Goldcliff, Uskmouth	
S36	skilfully exploited rich natural resources, tsunami				
S37					
S38					
S39	natural understanding of their environment			Three Ways Wharf	
S40					
S41					
S42	comparatively healthy diet, difficult to find evidence			Peacehaven, Hassocks, Falmer	
S43				Brighton Falmer	
S44	a simple life				

S45				Star Carr, Howick	
S46					
S47	only one step away from farming			Star Carr, Howick, Cheddar	
S48					
S49			important site, earliest example of human settlement in Britain	Star Carr	
S50				Star Carr	cost £10
S51					uses American tool types
S52	had a great time				
S53					cost £3
S54					
S55					cost £10
S56					
S57					

Appendix 50
Analysis of communication channels: school resources
A: characters

ID	Named	Gender	Age	Kin	Function	Group	Other	Individuals
S01		x	x	x	x		x	
S02					x		x	
S03	x	x		x		x		yes
S04		x			x			
S05							x	
S06							x	
S08		x	x	x	x	x	x	
S09					x	x		
S10							x	
S11		x	x			x		
S13		x						
S14					x	x		
S15					x		x	
S16		x		x				
S17		x	x			x		
S18					x	x	x	
S19					x		x	
S20		x						
S23		x		x	x			
S24		x		x			x	
S25		x			x			
S26						x		

S28		x	x	x		x		
S30					x			
S31	x	x		x	x			yes
S32		x		x				
S34	x	x		x	x			yes
S35			x	x	x	x		
S36	x	x		x	x		x	yes
S39	x	x	x	x	x	x		
S41					x			
S42					x	x		
S43		x				x	x	
S44	x	x						yes
S46					x			
S47					x	x		
S49					x	x		
S50							x	
S52		x		x				
S57					x			
Total	6	21	7	14	23	15	13	5
%	15.0	52.5	17.5	35.0	57.5	37.5	32.5	12.5

Appendix 50
Analysis of communication channels: school resources
B: settings

ID	woodland	wet	coast	river	lake	marsh	island	upland	cliff	open	plain	light soils	cave	Doggerland	camps	people
S01	x															
S02	x															x
S03	x		x	x		x							x			x
S04	x			x		x					x			x		
S05	x															
S07													x			
S08	x		x			x	x						x		x	
S09	x		x													
S10	x		x	x								x				
S11			x			x		x					x	x		
S12			x													
S13	x					x		x								
S14	x		x													
S15	x		x		x											
S16			x	x	x											
S17	x				x	x								x		
S18	x			x	x							x	x			
S19					x											
S20	x				x										x	
S22		x				x										
S23	x		x	x	x	x			x						x	
S24	x			x	x							x			x	

S25	x															
S26	x		x	x	x								x			x
S27	x		x	x	x											
S28	x			x	x											
S31	x			x									x		x	
S32	x		x		x					x					x	
S34	x				x											
S35	x															
S36	x															x
S39	x													x		
S41	x															
S42	x	x														
S43	x													x		
S44	x															
S45														x		
S46	x															
S47	x				x					x						
S49	x				x	x								x	x	
S56					x											
Total	33	2	13	11	16	9	1	2	1	2	1	3	7	7	7	4
%	80.5	4.9	31.7	26.8	39.0	22.0	2.4	4.9	2.4	4.9	2.4	7.3	###	17.1	17.1	9.8

Appendix 50
Analysis of communication channels: school resources
C: actions (1)

ID	Finding food				Food preparation and use					In settlements					With animals		Making tools (a)		
	Hunt	Gather	Fish	Bring food home	Butcher	Prepare	Cook	Eat	Store	Make camp or house	Make fire	Collect resources	Sleep	Midden	Control animals	Use dogs	Raw material	Make tools	Invent new
S01																		x	
S02	x		x													x			
S03			x					x										x	
S04	x																		
S05								x								x		x	x
S07																		x	x
S08	x		x				x	x				x		x		x		x	
S09			x					x						x		x		x	
S10	x		x														x	x	
S11	x	x	x	x						x						x		x	x
S12		x	x			x								x		x		x	
S13	x		x	x		x	x			x						x		x	
S14	x	x	x					x											
S15			x							x								x	
S16	x		x		x													x	
S17	x	x					x		x							x		x	
S18	x		x							x	x					x		x	x
S19	x		x	x															
S20			x		x		x												
S21	x									x						x			

S22	x	x				x		x		x		x						x	
S23	x		x	x						x	x							x	
S24	x	x	x	x		x					x					x		x	
S25	x	x	x							x								x	
S26	x									x						x		x	
S27	x															x		x	
S28	x				x	x		x		x	x	x				x		x	
S30																		x	
S31																		x	
S32	x		x				x				x								
S33	x																		
S34			x				x				x	x					x	x	
S35	x	x	x		x			x		x								x	
S36	x				x		x		x	x				x	x	x		x	
S37	x																		
S39	x							x						x				x	
S40	x		x															x	x
S41																		x	x
S42	x	x	x					x		x									x
S43	x	x						x		x				x				x	
S44	x					x													
S45										x									
S46	x							x		x									
S47										x									
S48										x									
S49	x	x	x	x	x			x	x	x	x								
S50	x		x															x	x

S51																		x	
S52	x	x					x	x		x								x	
S53	x		x													x			x
S56																			
S57										x									x
Total	34	12	25	6	6	6	9	14	2	21	9	4	1	5	1	15	3	33	10
%	65.4	23.1	48.1	11.5	11.5	11.5	17.3	26.9	3.8	40.4	17.3	7.7	1.9	9.6	1.9	28.8	5.8	63.5	19.2

Appendix 50
Analysis of communication channels: school resources
D: actions (2)

ID	Making tools (b)				In the landscape			Movement										
	Knap	Work wood	Skins	Canoes	Clothes	Make clearing	Fell tree, coppice	Strip bark	Mobile	Sail or boat	Walk	Migrate	Explore	Stay	Leave	Return	Gather	Visit
S01																		
S02										x		x						
S03				x						x					x		x	
S04																		
S05				x			x											
S07					x													
S08				x						x		x				x		
S09				x			x			x								
S10				x			x											
S11		x		x			x											
S12										x								
S13	x		x	x	x					x		x						
S14				x						x								
S15		x					x			x								
S16	x	x	x	x														
S17	x																	
S18			x			x						x						
S19	x			x			x		x	x								
S20		x																
S21																		
S22			x				x	x	x	x								

S23	x		x		x					x					x			
S24	x				x													
S25				x	x													
S26			x		x	x	x		x	x		x						x
S27						x				x								
S28						x												
S30																		
S31																		
S32	x									x								
S33																		
S34	x									x								
S35																		
S36	x	x	x			x			x	x	x		x	x			x	
S37																		
S39	x		x			x			x									
S40				x														
S41						x						x						
S42	x					x			x								x	
S43	x								x									
S44	x				x													
S45																		
S46	x														x			
S47						x						x						
S48																		
S49			x	x	x				x	x							x	
S50				x					x									
S51																		

S52							x		x		x							
S53				x														
S56																		
S57																		
Total	14	5	9	15	8	9	9	1	10	17	2	7	1	2	2	3	2	1
%	26.9	9.6	17.3	28.8	15.4	17.3	17.3	1.9	19.2	32.7	3.8	13.5	1.9	3.8	3.8	5.8	3.8	1.9

Appendix 50
Analysis of communication channels: school resources
E: actions (3)

ID	Social											Religion					Art	Other
	Fight or dispute	Compete	Mark territory	Gender action	Nurse, cuddle	Teach or learn	Talk	Stories	Network	Music	Play	Ritual	Spirits	Wear charm	Burial	Dance	Decorate	
S01															X			
S02		X							X				X		X		X	
S03	X						X			X							X	
S04																		
S05																		
S07																	X	
S08										X	X	X		X			X	
S09																		
S10																		
S11					X										X			
S12																	X	
S13				X	X		X											
S14																		
S15																		
S16					X													
S17																		
S18												X					X	
S19							X											
S20																		
S21																		
S22												X		X			X	

S23										x		x				x	x	
S24					x		x					x						
S25																		
S26									x			x					x	
S27									x									
S28	x								x						x			settling conflict, dropping core
S30																		
S31																		plants as medicine
S32																		
S33																		
S34												x				x		
S35												x			x			x
S36								x	x				x					x
S37																		
S39						x		x						x				
S40																		
S41																		
S42																		
S43																		
S44																		x
S45												x						
S46																		
S47																		
S48																		

S49												x						taking down and moving house
S50																		
S51																		
S52																	x	
S53																		
S56			x															
S57																		
Total	2	1	1	1	4	1	4	2	5	1	2	10	3	2	6	2	13	3
%	3.8	1.9	1.9	1.9	7.7	1.9	7.7	3.8	9.6	1.9	3.8	19.2	5.8	3.8	11.5	3.8	25.0	5.8

Appendix 50
Analysis of communication channels: school resources
F: happenings

ID	Sea level	Land rise	Climate change	Melting ice	Woodland	Island	New biota	Tsunami	Pop. rise	Other
S01			x							
S02		x		x						
S03										rain floods cave
S05	x		x				x			
S06			x			x				
S08	x		x				x			
S09			x		x		x			
S10	x	x	x		x	x				
S11			x	x			x			
S12			x		x					
S14			x			x				
S15	x		x	x	x	x				
S16			x				x			
S17				x						
S18	x	x	x	x	x	x				
S19	x									
S20	x					x				
S24	x			x	x	x	x			
S25	x			x	x	x	x			
S26			x	x		x	x		x	
S27	x		x		x	x	x			

S28										killed by boar
S30				x		x				
S31										killed by bear
S35			x			x				
S36	x		x				x			
S38	x		x	x		x				
S39			x		x	x				
S40	x					x				
S41			x		x	x				
S42	x		x		x	x	x			
S43	x		x	x	x	x				
S44			x		x					
S45				x		x		x		
S46	x			x	x	x				
S47			x		x	x				
S48			x	x		x				
S49	x	x	x			x	x			
S50	x			x		x				
S54			x		x					
S55				x		x				
S56			x	x		x	x			
S57				x		x				
Total	18	4	27	18	16	27	13	1	1	3
%	40.9	9.1	61.4	40.9	36.4	61.4	29.5	2.3	2.3	6.8

Appendix 51
Comparison of narrative elements in all media types
A: summary of narrative content across media

		Number					
Media type	Medium	Number	Character	Setting	Action	Happening	Judging
Academic media		58	57	48	57	38	58
Informative media	Webpages	50	31	31	45	25	11
	Blogs	50	23	15	31	7	20
	Videos	50	22	24	34	8	15
	Popular Books	42	31	31	36	27	26
	Newspapers	158	76	78	103	29	82
	BBC Online	51	26	29	44	28	11
	Magazines	176	77	79	117	41	83
	Total	577	286	287	410	165	248
Imaginative media	Television	25	18	25	25	19	19
	Images	131	124	122	121	2	
	Fiction	18	18	18	18	11	1
	Total	174	160	165	164	32	20
Educational media	Schools	57	41	41	52	44	27
	Museums	16	16	16	16	16	10
	Total	73	57	57	68	60	37

Percentage

Media type	Medium	Number	Character	Setting	Action	Happening	Judging	
Academic media		58	98.3	82.8	98.3	65.5	100.0	
Informative media	Webpages	50	62.0	62.0	90.0	50.0	22.0	
	Blogs	50	46.0	30.0	62.0	14.0	40.0	
	Videos	50	44.0	48.0	68.0	16.0	30.0	
	Popular Books	42	73.8	73.8	85.7	64.3	61.9	
	Newspapers	158	48.1	49.4	65.2	18.4	51.9	
	BBC Online	51	51.0	56.9	86.3	54.9	21.6	
	Magazines	176	43.8	44.9	66.5	23.3	47.2	
	Total mean			49.6	49.7	71.1	28.6	43.0
Total range			44-69	30-69	62-90	14-57	22-62	
Imaginative media	Television	25	72.0	100.0	100.0	76.0	76.0	
	Images	131	94.7	93.1	92.4	1.5	0.0	
	Fiction	18	100.0	100.0	100.0	61.1	5.6	
	Total mean			92.0	94.8	94.3	18.4	11.5
	Total range			72-100	93-100	92-100	2-76	0-76
Educational media	Schools	57	71.9	71.9	91.2	77.2	47.4	
	Museums	16	100.0	100.0	100.0	100.0	62.5	
	Total mean			78.1	78.1	93.2	82.2	50.7
	Total range			72-100	72-100	91-100	77-100	47-63

Appendix 51
Comparison of narrative elements in all media types
B: number and percentage of characters across media

Number of items with identified characters (Mesolithic only)

Media type	Medium	Named	Gender	Age	Kin	Function	Group	Other	Individual	Male	Female	Food quest	Total items
Academic media			38	10	12	34	25	28					57
Informative media	Web-pages	0	1	2	2	24	12	2	2	1		22	31
	Blogs	2	5	2	1	16	5	2	3	3	3	16	23
	YouTube videos	1	5	2	1	13	4	4	2	5	1	11	22
	Popular books	2	8	6	5	26	19	7	5	8	7	21	31
	Newspapers	5	8	6	2	52	15	19	12	6	5	49	76
	BBC News	0	1	3	1	21	6	1	2	1	1	21	26
	Magazines	1	8	10	8	58	21	7	10	6	6	58	77
	Total		11	36	31	20	210	82	42	36	30	23	198
Imaginative media	Television	1	4	4	5	5	6	6	7	6	2	15	18
	Images	4	112	67	4	46	1	13	120	103	58	47	124
	Fiction	13	18	18	18	15	18	9	18	18	18		18
	Total		18	134	89	27	66	25	28	145	127	78	62
Educational media	School resources	6	21	7	14	23	15	13	6	20	14	22	40
	Museums	2	9	9	5	12	6	3	7	8	10	8	16
	Total		8	30	16	19	35	21	16	13	28	24	56

Percentage of character types among items with identifiable characters

Media type	Medium	Named	Gender	Age	Kin	Function	Group	Other	Individual	Male	Female	Food quest	Total items
Academic media		0.0	66.7	17.5	21.1	59.6	43.9	90.3	0.0	0.0	0.0	0.0	57
Informative media	Web-pages	0.0	3.2	6.5	6.5	77.4	38.7	6.5	6.5	3.2	0.0	71.0	31
	Blogs	8.7	21.7	8.7	4.3	69.6	21.7	8.7	13.0	13.0	13.0	69.6	23
	YouTube videos	4.5	22.7	9.1	4.5	59.1	18.2	18.2	9.1	22.7	4.5	50.0	22
	Popular books	6.5	25.8	19.4	16.1	83.9	61.3	22.6	16.1	25.8	22.6	67.7	29
	Newspapers	6.6	10.5	7.9	2.6	68.4	19.7	25.0	15.8	7.9	6.6	64.5	185
	BBC News	0.0	3.8	11.5	3.8	80.8	23.1	3.8	7.7	3.8	3.8	80.8	26
	Magazines	1.3	10.4	13.0	10.4	75.3	27.3	9.1	13.0	7.8	7.8	75.3	77
Total		3.8	12.6	10.8	7.0	73.4	28.7	14.7	12.6	10.5	8.0	69.2	
Imaginative media	Television	5.6	22.2	22.2	27.8	27.8	33.3	33.3	38.9	33.3	11.1	83.3	18
	Images	3.2	90.3	54.0	3.2	37.1	0.8	10.5	96.8	83.1	46.8	37.9	124
	Fiction	72.2	100.0	100.0	100.0	83.3	100.0	7.3	14.5	14.5	14.5	0.0	18
	Total		11.3	83.8	55.6	16.9	41.3	15.6	17.5	90.6	79.4	48.8	38.8
Educational media	School resources	15.0	52.5	17.5	35.0	57.5	37.5	32.5	15.0	50.0	35.0	55.0	40
	Museums	12.5	56.3	56.3	31.3	75.0	37.5	18.8	43.8	50.0	62.5	50.0	16
	Total		14.3	53.6	28.6	33.9	62.5	37.5	28.6	23.2	50.0	42.9	56

Appendix 51
Comparison of narrative elements in all media types
C: number and percentage of settings across media (1)

Number of items with identified settings (1)

Media type	Medium	woodland	wet	coast	estuary	river	lake	spring	marsh	island	inland/dry	upland	cliff	open	downs	plain	light soils	Total items
Academic media		22	1	39	7	20	26	2	11	5	1	14	1	1	1	3	13	48
Informative media	Web-pages	25	2	7		9	5		1	1	2	1		1				31
	Blogs	5	1	1		2	3		1		1			2				15
	Youtube videos	9		5		6	2		1			1		1				24
	Popular books	23	2	19	5	14	16	1	4	2	1	9		8		1	12	31
	Newspapers	13	1	8	4	9	7	17	4			5	2	1				78
	BBC news online	5	1	2		8	5	3	1	3	2	3						29
	Magazines	25	2	21	10	20	13	4	10	14		11	7	3	1	5		79
Total	105	9	63	19	68	51	25	22	20	6	30	9	16	1	6	12	287	
Imaginative media	Television	22		2	1	8	11	1	5	3		1	1					25
	Images	35	6	16	3	14	15			2		6		14		1		122
	Fiction	16		5	1	6	6	1		2		8		1				18
	Total	73	6	23	5	28	32	2	5	7	0	15	1	15	0	1	0	165
Educational media	Schools	33	2	13		11	16		9	1		2	1	2	1		3	41
	Museums	13	1	5	2	5	9	1	2			1		1	1			16
	Total	46	3	18	2	16	25	1	11	1	0	3	1	3	2	0	3	57

Percentage of setting types among items with identifiable settings (1)

Media type	Medium	woodland	wet	coast	estuary	river	lake	spring	marsh	island	inland/dry	upland	cliff	open	downs	plain	light soils	Total items
Academic media		71.0	3.2	125.8	22.6	64.5	83.9	6.5	35.5	16.1	3.2	45.2	3.2	3.2	3.2	9.7	41.9	48
Informative media	Web-pages	80.6	6.5	22.6	0.0	29.0	16.1	0.0	3.2	3.2	6.5	3.2	0.0	3.2	0.0	0.0	0.0	31
	Blogs	33.3	6.7	6.7	0.0	13.3	20.0	0.0	6.7	0.0	6.7	0.0	0.0	13.3	0.0	0.0	0.0	15
	YouTube videos	37.5	0.0	20.8	0.0	25.0	8.3	0.0	4.2	0.0	0.0	4.2	0.0	4.2	0.0	0.0	0.0	24
	Popular books	74.2	6.5	61.3	16.1	45.2	51.6	3.2	12.9	6.5	3.2	29.0	0.0	25.8	0.0	3.2	38.7	29
	Newspapers	16.7	1.3	10.3	5.1	11.5	9.0	21.8	5.1	0.0	0.0	6.4	2.6	1.3	0.0	0.0	0.0	78
	BBC News	17.2	3.4	6.9	0.0	27.6	17.2	10.3	3.4	10.3	6.9	10.3	0.0	0.0	0.0	0.0	0.0	24
	Magazines	31.6	2.5	26.6	12.7	25.3	16.5	5.1	12.7	17.7	0.0	13.9	8.9	3.8	1.3	6.3	0.0	81
	Total	36.6	3.1	22.0	6.6	23.7	17.8	8.7	7.7	7.0	2.1	10.5	3.1	5.6	0.3	2.1	4.2	282
Imaginative media	Television	28.7	4.9	13.1	2.5	11.5	12.3	0.0	0.0	1.6	0.0	4.9	0.0	11.5	0.0	0.8	0.0	25
	Images	88.0	0.0	8.0	4.0	32.0	44.0	4.0	20.0	12.0	0.0	4.0	4.0	0.0	0.0	0.0	0.0	122
	Fiction	88.9	0.0	27.8	5.6	33.3	33.3	5.6	0.0	11.1	0.0	44.4	0.0	5.6	0.0	0.0	0.0	18
	Total	44.2	3.6	13.9	3.0	17.0	19.4	1.2	3.0	4.2	0.0	9.1	0.6	9.1	0.0	0.6	0.0	165
Educational media	School resources	80.5	4.9	31.7	0.0	26.8	39.0	0.0	22.0	2.4	0.0	4.9	2.4	4.9	2.4	0.0	7.3	41
	Museums	81.3	6.3	31.3	12.5	31.3	56.3	6.3	12.5	0.0	0.0	6.3	0.0	6.3	6.3	0.0	0.0	16
	Total	80.7	5.3	31.6	3.5	28.1	43.9	1.8	19.3	1.8	0.0	5.3	1.8	5.3	3.5	0.0	5.3	57

Appendix 51
Comparison of narrative elements in all media types
D: number and percentage of settings across media (2)

Number of items with identified settings (2)

Media type	Medium	cave	valley	Doggerland	camp	people	spirits	Total items
Academic media		16	2	5	3	1		48
Informative media	Web-pages			2	21	6		31
	Blogs			2	9	2		15
	Youtube videos	2			1	1		24
	Popular books	3	2	4	14	7	1	31
	Newspapers	8	3	13	54	6		78
	BBC news online	4		2				29
	Magazines	2	6	2		5		79
	Total	19	11	25	99	27	1	287
Imaginative media	Television	3		4	13	10		25
	Images	6		3	30	98	3	122
	Fiction	4	3	1	15	17	2	18
	Total	13	3	8	58	125	5	165
Educational media	Schools	7		7	7	4		41
	Museums	1		3	1	5	2	16
	Total	8	0	10	8	9	2	57

Percentage of setting types among items with identifiable settings (2)

Media type	Medium	cave	valley	Doggerland	camp	people	spirits	Total items
Academic media		51.6	6.5	16.1	9.7	3.2	0.0	48
Informative media	Web-pages	0.0	0.0	6.5	67.7	19.4	0.0	31
	Blogs	0.0	0.0	13.3	60.0	13.3	0.0	15
	YouTube videos	8.3	0.0	0.0	4.2	4.2	0.0	24
	Popular books	9.7	6.5	12.9	45.2	22.6	3.2	29
	Newspapers	10.3	3.8	16.7	69.2	7.7	0.0	78
	BBC News	13.8	0.0	6.9	0.0	0.0	0.0	24
	Magazines	2.5	7.6	2.5	0.0	6.3	0.0	81
	Total	6.6	3.8	8.7	34.5	9.4	0.3	282
Imaginative media	Television	4.9	0.0	2.5	24.6	80.3	2.5	25
	Images	12.0	0.0	16.0	52.0	40.0	0.0	122
	Fiction	22.2	16.7	5.6	83.3	94.4	11.1	18
	Total	7.9	1.8	4.8	35.2	75.8	3.0	165
Educational media	School resources	17.1	0.0	17.1	17.1	9.8	0.0	41
	Museums	6.3	0.0	18.8	6.3	31.3	12.5	16
	Total	14.0	0.0	17.5	14.0	15.8	3.5	57

Appendix 51
Comparison of narrative elements in all media types
E: number and percentage of actions across media (1)

Number of items with identified actions (1)

Media type	Medium	Finding food					Food preparation and use					In settlements (a)				Total items
		Hunt	Gather	Fish	Farm	Bring food home	Butcher	Prepare	Cook	Eat	Store	Make camp or house	Build monument or structure	Make fire	Collect resources	
Academic media		41	16	28	1	1	6	12	6	18	6	19	1			57
Informative media	Web-pages	33	20	10	2				1		1	16		2		45
	Blogs	8	4	6	3			1	1	4		8		1		31
	Youtube videos	9	6	10	4		1		5	3		13	1	3		35
	Popular books	29	20	22	3		5	5	5	6	1	11	1	3	5	36
	Newspapers	29	4	17	4		5		11	25	1	22	7	4	1	103
	BBC news online	11	5	6			2		3	9		9	1	2	1	44
	Magazines	35	16	16	4		8	11	9	17	8	24	5	2	4	117
Total	154	75	87	20	0	21	17	35	64	11	103	15	17	11	411	
Imaginative media	Television	19	15	7		1	9	10	10	13	3	7		11	7	25
	Images	19	7	19		21	9	12	12	4	2	4		6	6	121
	Total	38	22	26	0	22	18	22	22	17	5	11	0	17	13	146
Educational media	School resources	34	12	25	6	6	6	9	14	2	21	9	4	1	5	51
	Museums	12	12	0	1	6	8	5	6	6	6	2	6	2	1	16
	Total	46	24	25	7	12	14	14	20	8	27	11	10	3	6	67

Percentage of action types among items with identifiable actions (1)

Media type	Medium	Finding food					Food preparation and use					In settlements (a)				Total items
		Hunt	Gather	Fish	Farm	Bring food home	Butcher	Prepare	Cook	Eat	Store	Make camp or house	Build monument or structure	Make fire	Collect resources	
Academic media		91.1	35.6	62.2	2.2	2.2	13.3	26.7	13.3	40.0	13.3	42.2	0.0	2.2	0.0	57
Informative media	Web-pages	73.3	44.4	22.2	4.4	0.0	0.0	0.0	2.2	0.0	2.2	35.6	0.0	4.4	0.0	45
	Blogs	25.8	12.9	19.4	9.7	0.0	0.0	3.2	3.2	12.9	0.0	25.8	0.0	3.2	0.0	31
	Youtube videos	25.7	17.1	28.6	11.4	0.0	2.9	0.0	14.3	8.6	0.0	37.1	2.9	8.6	0.0	35
	Popular books	80.6	55.6	61.1	8.3	0.0	13.9	13.9	13.9	16.7	2.8	30.6	2.8	8.3	13.9	35
	Newspapers	28.2	3.9	16.5	3.9	0.0	4.9	0.0	10.7	24.3	1.0	21.4	6.8	3.9	1.0	103
	BBC news online	25.0	11.4	13.6	0.0	0.0	4.5	0.0	6.8	20.5	0.0	20.5	2.3	4.5	2.3	44
	Magazines	29.9	13.7	13.7	3.4	0.0	6.8	9.4	7.7	14.5	6.8	20.5	4.3	1.7	3.4	117
	Total	37.5	18.2	21.2	4.9	0.0	5.1	4.1	8.5	15.6	2.7	25.1	3.6	4.1	2.7	410
Imaginative media	Television	76.0	60.0	28.0	0.0	4.0	36.0	40.0	40.0	52.0	12.0	28.0	0.0	44.0	28.0	25
	Images	15.7	5.8	15.7	0.0	17.4	7.4	9.9	9.9	3.3	1.7	3.3	0.0	5.0	5.0	121
		Total	26.0	15.1	17.8	0.0	15.1	12.3	15.1	15.1	11.6	3.4	7.5	0.0	11.6	8.9
Educational media	Schools	66.7	23.5	49.0	11.8	11.8	11.8	17.6	27.5	3.9	41.2	17.6	7.8	2.0	9.8	51
	Museums	75.0	75.0	0.0	6.3	37.5	50.0	31.3	37.5	37.5	37.5	12.5	37.5	12.5	6.3	16
		Total	68.7	35.8	37.3	10.4	17.9	20.9	20.9	29.9	11.9	40.3	16.4	14.9	4.5	9.0

Appendix 51
Comparison of narrative elements in all media types
F: number and percentage of actions across media (2)

Number of items with identified actions (2)

Media type	Medium	Sleep	Make bedding	Defecate	Midden	With animals		Making tools								Total items	
						Control animals	Use dogs	Raw material	Make tools	Invent new	Knap	Work wood	Skins	Canoes	Pottery		Clothes
Academic media		2			8	1	19	8	35	6	14	8	6	10	8	7	57
Informative media	Web-pages			1	3		4		21			6	2				45
	Blogs				1		1	3	8	2	4	2	2				31
	Youtube videos	1				1	2	1	15	7	2			2	1		35
	Popular books	1	2		2	1	10	6	18	9	4	12	7	9	1		36
	Newspapers				2		2	3	21		5	4	4	2		2	103
	BBC news online							2	9			5	2	4			44
	Magazines	1	1	1	5	2	2	12	25		12	15	6	7		3	117
	Total	3	3	2	13	4	21	27	117	18	27	44	23	24	2	5	411
Imaginative media	Television	5	2	1	5		2	2	19	1	5	4	4			6	25
	Images	2			1		4		20		8	1	24	6		3	121
	Total	7	2	1	6	0	6	2	39	1	13	5	28	6	0	9	146
Educational media	School resources	1	15	3	33	10	14	5	9	15	8	9	9	1	10	17	51
	Museums	2	0	4	0	6	7	16	3	11	11	9	3	2	5	3	16
	Total	3	15	7	33	16	21	21	12	26	19	18	12	3	15	20	67

Percentage of action types among items with identifiable actions (2)

Media type	Medium	Sleep	Make bedding	Defecate	Midden	With animals		Making tools								Total items	
						Control animals	Use dogs	Raw material	Make tools	Invent new	Knap	Work wood	Skins	Canoes	Pottery		Clothes
Academic media		4.4	0.0	0.0	17.8	2.2	42.2	17.8	77.8	13.3	31.1	17.8	13.3	22.2	17.8	15.6	57
Informative media	Web-pages	0.0	0.0	2.2	6.7	0.0	8.9	0.0	46.7	0.0	0.0	13.3	4.4	0.0	0.0	0.0	45
	Blogs	0.0	0.0	0.0	3.2	0.0	3.2	9.7	25.8	6.5	12.9	6.5	6.5	0.0	0.0	0.0	31
	Youtube videos	2.9	0.0	0.0	0.0	2.9	5.7	2.9	42.9	20.0	5.7	0.0	0.0	5.7	2.9	0.0	35
	Popular books	2.8	5.6	0.0	5.6	2.8	27.8	16.7	50.0	25.0	11.1	33.3	19.4	25.0	2.8	0.0	35
	Newspapers	0.0	0.0	0.0	1.9	0.0	1.9	2.9	20.4	0.0	4.9	3.9	3.9	1.9	0.0	1.9	103
	BBC news online	0.0	0.0	0.0	0.0	0.0	0.0	4.5	20.5	0.0	0.0	11.4	4.5	9.1	0.0	0.0	44
	Magazines	0.9	0.9	0.9	4.3	1.7	1.7	10.3	21.4	0.0	10.3	12.8	5.1	6.0	0.0	2.6	117
	Total	0.7	0.7	0.5	3.2	1.0	5.1	6.6	28.5	4.4	6.6	10.7	5.6	5.8	0.5	1.2	410
Imaginative media	Television	20.0	8.0	4.0	20.0	0.0	8.0	8.0	76.0	4.0	20.0	16.0	16.0	0.0	0.0	24.0	25
	Images	1.7	0.0	0.0	0.8	0.0	3.3	0.0	16.5	0.0	6.6	0.8	19.8	5.0	0.0	2.5	121
	Total	4.8	1.4	0.7	4.1	0.0	4.1	1.4	26.7	0.7	8.9	3.4	19.2	4.1	0.0	6.2	146
Educational media	Schools	2.0	29.4	5.9	64.7	19.6	27.5	9.8	17.6	29.4	15.7	17.6	17.6	2.0	19.6	33.3	51
	Museums	12.5	0.0	25.0	0.0	37.5	43.8	100.0	18.8	68.8	68.8	56.3	18.8	12.5	31.3	18.8	16
	Total	4.5	22.4	10.4	49.3	23.9	31.3	31.3	17.9	38.8	28.4	26.9	17.9	4.5	22.4	29.9	67

Appendix 51
Comparison of narrative elements in all media types
G: number and percentage of actions across media (3)

Number of items with identified actions (3)

Media type	Medium	In the landscape				Movement										Total items
		Make clearing	Fell tree, coppice	Tap sap	Strip bark	Mobile	Sail or boat	Walk	Migrate	Explore	Stay	Leave	Return	Gather	Visit	
Academic media		7	6			13	10	4	24	2	3	4	1	2		57
Informative media	Web-pages	9				20	1	1			1		1			45
	Blogs	2				2	2		6		1					31
	Youtube videos	1	1			7	1									35
	Popular books	11	8			17	13	6	18	3	3		3	4		36
	Newspapers	7	1	1		23	3	1	9		6	1	2	5	5	103
	BBC news online	3				5	3	1	1		5	1			3	44
	Magazines	10			1	17	4	2	5		3	6	14	5		117
	Total	43	10	1	1	91	27	11	39	3	19	8	20	14	8	411
Imaginative media	Television	6	2		1	7	6	13	3		1		3	1		25
	Images		4		3	1	13	3				4	3			121
	Total	6	6	0	4	8	19	16	3	0	1	4	6	1	0	146
Educational media	School resources	2	7	1	2	2	3	2	1	2	1	1	1	4	1	51
	Museums	4	1	1	9	7	2	2	0	1	2	2	0	0	5	16
	Total	6	8	2	11	9	5	4	1	3	3	3	1	4	6	67

Percentage of action types among items with identifiable actions (3)

Media type	Medium	In the landscape				Movement										Total items
		Make clearing	Fell tree, coppice	Tap sap	Strip bark	Mobile	Sail or boat	Walk	Migrate	Explore	Stay	Leave	Return	Gather	Visit	
Academic media		15.6	13.3	0.0	0.0	28.9	22.2	8.9	53.3	4.4	6.7	8.9	2.2	4.4	0.0	57
Informative media	Web-pages	20.0	0.0	0.0	0.0	44.4	2.2	2.2	0.0	0.0	2.2	0.0	2.2	0.0	0.0	45
	Blogs	6.5	0.0	0.0	0.0	6.5	6.5	0.0	19.4	0.0	3.2	0.0	0.0	0.0	0.0	31
	Youtube videos	2.9	2.9	0.0	0.0	20.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35
	Popular books	30.6	22.2	0.0	0.0	47.2	36.1	16.7	50.0	8.3	8.3	0.0	8.3	11.1	0.0	35
	Newspapers	6.8	1.0	1.0	0.0	22.3	2.9	1.0	8.7	0.0	5.8	1.0	1.9	4.9	4.9	103
	BBC news online	6.8	0.0	0.0	0.0	11.4	6.8	2.3	2.3	0.0	11.4	2.3	0.0	0.0	6.8	44
	Magazines	8.5	0.0	0.0	0.9	14.5	3.4	1.7	4.3	0.0	2.6	5.1	12.0	4.3	0.0	117
	Total	10.5	2.4	0.2	0.2	22.1	6.6	2.7	9.5	0.7	4.6	1.9	4.9	3.4	1.9	410
Imaginative media	Television	24.0	8.0	0.0	4.0	28.0	24.0	52.0	12.0	0.0	4.0	0.0	12.0	4.0	0.0	25
	Images	0.0	3.3	0.0	2.5	0.8	10.7	2.5	0.0	0.0	0.0	3.3	2.5	0.0	0.0	121
		Total	4.1	4.1	0.0	2.7	5.5	13.0	11.0	2.1	0.0	0.7	2.7	4.1	0.7	0.0
Educational media	Schools	3.9	13.7	2.0	3.9	3.9	5.9	3.9	2.0	3.9	2.0	2.0	2.0	7.8	2.0	51
	Museums	25.0	6.3	6.3	56.3	43.8	12.5	12.5	0.0	6.3	12.5	12.5	0.0	0.0	31.3	16
		Total	9.0	11.9	3.0	16.4	13.4	7.5	6.0	1.5	4.5	4.5	4.5	1.5	6.0	9.0

Appendix 51
Comparison of narrative elements in all media types
H: number and percentage of actions across media (4)

Number of items with identified actions (4)

Media type	Medium	Social															Total items	
		Fight or dispute	Compete	Mark territory	Treat special	Gender action	Marry	Reproduce	Nurse, cuddle	Teach or learn	Talk	Tell stories	Network	Music	Play	Die		
Academic media		7					2				2		1	18	1	1	1	57
Informative media	Web-pages	3														1		45
	Blogs	1	1			1	3						1			1		31
	Youtube videos	2				1							1					35
	Popular books	5		4	3	5	5	2		3	1	3	8	3	2			36
	Newspapers	1		3	6		1			1							1	103
	BBC news online		1	1	3													44
	Magazines	1		3	4	1	2			4		3	10					117
	Total	13	2	11	16	8	11	2	0	8	1	6	20	3	4	1	411	
Imaginative media	Television	5		3		6		3		6	10		3	1	1	1	25	
	Images	1				12			13	2	36	2		1	5		121	
	Total	6	0	3	0	18	0	3	13	8	46	2	3	2	6	1	146	
Educational media	School resources	4	2	5	1	2	10	3	2	6	2	13	3		7	6	51	
	Museums	0	1	2	0	0	1	0	2	0	1	6	2	0	1	0	16	
	Total	4	3	7	1	2	11	3	4	6	3	19	5	0	8	6	67	

Percentage of action types among items with identifiable actions (4)

Media type	Medium	Social															Total items
		Fight or dispute	Compete	Mark territory	Treat special	Gender action	Marry	Reproduce	Nurse, cuddle	Teach or learn	Talk	Tell stories	Network	Music	Play	Die	
Academic media		15.6	0.0	0.0	0.0	0.0	4.4	0.0	0.0	4.4	0.0	2.2	40.0	2.2	2.2	2.2	57
Informative media	Web-pages	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	45
	Blogs	3.2	3.2	0.0	0.0	3.2	9.7	0.0	0.0	0.0	0.0	0.0	3.2	0.0	3.2	0.0	31
	Youtube videos	5.7	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	35
	Popular books	13.9	0.0	11.1	8.3	13.9	13.9	5.6	0.0	8.3	2.8	8.3	22.2	8.3	5.6	0.0	35
	Newspapers	1.0	0.0	2.9	5.8	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	103
	BBC news online	0.0	2.3	2.3	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44
	Magazines	0.9	0.0	2.6	3.4	0.9	1.7	0.0	0.0	0.0	3.4	0.0	2.6	8.5	0.0	0.0	117
Total		3.2	0.5	2.7	3.9	1.9	2.7	0.5	0.0	1.9	0.2	1.5	4.9	0.7	1.0	0.2	410
Imaginative media	Television	20.0	0.0	12.0	0.0	24.0	0.0	12.0	0.0	24.0	40.0	0.0	12.0	4.0	4.0	4.0	25
	Images	0.8	0.0	0.0	0.0	9.9	0.0	0.0	10.7	1.7	29.8	1.7	0.0	0.8	4.1	0.0	121
	Total	4.1	0.0	2.1	0.0	12.3	0.0	2.1	8.9	5.5	31.5	1.4	2.1	1.4	4.1	0.7	146
Educational media	Schools	7.8	3.9	9.8	2.0	3.9	19.6	5.9	3.9	11.8	3.9	25.5	5.9	0.0	13.7	11.8	51
	Museums	0.0	6.3	12.5	0.0	0.0	6.3	0.0	12.5	0.0	6.3	37.5	12.5	0.0	6.3	0.0	16
	Total	6.0	4.5	10.4	1.5	3.0	16.4	4.5	6.0	9.0	4.5	28.4	7.5	0.0	11.9	9.0	67

Appendix 51
Comparison of narrative elements in all media types
I: number and percentage of actions across media (5)

Number of items with identified actions (5)

Media type	Medium	Religion								Art	Other	Total items
		Calendar	Ritual	Spirits	Taboo	Wear charm	Burial	Votive	Dance	Decorate		
Academic media		8	1			1	14		1	19	19	57
Informative media	Web-pages		2				3			3	1	45
	Blogs	1	5				5			2	1	31
	Youtube videos		2			1	4	1	1	1	1	35
	Popular books		5	4	3		9	2	4	5	7	36
	Newspapers	6	9				4			2	4	103
	BBC news online	1	1				6			2	3	44
	Magazines	3	6				8	4		5	23	117
	Total	11	30	4	3	1	39	7	5	20	40	411
Imaginative media	Television		4	2		1	1		2	3	20	25
	Images		1				2		3	1	27	121
	Total	0	5	2	0	1	3	0	5	4	47	146
Educational media	School resources	4	1	1	1	1			2	13	3	51
	Museums	5	2	0	1	4	3	2	6	11		16
	Total	9	3	1	2	5	3	2	8	24	3	67

Percentage of action types among items with identifiable actions (5)

Media type	Medium	Religion								Art	Other	Total items
		Calendar	Ritual	Spirits	Taboo	Wear charm	Burial	Votive	Dance	Decorate		
Academic media		17.8	2.2	0.0	0.0	2.2	31.1	0.0	2.2	42.2	42.2	57
Informative media	Web-pages	0.0	4.4	0.0	0.0	0.0	6.7	0.0	0.0	6.7	2.2	45
	Blogs	3.2	16.1	0.0	0.0	0.0	16.1	0.0	0.0	6.5	3.2	31
	Youtube videos	0.0	5.7	0.0	0.0	2.9	11.4	2.9	2.9	2.9	2.9	35
	Popular books	0.0	13.9	11.1	8.3	0.0	25.0	5.6	11.1	13.9	19.4	35
	Newspapers	5.8	8.7	0.0	0.0	0.0	3.9	0.0	0.0	1.9	3.9	103
	BBC news online	2.3	2.3	0.0	0.0	0.0	13.6	0.0	0.0	4.5	6.8	44
	Magazines	2.6	5.1	0.0	0.0	0.0	6.8	3.4	0.0	4.3	19.7	117
	Total	2.7	7.3	1.0	0.7	0.2	9.5	1.7	1.2	4.9	9.7	410
Imaginative media	Television	0.0	16.0	8.0	0.0	4.0	4.0	0.0	8.0	12.0	80.0	25
	Images	0.0	0.8	0.0	0.0	0.0	1.7	0.0	2.5	0.8	22.3	121
	Total	0.0	3.4	1.4	0.0	0.7	2.1	0.0	3.4	2.7	32.2	146
Educational media	Schools	7.8	2.0	2.0	2.0	2.0	0.0	0.0	3.9	25.5	5.9	51
	Museums	31.3	12.5	0.0	6.3	25.0	18.8	12.5	37.5	68.8	0.0	16
	Total	13.4	4.5	1.5	3.0	7.5	4.5	3.0	11.9	35.8	4.5	67

Appendix 51
Comparison of narrative elements in all media types
J: number and percentage of happenings across media

Number of items with identified happenings

Media type	Medium	Climate change	Melting ice	Sea level	Land rise	Tsunami	Island	Woodland	New biota	Seasons	Pop. rise or fall	Hunger	Disease	Other	Total items
Academic media		25	19	12	13	2	12	19	20	1	2			7	38
Informative media	Web-pages	16	1	19	1	1	14	14	5		2				25
	Blogs	1	1	5			1	1	1						7
	YouTube videos	5		4			2	1	2						8
	Popular books	17	7	15	4	3	15	16	12	2	6	1	1	7	27
	Newspapers	6	3	15		7	7	1			1	1	1	1	29
	BBC News	3	2	8		5	4	1	2			1	1	1	16
	Magazines	16	11	19	5	6		6	2	3	1	1		4	41
Total		64	25	85	10	22	43	40	24	5	10	4	3	13	153
Imaginative media	Television	6	6	8	2	3	3	2	4			2	3	14	19
	Images			1										2	2
	Fiction			2		2							3	9	11
Total		6	6	11	2	5	3	2	4	0	0	2	6	25	32
Educational media	School resources	27	18	18	4	1	27	16	13		1			3	43
	Museums	9	5	9	1		4	3	5	2	1	1		6	16
	Total	36	23	27	5	1	31	19	18	2	2	1	0	9	59

Percentage of happening types among items with identifiable happenings

Media type	Medium	Climate change	Melting ice	Sea level	Land rise	Tsunami	Island	Woodland	New biota	Seasons	Pop. rise or fall	Hunger	Disease	Other	Total items
Academic media		100.0	76.0	48.0	52.0	8.0	48.0	76.0	80.0	4.0	8.0	0.0	0.0	28.0	38
Informative media	Web-pages	64.0	4.0	76.0	4.0	4.0	56.0	56.0	20.0	0.0	8.0	0.0	0.0	0.0	25
	Blogs	14.3	14.3	71.4	0.0	0.0	14.3	14.3	14.3	0.0	0.0	0.0	0.0	0.0	7
	YouTube videos	62.5	0.0	50.0	0.0	0.0	25.0	12.5	25.0	0.0	0.0	0.0	0.0	0.0	8
	Popular books	63.0	25.9	55.6	14.8	11.1	55.6	59.3	44.4	7.4	22.2	3.7	3.7	25.9	24
	Newspapers	20.7	10.3	51.7	0.0	24.1	24.1	3.4	0.0	0.0	3.4	3.4	3.4	3.4	29
	BBC News	18.8	12.5	50.0	0.0	31.3	25.0	6.3	12.5	0.0	0.0	6.3	6.3	6.3	16
	Magazines	39.0	26.8	46.3	12.2	14.6	0.0	14.6	4.9	7.3	2.4	2.4	0.0	9.8	41
Total		41.8	16.3	55.6	6.5	14.4	28.1	26.1	15.7	3.3	6.5	2.6	2.0	8.5	150
Imaginative media	Television	31.6	31.6	42.1	10.5	15.8	15.8	10.5	21.1	0.0	0.0	10.5	15.8	73.7	19
	Images	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2
	Fiction	0.0	0.0	18.2	0.0	18.2	0.0	0.0	0.0	0.0	0.0	0.0	27.3	81.8	11
	Total		18.8	18.8	34.4	6.3	15.6	9.4	6.3	12.5	0.0	0.0	6.3	18.8	78.1
Educational media	School resources	62.8	41.9	41.9	9.3	2.3	62.8	37.2	30.2	0.0	2.3	0.0	0.0	7.0	43
	Museums	56.3	31.3	56.3	6.3	0.0	25.0	18.8	31.3	12.5	6.3	6.3	0.0	37.5	16
	Total		61.0	39.0	45.8	8.5	1.7	52.5	32.2	30.5	3.4	3.4	1.7	0.0	15.3

ARCHAEOLOGY SKILLS LOG

These activities take pupils through five steps to becoming an archaeologist:

- finding out information [link to heading below]
- identifying things [link to heading below]
- recording objects [link to heading below]
- analysing how people lived [link to heading below]
- telling others about Star Carr [link to heading below]

Learning outcomes

These activities support the teaching of historical skills, literacy, numeracy and art.

Each activity also has fact checks and debating points about the period.

Finding out information

Pupils do research to answer two questions.

- What do we know about the Mesolithic?
- Which of these sites belong to the Mesolithic?

Identifying objects

Three activities to teach pupils how to identify stone tools, animal bones and trees of the Mesolithic. These are supported by separate worksheets:

- Flint tools
 - Flints [link to Flints.png]
 - Flint cards [link to Flint_cards.pdf]
- Animal bones
 - Red deer [link to Red-deer.pdf]
 - Deer bones [link to Deer_bones.pdf]
- Trees and leaves
 - Leaves, teacher copy [link to Leaves_teacher.pdf]
 - Leaves, pupil copy [link to Leaves_pupils.pdf]

Recording objects

Pupils will draw, measure and describe an object from a photograph of a real Mesolithic find.

Analyse how people lived

Five activities to help pupils use evidence to understand how Mesolithic people lived and how different their life was to the present day. There are separate worksheets for each activity:

- Plants and people
 - Plants, teacher copy [[link to Plants_and_people_teacher.pdf](#)]
 - Plants, pupil copy with names [[link to Plants_and_people_pupils.pdf](#)]
 - Plants, pupil copy blank [[link to Plants_and_people_blank.pdf](#)]
 - Plant from Star Carr [[link to Star_Carr_plants.pdf](#)]
- House and home
 - House plans [[link to House_plans.pdf](#)]
 - House reconstructions [[link to House_reconstructions.pdf](#)]
- The Star Carr antler headdress
 - Headdress, teacher copy [[link to Headdress_teacher.pdf](#)]
 - Headdress, pupil copy [[link to Headdress_pupils.pdf](#)]
- The Star Carr pendant
 - Pendant, teacher copy [[link to Pendant_teacher.doc](#)]
 - Pendant, pupil copy [[link to Pendant_pupils.doc](#)]
- Being in the Mesolithic
 - Image of a hunting camp [[link to Hunting_camp.jpg](#)]

Telling others about Star Carr

Two activities to encourage pupils to express what they have learnt about the Mesolithic in words and pictures.

The skills log can be downloaded **here**. [[Link to Skills_log.pdf](#)]

Acknowledgements

Images used in the schools resource are acknowledged where appropriate in the resource itself.

Some of the resources use multiple images or are intended for free-standing use without text. The sources for these are acknowledged here.

Leaves

The images on the *Leaves* worksheets are taken from Wikimedia Commons, by courtesy of the following authors:

alder	Nova
aspen	Willow
birch	Kristian Peters
elm	Sten Porse
hawthorn	Rasbak
hazel	Lemmikkipuu
juniper	Scoo
lime	A. Barra
oak	Franz Xaver
pine	H. Zell
rowan	Ji-Elle
willow	BCB

Plants and people

The images on the *Plants and people* worksheets are taken from Wikimedia Commons, by courtesy of the following authors:

birch	Willow
bittersweet	H. Zell
black nightshade	J. R. Crellin
crowberry	Alpsdake
hemp nettle	J. R. Crellin
horsetail	J. R. Crellin
knotgrass	Sanja565658
meadowsweet	J. R. Crellin
moss	Michael Becker

nettle	Uwe Friese
pine	H. Zell
ragwort	J. R. Crellin
reed	Peter Mulligan
rowan	4028mdk09
St. John's wort	J. R. Crellin
sorrel	J. R. Crellin
tinder fungus	Tomas Čekanavičius,
yellow water lily	Hans Hillwaert

ARCHAEOLOGY SKILLS LOG (TEACHER'S VERSION)

ARCHAEOLOGY SKILLS LOG

A set of activities designed to deliver key skills for history and other subjects at key stage 2

It is designed to be printed out and used by each pupil as a personal log of their archaeological investigation of the Mesolithic and the site of Star Carr. It is best printed as an A5 booklet.

This resource can be used to support aspects of various curriculum subjects.

History

Aims

- understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically-valid questions and create their own structured accounts, including written narratives and analyses
- understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed
- gain historical perspective by placing their growing knowledge into different contexts, understanding the connections between local, regional, national and international history; between cultural, economic, military, political, religious and social history; and between short- and long-term timescales.

Subject content

They should note connections, contrasts and trends over time and develop the appropriate use of historical terms. They should regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance. They should construct informed responses that involve thoughtful selection and organisation of relevant historical information.

They should understand how our knowledge of the past is constructed from a range of sources.

BE AN ARCHAEOLOGIST.

DISCOVER THE MESOLITHIC.

You love the past and think history is really cool. You too want to find objects like those you've seen in the museum. You've decided you want to become an archaeologist. Here is one way of doing that.

The five steps to being an archaeologist

You are 16. You are studying A Level Archaeology, or reading about archaeology for fun while studying subjects like history or geography. You decide you want to be an archaeologist. When you finish your A Levels, you apply to university.

You are 19. You are at university, studying for a BA degree in archaeology. Once you have your degree, you could go and get a job as an archaeologist. But you decide to stay on in university.

You are 22. You are now studying for a higher degree, an MA in archaeology. At the end you choose whether to get a job excavating or in a museum, or stay at university to do research.

You are 25. Yes, you are still at university. You are doing research for a doctorate degree, a PhD. You can now apply to be a lecturer working at the university.

You are 30, and a university lecturer. You are running your own research project and excavations, and are publishing books about your research.

At each step you will learn new things and greater archaeological skills. When you finally get to be an archaeologist you will be able to:

- know things about the past;
- identify the remains past people left behind;
- accurately record and measure the remains;
- analyse the remains to find out how people lived;
- create your own account of what life was like in the past.

YOUR ARCHAEOLOGICAL SKILLS LOG

Name	
School	
Class	

In this log, you will set down the skills you have learnt on the way to becoming an archaeologist.

Finding out

- You will find out
- when was the Mesolithic?
 - which plants grew then?
 - which animals lived then?
 - which sites belong to the Mesolithic?

Identifying objects

- You will learn to identify
- flint tools
 - animals and their tracks
 - plants and trees, which are good and which to avoid

Recording objects

- You will learn to do
- drawing
 - measuring
 - describing

Analyse how people lived

- You will think about
- which plants were used for food
 - what does an animal carcass provide
 - what structures were used for?
 - what evidence is missing?
 - which reconstruction is most accurate

Write your report

- You will
- describe the Mesolithic in your own words
 - make your own drawing of a Mesolithic site

FIRST OF ALL – HERE ARE SOME THINGS YOU NEED TO KNOW

The Mesolithic

The Mesolithic began when people adapted themselves to living in the new woodlands that grew in Britain after the Ice Age. The earliest carbon date is from a piece of worked antler at Thatcham in Berkshire at 11100 BP.

The Mesolithic ended when farming was brought to Britain from the continent. This began in the south east around 6050 BP and then took a few hundred years to spread elsewhere. The latest carbon date is from a seashell at the Scottish site of Cnoc Sligeach at 5800 BP.

Star Carr dates: worked antler 11030 BP, birch resin 10560 BP

Key archaeologists

Some of the archaeologists who have studied the Mesolithic are:

Sir Grahame Clark	began the scientific study of the Mesolithic in Britain and the main early excavator of Star Carr
Marek Zvelebil	studied how advanced Mesolithic people were
Sir Paul Mellars	excavated important sites on Oronsay in Scotland
Roger Jacobi	revised how we understand Mesolithic tools and social groups
Tim Schadla-Hall	excavated new remains in the Vale of Pickering
Nicky Milner	part of the group bringing new ideas to study the Mesolithic and modern excavator of Star Carr

Dating the past

Important note about how archaeologists date the past

We describe the date of the past in two ways. AD and BC when we talk about history. But for early prehistory we often use BP instead. BP stands for 'before present' and is a simple way of saying 'years ago'.

One of the most important ways that archaeologists use to date the past is called radio-carbon dating. Every living thing – animals and plants – breathes in carbon dioxide gas from the air. They take the carbon to build their bodies. Some of the carbon they take is unstable. It breaks down over time to become a different element, nitrogen, but keeps getting topped up every time the animal or plant breathes. When the animal or plant dies it stops taking in carbon and the amount then gets less and less as it breaks down. If we measure how much of this special type of carbon (we call it carbon 14) is left, we can measure how long ago the animal or plant died and so give a date to the archaeological remains such as wood or bone that come from the plant or animal.

FINDING OUT

Do your own research using books or the Internet.

What do we know about the Mesolithic?

What does <i>Mesolithic</i> mean?	From Greek <i>mesos</i> = middle, <i>lithos</i> = stone Mesolithic Age = Middle Stone Age
When was the Mesolithic?	In Britain the earliest Mesolithic site dates to c.11100 BP, the latest to c.5800 BP
Which plants grew then?	Early Mesolithic woodland was an open forest of birch and pine, with some juniper, rowan, hawthorn, willow and aspen. Later there was a lot of hazel and the forest grew denser. By the Late Mesolithic it was mostly of lime, elm, oak, alder, hazel and holly.
Which animals lived then?	Red deer, roe deer, elk, aurochs (extinct wild cattle), wild boar, wolf, beaver, hare, fox, badger, pine marten, hedgehog Various birds like buzzard, duck, stork, crane, lapwing, thrush, cormorant, guillemot Various fish like pike, perch, salmon, sturgeon, cod, haddock, halibut, saithe, ling.
What are <i>microliths</i> ?	From Greek <i>micros</i> = little, <i>lithos</i> = stone Microliths are small shaped stone blades inserted into wooden, bone or antler handles to make tools.
What was <i>Doggerland</i> ?	The name we give to the land that connected Britain to Denmark and Germany, now flooded by rising sea levels and under the North Sea.

Which of these sites belong to the Mesolithic?

Site	Yes	No
Amesbury archer		x
Aveline's Hole	x	
Bouldnor Cliff	x	
Boxgrove		x
Garton Slack		x
Goldcliff	x	
Grimes Graves		x
Howick	x	
Maiden Castle		x
Morton	x	
Oronsay	x	
Paviland Cave		x
Star Carr	x	
Stonehenge		x
Warren Field	x	
West Kennet		x
Windmill Hill		x

Can you name any other Mesolithic sites?

FACT CHECK 1

Environment

The Mesolithic period began after the end of the last Ice Age. The climate changed and became warmer over time. Much of Britain was forest and the kinds of trees that grew changed over time. Average temperatures today are 4° C in mid-winter and 16° C in mid-summer. Going back in time, the Mesolithic covered three phases of climate.

8300-6300 BP	warm winters (5° C), hot summers (17.5° C), oak, elm, hazel, alder, lime
10550-8300 BP	cold winters (-3° C), warmer summers (14° C), hazel, pine, birch, elm
11600-10500 BP	cold winters (-5° C), warm summers (12.5° C), birch, pine, willow, juniper

Geography

Britain was still joined to the rest of Europe at the end of the Ice Age. The link was to Germany and Denmark across the North Sea which was a low lying plain crossed by large rivers and lakes. It would have been a rich home for people with lots of plants and animals. We call this lost land Doggerland.

As the Arctic ice continued to melt, sea level kept on rising. Ireland was separated from Britain very early on. Doggerland was swamped by the sea by around 8400 BP, and Britain was then an island. 11,600 years ago you could walk across land from Yorkshire to Denmark. 8,000 years ago you had to go there by a small boat; not so easy!

Tsunami

Around 8100 BP, a large part of the continental shelf off the coast of Norway slumped down to the bottom of the Atlantic. This pushed a wall of water south and west, causing a massive tsunami or tidal wave to hit the north east coast of Britain. This was at least 4 metres high and travelled up to 50 miles inland.

Stone tools

Mesolithic people made very characteristic types of stone tools. They used small, shaped blades of flint called microliths to insert into wooden, bone or antler handles. They could do this in different ways to make arrowheads, knives, awls etc. Only Mesolithic people made microliths.

Key sites

Some of the key sites for studying the Mesolithic are:

Aveline's Hole, Somerset (10250 BP): a cemetery of at least 70 Mesolithic burials in a cave. The bodies and records of their excavation were mostly destroyed when Bristol Museum was bombed in 1940 in the 2nd World War.

Bouldnor Cliff, Isle of Wight (8000 BP): submerged by rising sea levels in prehistory and excavated by underwater archaeologists after flint tools were found in 1998 by a lobster cleaning out its burrow. What they found a site where log boats were being made, and the oldest string in Britain.

Goldcliff, Monmouthshire (7600-6800 BP): a set of Mesolithic footprints preserved in the mud of the River Severn estuary where people fished for eels as well as hunted woodland animals. The footprints include those of children as young as 5.

Morton, Fife: excavated (9000-5900 BP): a series of repeated seasonal camps for finding and working flint, as well as sea fishing for cod, and collecting shellfish.

Nab Head, Pembrokeshire (10350 BP): a cliff top site where a lot of shale beads were being made, nearly 700 of them were found at the site.

Oronsay, Hebrides (6500-5800 BP): a series of shell middens on an island, possibly visited at specific times of the year from the mainland. The shellfish may have been eaten, or may have been used as bait for sea fishing.

Staosnaig, Hebrides (9100-7900 BP): a site with pits for baking hazelnuts, so many being collected that they may have reduced the number of hazel trees growing locally.

Star Carr, Yorkshire (11000-10500 BP): the first major Mesolithic site excavated in Britain, with organic remains preserved in the peat filling in an old lake. One of the earliest Mesolithic sites in Britain, with a timber platform along the lake edge and houses on the dry land. Where hundreds of antler harpoons were made, and red deer antler headdresses were made, used and discarded.

Warren Field, Aberdeenshire (9750 BP): an alignment of holes that once contained wooden posts. Thought to be Neolithic when excavated, now dated to the Mesolithic. Analysis using computers has shown this may be a sophisticated device for measuring the phases of the moon and how these change, which enabled accurate dating of months during the year.

DEBATING POINTS 1

When the Mesolithic began

Archaeologists have always said that the Mesolithic began at the end of the last Ice Age. But, the earliest Mesolithic sites seem to date slightly after this. We think that it took a few hundred years for the forests to grow again and for people to adapt to this by becoming Mesolithic. The earliest Mesolithic sites so far dated are around 11200 BP.

How the Mesolithic ended

The Mesolithic was replaced by the Neolithic. Neolithic people were farmers, keeping domestic animals and growing crops. We now know the Neolithic began at 6000 BP in the south east of Britain and then spread to the far north by 5800 BP. Archaeologists argue about whether the Neolithic was brought to Britain by new settlers from the continent, or whether the native inhabitants copied the new lifestyle.

Britain became an island

We are not certain exactly when Doggerland disappeared under the sea. One recent study suggests that the land connection still existed at 9000 BP but that a sea channel had split Doggerland in two by 8500 BP and that it had mostly disappeared by 8000 BP. Others suggest that it was finally washed away in a giant tsunami that we know struck the North Sea at 8100 BP. To make it more complicated, there was a huge flood of meltwater from North America at 8300 which suddenly increased sea levels across Britain and north-west Europe.

What microliths were used for

Microliths are very small. Late Mesolithic ones are smaller than Early Mesolithic ones. They were made in a wide variety of shapes like triangles, crescents, rods etc. Only a few have been found still attached to their handles, as at Loshult in Denmark. This was an arrowhead with one microlith at the tip and others along one side, very efficient for piercing and then slicing into an animal's hide. We can look at the edges of the microliths under a microscope and see how they were worn down by different uses. In this way, we know that not all of them were used in arrowheads. They could also be used in knives, or awls for boring into hard materials.

IDENTIFYING OBJECTS

Flint tools

The commonest finds on prehistoric archaeological sites are the stone tools that people leave behind. Stone tools are essential for a range of tasks. They can be used as arrowheads, knives, axeheads and awls for making holes. They can be made into scrapers for scraping animals skins or smoothing arrowshafts. A tool called a graver was used for engraving and cutting hard wood or antler. The shapes of tools and types used change over time. Some types only occur in one period and can be used to date sites they are found on. [Flints.png]

Take the two sheets of mixed flints, print on card and cut out each flint in its rectangular box. These can then be given to pupils to sort by period or you can ask them “which of these flint artefacts are Mesolithic?”. [Flints mixed 01.pdf and Flints mixed 02.pdf]

Animal bones

Animals were very important for people in the past. They gave them meat, leather from their hides and their bones could be used to make tools. The bones of the animals are often left behind for archaeologists to find.

Deer-bones.pdf is a sheet of bones as they might be placed on a tray in laboratory after excavation for the bone specialist to identify.

Using Red-deer.pdf, can the pupils identify which bone belongs where on the skeleton of the red deer?

Two of the bones are broken. Can you still find which part of the bone on the skeleton they are? [Red_deer.pdf and Deer-bones.pdf]

Trees and leaves

Wood from trees is one of the most important materials used by people in the past. Different trees yield different kinds of wood which can be used for different purposes. Archaeologists should get to know how to recognise the different trees used in the past.

The first trees to grow in Britain early after the last ice age, 11,000 years ago, were birch, pine, willow, aspen, rowan, hawthorn and juniper. By 8,000 years ago, other trees had taken over and become commoner: oak, alder, elm, hazel and lime.

Can you identify these leaves? [Leaves_pupils.pdf, Leaves_answers.pdf]

FACT CHECK 2

Hunting and gathering

Mesolithic people lived by hunting wild animals and gathering wild plants to give them all the food and materials they needed for their food, clothing and shelter. They did not keep farm animals, nor did they sow farm crops. They had no sheep, no wheat, barley, beans, peas or potatoes. They would hunt using bows and arrows or spears. They would trap small animals and fish. They would collect shellfish, nuts, berries and leaves, and dig up the roots of plants.

Stone tools

The most important tools they used were made out of stone. The best stone to use was flint, collected from the surface of the ground on the chalk on the Yorkshire Wolds, or from the beach along the coast where the ice sheets had scraped up flint and dumped it on the ground when it had melted at the end of the Ice Age. Making tools out of flint is known as 'knapping'. They made axeheads and smaller tools for cutting, scraping, engraving and for fitting into wooden shafts as the tips of arrows. They could use the flint to cut and shape wood, bone and antler to make more tools such as antler spearheads.

Survival of evidence

Not everything they used and made survives for archaeologists to find. Some materials like stone are hard and last a long time. Flint is one of these and survives very well. Other materials come from plants and animals, such as bone, antler, wood or the fibres and string made from the stems of plants. We call these 'organic' materials. Over time, they will rot away and disappear. They will only survive in Britain if they are kept underwater or in very wet soil.

Examples of organic objects made in the Mesolithic would be the people's clothes and shoes, their canoes or coracles and paddles, bags, boxes and buckets, hand tools, fish traps, fences and the walls, roofs and floor coverings of their houses.

What survived at Star Carr was the artefacts deposited in the lake or those in the lake-edge swamp that were later covered with peat. The finds included animal bones, barbed antler points, other bone or antler tools, some rolls of birch bark and a unique wooden platform made of carefully cut planks laid along the lake edge.

RECORDING OBJECTS

When archaeologists draw their finds, they try to be as accurate as possible. They will draw at least the top and side views of an object. They will measure the length, width and thickness. They will describe the shape, colour, texture and any markings or features they can see on the surface of the object.

Look at the photographs and take one object to draw, measure and describe.

Hint: the photograph is 1.4 times smaller than real life.




Hint: measure the finger in the photo, then your teacher's finger to see how much bigger the photo is. If 3 times, measure the flint and divide by 3 for the real size.



Both images are provided courtesy of the POSTGLACIAL Project, University of York.

Recording sheet

<p>Site Star Carr</p>	<p>Object Barbed point/ Microlith</p>
<p>Describe</p> <p>A barbed point, made of antler. A long, thin slice of antler with 10 barbs cut into one side for two thirds of its length. One third at the base is not barbed. The whole comes to a narrow point.</p> <p>Microlith made of flint. A small blade of pale, yellowish-brown flint. One edge had been made curved. The opposite edge is straight and unaltered. The overall shape is a crescent.</p>	<p>Measure</p> <p><u>Length</u></p> <p>point = 135 mm microlith = 20 mm</p> <p><u>Width</u></p> <p>point = 11 mm microlith = 8 mm</p>
<p>Draw</p> 	

Note:
This image is from Clark (1954: 101)

ANALYSE HOW PEOPLE LIVED

You have excavated the site of Star Carr. Can you answer the following questions? Do your own research to find out the answers.

Plants and people

Which plants could have been used for food, which for medicine and which for coverings or making objects? Also, which were poisonous?

There are three Plants_and_people.pdf files.

- Plants_and_people_pupils.pdf is the blank worksheet for the pupils.
- Plants_and_people_teachers.pdf contains the names of the plants.
- Plants_and_people_answers.pdf has some answers to check against the pupils' work.

Use Star_Carr_plants.pdf as a source of information for the pupils to research from.

House and home

How does a Mesolithic house differ from modern houses?

Most Mesolithic houses that have been excavated are roughly circular or oval and on average measure 5 or 6 metres across by 4 metres wide. Large wooden branches or small tree trunks were dug into the ground and the tops either bent over or slanted inwards and tied at the top. Wooden branches would be woven through to create a frame on which a covering would be added of rushes, leafy branches, birch bark or animal skins.

House_plans.pdf shows some Mesolithic house plans as excavated by archaeologists. When the archaeologists excavate a house like this, all they find is the dark holes in the earth where the wooden posts were set that made the walls of the house, and sometimes a burnt area in the middle where the hearth was. The floor would be a dip in the ground where people had walked to and fro to wear away the earth. The inside may be dark with the decayed remains of a floor or birch bark or rush mats.

Archaeologists experiment by building houses based on the excavated plans to see what they could look like and how big they are inside. They differ in how to build the top of the house. This could go up to a point or be rounded off as a dome.

Compare your house with the Mesolithic. Answer the following questions about your house.

What is your house like?

What shape are the walls?	straight - sloping - round or other -
What shape is the roof?	flat - sloping or other -
What is the roof covered with?	
How many storeys are there?	
What shape are the windows?	
How many outside doors are there?	
How many rooms are there?	
What are the rooms called?	
What heating does the house have?	

What makes your house into a home?

Who lives in the house?	just you your family strangers
What furniture is there?	beds sofas chairs tables shelves Anything else?
What gadgets are there?	lights cooker washing machine TV radio Anything else?
What do you do at home? (Think of everything you do)	<i>sleep, wash, cook, eat, go to the toilet, watch TV, play games, talk, read, ...</i>
Do you have a garden? What is in it?	

Look at the images of Mesolithic houses (House_reconstructions.pdf).

Now answer the same questions about the Mesolithic house and home. See how different it is from yours.

Where do you think you would do all the things you now do in your own house?

Would you like to live in a Mesolithic house?

How might it be better than your home?

How might it be worse than your home?

The Star Carr antler headdress

What was it used for? How did Mesolithic people think about animals?

The worksheet *Headdress_pupils.pdf* is based on one very important (and famous) type of object from Star Carr: the headdresses made from deer skulls. You can use this worksheet to imagine yourself in the Mesolithic, when people had very different relationships with animals than we do today. It also encourages you to think about how archaeologists sometimes do not know for sure what an object was used for.

There are two documents:

- *Headdress_pupils.pdf* – the worksheet for pupils to fill in;
- *Headdress_teachers.pdf* – the same but with answers and suggested answers filled in.

There are many other possible ways in which the headdresses may have been used. Some of these are unlikely but make a good story. In the novel *The Gathering Night* by Margaret Elphinstone (2009) they are worn by a criminal to make him the object of a chase. He is hunted by the tribe as though he were a deer. If he escapes, he goes free. If not, he is killed. Pupils could be encouraged to come up with their own stories about the headdresses.

The Star Carr pendant

One of the exciting finds made in the 2015 excavation at Star Carr was of a decorated shale pendant. Finding art on objects from the Mesolithic is very rare.

The worksheets *Pendant_teacher.pdf* and *Pendant_pupils.pdf* are based on the find. You can use this worksheet to teach pupils how archaeologists might analyse the decoration on the pendant. They can also begin to learn about how we use symbols at the present day, as well as making a pendant for themselves.

There are two documents:

- *Pendant_teacher.doc*;
- *Pendant_pupils.doc*.

Being in the Mesolithic



This is a painting by artist Dominic Andrews of what a Mesolithic hunters' camp might have looked like.

Which of these do you think would survive over 11,000 years for archaeologists to find?

People	Only their bones and only if they were buried. In fact we have very few Mesolithic burials from Britain.
Animal skins	These would rot away.
Clothing	These would rot away.
Shoes	These would rot away.
House	The house would rot away but the holes where the poles for the wall were stuck in the ground would survive, filled with dark soil. We call these 'post holes'.
Fire	The fire itself would not survive but the scorching of the earth and any stones that made the hearth would be found.
Arrows	The shafts would only survive if they were underwater for 11,000 years. The stone arrowheads would be found.
Quiver for the arrows	This would rot away.
Poles for hanging meat and skins	These would rot away.
Stone tools used as arrowheads, knives and for scraping the skins	These survive as many thousands of flint finds on archaeological sites. Over 25,000 pieces of flint have been found at Star Carr.

Refer to the list of what was found by archaeologists at Star Carr, [What_Clark_found.pdf](#). What evidence of people's lives do you think is missing from the excavation?

Think of the solid objects and the people:

- structures: houses, house furniture like beds, mats, roof covering, hearths;
- tools and equipment: wooden tools, baskets, leather bags, boats;
- people: clothing, shoes, the people themselves as burials, their food.

Think of things that are not solid objects, things we see, hear and experience.

- sounds: people's speech, wind in the trees, birds calling;
- smells: the woody smoke of the fire, the leather clothes;
- touch: the feel of leather clothing;
- sights: the colours of the natural world and decoration on clothes, the sun glinting on the lake, birds flying overhead;
- tastes: smoked and dried meats, dried fish, herbs.

Write a short story or account of what you might see, hear and do if you were at the hunters' camp.

FACT CHECK 3

The Star Carr excavation

The site was found in 1948 by John Moore, a local Scarborough archaeologist. Sir Grahame Clark excavated Star Carr from 1949 to 1951. He dug trenches that covered an area of around 17 metres long by 15 metres wide. In these, he found 17,000 flint artefacts of types only made in the Mesolithic.

What made Star Carr special was that the site was preserved under waterlogged peat, which preserves organic materials like wood, bone and antler. Clark was also special since he was careful to note the plant and animal remains in order to understand the environment in which people were living.

Among the tools that Clark found were beads and pendants, a possible wooden paddle, 21 antler headdresses, 191 barbed antler or bone spear-points and other tools made of bone or antler.

More modern excavations have taken place since. The most recent being published in 2017.

Plants and animals found at Star Carr

Plants found at Star Carr include:

Lake water plants

mare's tail, pondweed, stonewort, water lily (white), water lily (yellow);

Lake-side swamp plants & trees

bittersweet, bog bean, club rush, cowbane, deergrass, gipsywort, grey willow, horsetail, marsh willowherb, meadow rue, meadowsweet, reed, sedge, spearwort, spike rush, water dock;

Open ground plants

bistort, black nightshade, chickweed, crowberry, goosefoot, hemp nettle, knotgrass, nettle, ragwort, redshank, sorrel, St. John's wort;

Woodland plants & trees

aspen, birch, hawthorn, hedge woundwort, moss, pine, red campion, rowan.

Animals found at Star Carr include:

Mammals

badger, beavers, elk, fox, hare, hedgehog, pine marten, red deer, roe deer, wild boar, wild cattle, wolf.

There was also the earliest domestic dog yet to be found in Britain.

Birds

buzzard, crane, great crested grebe, lapwing, little grebe, pintail duck, red-breasted merganser, red-throated diver, white stork.

The Mesolithic way of life

Mesolithic people depended on their environment for everything. That environment was the early post-glacial landscape of open birch forest. Their food came from its wild plants and animals. Their drinking water came from lakes and rivers. They made their houses out of wooden posts and natural coverings like animal hides, rushes or birch bark. Their clothes would mostly be made out of animal skins, carefully cut and sewn. For containers, they could use sew birch or weave vegetable fibres or branches.

Shamans and the spirit world

A shaman is a kind of 'priest' who can speak with the spirit world on behalf of people to help in hunting, keep nature kind towards humans or to cure illnesses.

Some hunter-gatherers in more modern times would believe that the animals and humans were one in a mythical past, united as a special kind of human-animal. Only later did humans and animals split apart to become different.

Shamans would go into a trance and have visions, and return to the original state of human-animal to talk to the spirits of nature. Some would have a favourite animal spirit they became or talked to. Sometimes when children became adults, they would get an animal spirit helper who would guide them in their life.

Antler frontlets

Around 30 headdresses made from the tops of deer skulls have so far been found at Star Carr. This is more than anywhere else in the world. Only 6 others have been found anywhere else, all in Germany.

We know that some hunters in Siberia had shamans who dressed as animals, including wearing antler headdresses, to go and visit the spirit world. The animals are afraid of people so people need to pretend to be animals to get to talk to them.

We also know that some hunters wore animal skins to hide their smell and to get close to the animals they were hunting. The antlers would then be a disguise to fool the deer seeing the antlers among the trees instead of the hunters.

There are other possible explanations for the headdresses. For example:

- they were worn by chiefs to show their status;
- children wore them in a ceremony to make the adults;
- warriors wore them to look fierce to their enemies.

DEBATING POINTS 2

Mobile hunter-gatherers

Most archaeologists have assumed that Mesolithic groups would have moved around the landscape in search of food and other resources from season to season, without any permanent settlements. There have been many disagreements about whether particular excavated sites were occupied at certain seasons of the year. However, a few modern hunter-gatherers do live in one place all year round. Some archaeologists therefore wonder whether the woodlands and coasts of northern Europe and Britain might have been rich enough in food and resources to support permanent settlements.

Gender roles

There are many assumptions made about the roles of men and women in the Mesolithic. Men are commonly shown as the hunters and tool-makers. Women are shown gathering plant foods, scraping hides, cooking food and looking after children. Ethnographies of hunter-gathers show that men do most of the big-game hunting but that women will hunt and trap a lot of the smaller game. Men will help gather plant foods and cook food. While women nurse babies for long periods, on average around 3 years, men will often look after the children after weaning. There is no reason why women could not make tools as much as men.

Peaceful or violent?

There are very few Mesolithic burials in Britain. These are commoner on the continent. Some of the burials show that some people were shot with arrows, that others were hit on the head (presumably by wooden clubs or axes). There is little evidence for warfare between groups, but there was some violence between individuals. The major exception is the site at Ofnet in Germany where 34 decapitated skulls were placed in a cave. These were mostly women and children with a few men. This is often claimed as evidence of a massacre, but one modern study showed only up to 8 skulls with evidence of violence. Others disagree and say more skulls have evidence. The only complete surviving Mesolithic burial from Britain is Cheddar Man, who was hit on the side of the head. Whether this caused his death is not certain.

Rousseau or Hobbes?

Two famous philosophers had very different views of human nature and the prehistoric past. Jean-Jacques Rousseau thought people were naturally kind and cooperative, living close to nature in a kind of Garden of Eden. Thomas Hobbes thought that people were naturally vicious and selfish, and would have lived like brutish animals. Archaeologists often saw the Mesolithic as either one or

the other.

The man who first described the Mesolithic, Hodder Westropp in 1872, saw Mesolithic people as “scarcely less savage than the beasts of the forest”, “living in a wild and uncultivated state”, being “stationary and unprogressive”, and that “his intellect was dormant”.

On the other hand, Chris Tilley wrote in 1996:

“I am politically old-fashioned enough even to want to describe it as a kind of Garden of Eden before the fall. These were a series of communities in which ownership of land and resources was common or collective, sharing was generalized and no one is likely to have gone hungry.”

More recent archaeologists have been more balanced. Bill Finlayson in 1998 wrote that we should “not be fooled by ideas of a people living in a hazy dream time at one with nature”, and that though their way of life was a great success, it could not support the levels of population or social complexities of our own civilisation.

Caroline Wickham-Jones wrote in 2010 that it was a dangerous trap to assume hunter-gatherers lived in a Garden of Eden. There was evidence of violence (both neighbourly and domestic). Mesolithic people were “not happy hippies living in harmony with their environment”. But she also wrote that we can learn lessons from the period about the intertwining of people and the world they live in, using knowledge of the past to think in different ways and open up new possibilities in the present about our relationship with nature.

TELLING OTHERS ABOUT STAR CARR

Excavation is only the beginning of archaeology. You now have to tell everyone what you have found and what the site might have looked like.

Here are some tasks you can do to make yourself a complete archaeologist.

1. Imagine you are the archaeologist who excavated Star Carr. Write your own report on what was found during your excavations. You can write this using the following questions:

- what is the name of the site?
- who found it?
- where is the site, when did you dig it, how much of it did you dig? (draw a map to show where the site is)
- what did you find? (draw some of the finds)
- what do the finds tell us about how people lived?

2. Imagine you are a museum curator, create a classroom wall display about the Mesolithic.

- Write your own description of what life during the Mesolithic might have been like for the visitors to the museum.
- Find images or make your own drawings of Mesolithic objects and sites.
- Do your own drawing of what Star Carr might have looked like. You can do this on a separate sheet or as part of the display.
- It is OK to come up with more than one idea of what it might have been like. Display alternative descriptions or drawings of Mesolithic life and ask people to say which they like best.

Congratulations! You have become a young archaeologist. What do you do next? If you are still interested in archaeology, you could ask your parents about joining the Young Archaeologists' Club – <http://www.yac-uk.org/>.

ARCHAEOLOGY SKILLS LOG (PUPILS' VERSION)

BE AN ARCHAEOLOGIST.

DISCOVER THE MESOLITHIC.

You love the past and think history is really cool. You too want to find objects like those you've seen in the museum. You've decided you want to become an archaeologist. Here is one way of doing that.

The five steps to being an archaeologist

You are 16. You are studying A Level Archaeology, or reading about archaeology for fun while studying subjects like history or geography. You decide you want to be an archaeologist. When you finish your A Levels, you apply to university.

You are 19. You are at university, studying for a BA degree in archaeology. Once you have your degree, you could go and get a job as an archaeologist. But you decide to stay on in university.

You are 22. You are now studying for a higher degree, an MA in archaeology. At the end you choose whether to get a job excavating or in a museum, or stay at university to do research.

You are 25. Yes, you are still at university. You are doing research for a doctorate degree, a PhD. You can now apply to be a lecturer working at the university.

You are 30, and a university lecturer. You are running your own research project and excavations, and are publishing books about your research.

At each step you will learn new things and greater archaeological skills. When you finally get to be an archaeologist you will be able to:

- know things about the past;
- identify the remains past people left behind;
- accurately record and measure the remains;
- analyse the remains to find out how people lived;
- create your own account of what life was like in the past.

YOUR ARCHAEOLOGICAL SKILLS LOG

Name	
School	
Class	

In this log, you will set down the skills you have learnt on the way to becoming an archaeologist.

Finding out

- You will find out
- when was the Mesolithic?
 - which plants grew then?
 - which animals lived then?
 - which sites belong to the Mesolithic?

Identifying objects

- You will learn to identify
- flint tools
 - animals and their tracks
 - plants and trees, which are good and which to avoid

Recording objects

- You will learn to do
- drawing
 - measuring
 - describing

Analyse how people lived

- You will think about
- which plants were used for food
 - what does an animal carcass provide
 - what structures were used for?
 - what evidence is missing?
 - which reconstruction is most accurate

Write your report

- You will
- describe the Mesolithic in your own words
 - make your own drawing of a Mesolithic site

FIRST OF ALL – HERE ARE SOME THINGS YOU NEED TO KNOW

The Mesolithic

The Mesolithic began when people adapted themselves to living in the new woodlands that grew in Britain after the Ice Age. The earliest carbon date is from a piece of worked antler at Thatcham in Berkshire at 11100 BP.

The Mesolithic ended when farming was brought to Britain from the continent. This began in the south east around 6050 BP and then took a few hundred years to spread elsewhere. The latest carbon date is from a seashell at the Scottish site of Cnoc Sligeach at 5800 BP.

Star Carr dates: worked antler 11030 BP, birch resin 10560 BP

Key archaeologists

Some of the archaeologists who have studied the Mesolithic are:

Sir Grahame Clark	began the scientific study of the Mesolithic in Britain and the main early excavator of Star Carr
Marek Zvelebil	studied how advanced Mesolithic people were
Sir Paul Mellars	excavated important sites on Oronsay in Scotland
Roger Jacobi	revised how we understand Mesolithic tools and social groups
Tim Schadla-Hall	excavated new remains in the Vale of Pickering
Nicky Milner	part of the group bringing new ideas to study the Mesolithic and modern excavator of Star Carr

Dating the past

Important note about how archaeologists date the past

We describe the date of the past in two ways. AD and BC when we talk about history. But for early prehistory we often use BP instead. BP stands for 'before present' and is a simple way of saying 'years ago'.

One of the most important ways that archaeologists use to date the past is called radio-carbon dating. Every living thing – animals and plants – breathes in carbon dioxide gas from the air. They take the carbon to build their bodies. Some of the carbon they take is unstable. It breaks down over time to become a different element, nitrogen, but keeps getting topped up every time the animal or plant breathes. When the animal or plant dies it stops taking in carbon and the amount then gets less and less as it breaks down. If we measure how much of this special type of carbon (we call it carbon 14) is left, we can measure how long ago the animal or plant died and so give a date to the archaeological remains such as wood or bone that come from the plant or animal.

FINDING OUT

Do your own research using books or the Internet.

What do we know about the Mesolithic?

What does <i>Mesolithic</i> mean?	
When was the Mesolithic?	
Which plants grew then?	
Which animals lived then?	
What are <i>microliths</i> ?	
What was <i>Doggerland</i> ?	

Which of these sites belong to the Mesolithic?

Site	Yes	No
Amesbury archer		
Aveline's Hole		
Bouldnor Cliff		
Boxgrove		
Garton Slack		
Goldcliff		
Grimes Graves		
Howick		
Maiden Castle		
Morton		
Oronsay		
Paviland Cave		
Star Carr		
Stonehenge		
Warren Field		
West Kennet		
Windmill Hill		

Can you name any other Mesolithic sites?

FACT CHECK 1

Environment

The Mesolithic period began after the end of the last Ice Age. The climate changed and became warmer over time. Much of Britain was forest and the kinds of trees that grew changed over time. Average temperatures today are 4° C in mid-winter and 16° C in mid-summer. Going back in time, the Mesolithic covered three phases of climate.

8300-6300 BP	warm winters (5° C), hot summers (17.5° C), oak, elm, hazel, alder, lime
10550-8300 BP	cold winters (-3° C), warmer summers (14° C), hazel, pine, birch, elm
11600-10500 BP	cold winters (-5° C), warm summers (12.5° C), birch, pine, willow, juniper

Geography

Britain was still joined to the rest of Europe at the end of the Ice Age. The link was to Germany and Denmark across the North Sea which was a low lying plain crossed by large rivers and lakes. It would have been a rich home for people with lots of plants and animals. We call this lost land Doggerland.

As the Arctic ice continued to melt, sea level kept on rising. Ireland was separated from Britain very early on. Doggerland was swamped by the sea by around 8400 BP, and Britain was then an island. 11,600 years ago you could walk across land from Yorkshire to Denmark. 8,000 years ago you had to go there by a small boat; not so easy!

Tsunami

Around 8100 BP, a large part of the continental shelf off the coast of Norway slumped down to the bottom of the Atlantic. This pushed a wall of water south and west, causing a massive tsunami or tidal wave to hit the north east coast of Britain. This was at least 4 metres high and travelled up to 50 miles inland.

Stone tools

Mesolithic people made very characteristic types of stone tools. They used small, shaped blades of flint called microliths to insert into wooden, bone or antler handles. They could do this in different ways to make arrowheads, knives, awls etc. Only Mesolithic people made microliths.

Key sites

Some of the key sites for studying the Mesolithic are:

Aveline's Hole, Somerset (10250 BP): a cemetery of at least 70 Mesolithic burials in a cave. The bodies and records of their excavation were mostly destroyed when Bristol Museum was bombed in 1940 in the 2nd World War.

Bouldnor Cliff, Isle of Wight (8000 BP): submerged by rising sea levels in prehistory and excavated by underwater archaeologists after flint tools were found in 1998 by a lobster cleaning out its burrow. What they found a site where log boats were being made, and the oldest string in Britain.

Goldcliff, Monmouthshire (7600-6800 BP): a set of Mesolithic footprints preserved in the mud of the River Severn estuary where people fished for eels as well as hunted woodland animals. The footprints include those of children as young as 5.

Morton, Fife: excavated (9000-5900 BP): a series of repeated seasonal camps for finding and working flint, as well as sea fishing for cod, and collecting shellfish.

Nab Head, Pembrokeshire (10350 BP): a cliff top site where a lot of shale beads were being made, nearly 700 of them were found at the site.

Oronsay, Hebrides (6500-5800 BP): a series of shell middens on an island, possibly visited at specific times of the year from the mainland. The shellfish may have been eaten, or may have been used as bait for sea fishing.

Staosnaig, Hebrides (9100-7900 BP): a site with pits for baking hazelnuts, so many being collected that they may have reduced the number of hazel trees growing locally.

Star Carr, Yorkshire (11000-10500 BP): the first major Mesolithic site excavated in Britain, with organic remains preserved in the peat filling in an old lake. One of the earliest Mesolithic sites in Britain, with a timber platform along the lake edge and houses on the dry land. Where hundreds of antler harpoons were made, and red deer antler headdresses were made, used and discarded.

Warren Field, Aberdeenshire (9750 BP): an alignment of holes that once contained wooden posts. Thought to be Neolithic when excavated, now dated to the Mesolithic. Analysis using computers has shown this may be a sophisticated device for measuring the phases of the moon and how these change, which enabled accurate dating of months during the year.

DEBATING POINTS 1

When the Mesolithic began

Archaeologists have always said that the Mesolithic began at the end of the last Ice Age. But, the earliest Mesolithic sites seem to date slightly after this. We think that it took a few hundred years for the forests to grow again and for people to adapt to this by becoming Mesolithic. The earliest Mesolithic sites so far dated are around 11200 BP.

How the Mesolithic ended

The Mesolithic was replaced by the Neolithic. Neolithic people were farmers, keeping domestic animals and growing crops. We now know the Neolithic began at 6000 BP in the south east of Britain and then spread to the far north by 5800 BP. Archaeologists argue about whether the Neolithic was brought to Britain by new settlers from the continent, or whether the native inhabitants copied the new lifestyle.

Britain became an island

We are not certain exactly when Doggerland disappeared under the sea. One recent study suggests that the land connection still existed at 9000 BP but that a sea channel had split Doggerland in two by 8500 BP and that it had mostly disappeared by 8000 BP. Others suggest that it was finally washed away in a giant tsunami that we know struck the North Sea at 8100 BP. To make it more complicated, there was a huge flood of meltwater from North America at 8300 which suddenly increased sea levels across Britain and north-west Europe.

What microliths were used for

Microliths are very small. Late Mesolithic ones are smaller than Early Mesolithic ones. They were made in a wide variety of shapes like triangles, crescents, rods etc. Only a few have been found still attached to their handles, as at Loshult in Denmark. This was an arrowhead with one microlith at the tip and others along one side, very efficient for piercing and then slicing into an animal's hide. We can look at the edges of the microliths under a microscope and see how they were worn down by different uses. In this way, we know that not all of them were used in arrowheads. They could also be used in knives, or awls for boring into hard materials.

IDENTIFYING OBJECTS

Flint tools

The commonest finds on prehistoric archaeological sites are the stone tools that people leave behind. Stone tools are essential for a range of tasks. They can be used as arrowheads, knives, axeheads and awls for making holes. They can be made into scrapers for scraping animals skins or smoothing arrowshafts. A tool called a graver was used for engraving and cutting hard wood or antler. The shapes of tools and types used change over time. Some types only occur in one period and can be used to date sites they are found on. [Flints.png]

Take the two sheets of mixed flints, print on card and cut out each flint in its rectangular box. These can then be given to pupils to sort by period or you can ask them “which of these flint artefacts are Mesolithic?”. [Flints mixed 01.pdf and Flints mixed 02.pdf]

Animal bones

Animals were very important for people in the past. They gave them meat, leather from their hides and their bones could be used to make tools. The bones of the animals are often left behind for archaeologists to find.

Deer-bones.pdf is a sheet of bones as they might be placed on a tray in laboratory after excavation for the bone specialist to identify.

Using Red-deer.pdf, can the pupils identify which bone belongs where on the skeleton of the red deer?

Two of the bones are broken. Can you still find which part of the bone on the skeleton they are? [Red_deer.pdf and Deer-bones.pdf]

Trees and leaves

Wood from trees is one of the most important materials used by people in the past. Different trees yield different kinds of wood which can be used for different purposes. Archaeologists should get to know how to recognise the different trees used in the past.

The first trees to grow in Britain early after the last ice age, 11,000 years ago, were birch, pine, willow, aspen, rowan, hawthorn and juniper. By 8,000 years ago, other trees had taken over and become commoner: oak, alder, elm, hazel and lime.

Can you identify these leaves? [Leaves_pupils.pdf, Leaves_answers.pdf]

FACT CHECK 2

Hunting and gathering

Mesolithic people lived by hunting wild animals and gathering wild plants to give them all the food and materials they needed for their food, clothing and shelter. They did not keep farm animals, nor did they sow farm crops. They had no sheep, no wheat, barley, beans, peas or potatoes. They would hunt using bows and arrows or spears. They would trap small animals and fish. They would collect shellfish, nuts, berries and leaves, and dig up the roots of plants.

Stone tools

The most important tools they used were made out of stone. The best stone to use was flint, collected from the surface of the ground on the chalk on the Yorkshire Wolds, or from the beach along the coast where the ice sheets had scraped up flint and dumped it on the ground when it had melted at the end of the Ice Age. Making tools out of flint is known as 'knapping'. They made axeheads and smaller tools for cutting, scraping, engraving and for fitting into wooden shafts as the tips of arrows. They could use the flint to cut and shape wood, bone and antler to make more tools such as antler spearheads.

Survival of evidence

Not everything they used and made survives for archaeologists to find. Some materials like stone are hard and last a long time. Flint is one of these and survives very well. Other materials come from plants and animals, such as bone, antler, wood or the fibres and string made from the stems of plants. We call these 'organic' materials. Over time, they will rot away and disappear. They will only survive in Britain if they are kept underwater or in very wet soil.

Examples of organic objects made in the Mesolithic would be the people's clothes and shoes, their canoes or coracles and paddles, bags, boxes and buckets, hand tools, fish traps, fences and the walls, roofs and floor coverings of their houses.

What survived at Star Carr was the artefacts deposited in the lake or those in the lake-edge swamp that were later covered with peat. The finds included animal bones, barbed antler points, other bone or antler tools, some rolls of birch bark and a unique wooden platform made of carefully cut planks laid along the lake edge.

RECORDING OBJECTS

When archaeologists draw their finds, they try to be as accurate as possible. They will draw at least the top and side views of an object. They will measure the length, width and thickness. They will describe the shape, colour, texture and any markings or features they can see on the surface of the object.

Look at the photographs and take one object to draw, measure and describe.

Hint: the photograph is 1.4 times smaller than real life.



Hint: measure the finger in the photo, then your teacher's finger to see how much bigger the photo is. If 3 times, measure the flint and divide by 3 for the real size.



Both images are provided courtesy of the POSTGLACIAL Project, University of York.

Recording sheet

Site	Object
Describe	Measure Length Width
Draw	

ANALYSE HOW PEOPLE LIVED

You have excavated the site of Star Carr. Can you answer the following questions? Do your own research to find out the answers.

Plants and people

Which plants could have been used for food, which for medicine and which for coverings or making objects? Also, which were poisonous?

There are three Plants_and_people.pdf files.

- Plants_and_people_pupils.pdf is the blank worksheet for the pupils.
- Plants_and_people_teachers.pdf contains the names of the plants.
- Plants_and_people_answers.pdf has some answers to check against the pupils' work.

Use Star_Carr_plants.pdf as a source of information for the pupils to research from.

House and home

How does a Mesolithic house differ from modern houses?

Most Mesolithic houses that have been excavated are roughly circular or oval and on average measure 5 or 6 metres across by 4 metres wide. Large wooden branches or small tree trunks were dug into the ground and the tops either bent over or slanted inwards and tied at the top. Wooden branches would be woven through to create a frame on which a covering would be added of rushes, leafy branches, birch bark or animal skins.

House_plans.pdf shows some Mesolithic house plans as excavated by archaeologists. When the archaeologists excavate a house like this, all they find is the dark holes in the earth where the wooden posts were set that made the walls of the house, and sometimes a burnt area in the middle where the hearth was. The floor would be a dip in the ground where people had walked to and fro to wear away the earth. The inside may be dark with the decayed remains of a floor or birch bark or rush mats.

Archaeologists experiment by building houses based on the excavated plans to see what they could look like and how big they are inside. They differ in how to build the top of the house. This could go up to a point or be rounded off as a dome.

Compare your house with the Mesolithic. Answer the following questions about your house.

What is your house like?

What shape are the walls?	straight - sloping - round or other -
What shape is the roof?	flat - sloping or other -
What is the roof covered with?	
How many storeys are there?	
What shape are the windows?	
How many outside doors are there?	
How many rooms are there?	
What are the rooms called?	
What heating does the house have?	

What makes your house into a home?

Who lives in the house?	just you your family strangers
What furniture is there?	beds sofas chairs tables shelves Anything else?
What gadgets are there?	lights cooker washing machine TV radio Anything else?
What do you do at home? (Think of everything you do)	
Do you have a garden? What is in it?	

Look at the images of Mesolithic houses (House_reconstructions.pdf).

Now answer the same questions about the Mesolithic house and home. See how different it is from yours.

Where do you think you would do all the things you now do in your own house?

Would you like to live in a Mesolithic house?

How might it be better than your home?

How might it be worse than your home?

The Star Carr antler headdress

What was it used for? How did Mesolithic people think about animals?

The worksheet Headdress_pupils.pdf is based on one very important (and famous) type of object from Star Carr: the headdresses made from deer skulls. You can use this worksheet to imagine yourself in the Mesolithic, when people had very different relationships with animals than we do today. It also encourages you to think about how archaeologists sometimes do not know for sure what an object was used for.

There are two documents:

- Headdress_pupils.pdf – the worksheet for pupils to fill in;
- Headdress_teachers.pdf – the same but with answers and suggested answers filled in.

There are many other possible ways in which the headdresses may have been used. Some of these are unlikely but make a good story. In the novel *The Gathering Night* by Margaret Elphinstone (2009) they are worn by a criminal to make him the object of a chase. He is hunted by the tribe as though he were a deer. If he escapes, he goes free. If not, he is killed. Pupils could be encouraged to come up with their own stories about the headdresses.

The Star Carr pendant

One of the exciting finds made in the 2015 excavation at Star Carr was of a decorated shale pendant. Finding art on objects from the Mesolithic is very rare.

The worksheets Pendant_teacher.pdf and Pendant_pupils.pdf are based on the find. You can use this worksheet to teach pupils how archaeologists might analyse the decoration on the pendant. They can also begin to learn about how we use symbols at the present day, as well as making a pendant for themselves.

There are two documents:

- Pendant_teacher.doc;
- Pendant_pupils.doc.

Being in the Mesolithic



This is a painting by artist Dominic Andrews of what a Mesolithic hunters' camp might have looked like.

Which of these do you think would survive over 11,000 years for archaeologists to find?

People	
Animal skins	
Clothing	
Shoes	
House	
Fire	
Arrows	
Quiver for the arrows	
Poles for hanging meat and skins	
Stone tools used as arrowheads, knives and for scraping the skins	

Refer to the list of what was found by archaeologists at Star Carr, [What_Clark_found.pdf](#). What evidence of people's lives do you think is missing from the excavation?

Think of the solid objects and the people:

Think of things that are not solid objects, things we see, hear and experience.

Write a short story or account of what you might see, hear and do if you were at the hunters' camp.

FACT CHECK 3

The Star Carr excavation

The site was found in 1948 by John Moore, a local Scarborough archaeologist. Sir Grahame Clark excavated Star Carr from 1949 to 1951. He dug trenches that covered an area of around 17 metres long by 15 metres wide. In these, he found 17,000 flint artefacts of types only made in the Mesolithic.

What made Star Carr special was that the site was preserved under waterlogged peat, which preserves organic materials like wood, bone and antler. Clark was also special since he was careful to note the plant and animal remains in order to understand the environment in which people were living.

Among the tools that Clark found were beads and pendants, a possible wooden paddle, 21 antler headdresses, 191 barbed antler or bone spear-points and other tools made of bone or antler.

More modern excavations have taken place since. The most recent being published in 2017.

Plants and animals found at Star Carr

Plants found at Star Carr include:

Lake water plants

mare's tail, pondweed, stonewort, water lily (white), water lily (yellow);

Lake-side swamp plants & trees

bittersweet, bog bean, club rush, cowbane, deergrass, gipsywort, grey willow, horsetail, marsh willowherb, meadow rue, meadowsweet, reed, sedge, spearwort, spike rush, water dock;

Open ground plants

bistort, black nightshade, chickweed, crowberry, goosefoot, hemp nettle, knotgrass, nettle, ragwort, redshank, sorrel, St. John's wort;

Woodland plants & trees

aspen, birch, hawthorn, hedge woundwort, moss, pine, red campion, rowan.

Animals found at Star Carr include:

Mammals

badger, beavers, elk, fox, hare, hedgehog, pine marten, red deer, roe deer, wild boar, wild cattle, wolf.

There was also the earliest domestic dog yet to be found in Britain.

Birds

buzzard, crane, great crested grebe, lapwing, little grebe, pintail duck, red-breasted merganser, red-throated diver, white stork.

The Mesolithic way of life

Mesolithic people depended on their environment for everything. That environment was the early post-glacial landscape of open birch forest. Their food came from its wild plants and animals. Their drinking water came from lakes and rivers. They made their houses out of wooden posts and natural coverings like animal hides, rushes or birch bark. Their clothes would mostly be made out of animal skins, carefully cut and sewn. For containers, they could use sewn birch or weave vegetable fibres or branches.

Shamans and the spirit world

A shaman is a kind of 'priest' who can speak with the spirit world on behalf of people to help in hunting, keep nature kind towards humans or to cure illnesses.

Some hunter-gatherers in more modern times would believe that the animals and humans were one in a mythical past, united as a special kind of human-animal. Only later did humans and animals split apart to become different.

Shamans would go into a trance and have visions, and return to the original state of human-animal to talk to the spirits of nature. Some would have a favourite animal spirit they became or talked to. Sometimes when children became adults, they would get an animal spirit helper who would guide them in their life.

Antler frontlets

Around 30 headdresses made from the tops of deer skulls have so far been found at Star Carr. This is more than anywhere else in the world. Only 6 others have been found anywhere else, all in Germany.

We know that some hunters in Siberia had shamans who dressed as animals, including wearing antler headdresses, to go and visit the spirit world. The animals are afraid of people so people need to pretend to be animals to get to talk to them.

We also know that some hunters wore animal skins to hide their smell and to get close to the animals they were hunting. The antlers would then be a disguise to fool the deer seeing the antlers among the trees instead of the hunters.

There are other possible explanations for the headdresses. For example:

- they were worn by chiefs to show their status;
- children wore them in a ceremony to make the adults;
- warriors wore them to look fierce to their enemies.

DEBATING POINTS 2

Mobile hunter-gatherers

Most archaeologists have assumed that Mesolithic groups would have moved around the landscape in search of food and other resources from season to season, without any permanent settlements. There have been many disagreements about whether particular excavated sites were occupied at certain seasons of the year. However, a few modern hunter-gatherers do live in one place all year round. Some archaeologists therefore wonder whether the woodlands and coasts of northern Europe and Britain might have been rich enough in food and resources to support permanent settlements.

Gender roles

There are many assumptions made about the roles of men and women in the Mesolithic. Men are commonly shown as the hunters and tool-makers. Women are shown gathering plant foods, scraping hides, cooking food and looking after children. Ethnographies of hunter-gathers show that men do most of the big-game hunting but that women will hunt and trap a lot of the smaller game. Men will help gather plant foods and cook food. While women nurse babies for long periods, on average around 3 years, men will often look after the children after weaning. There is no reason why women could not make tools as much as men.

Peaceful or violent?

There are very few Mesolithic burials in Britain. These are commoner on the continent. Some of the burials show that some people were shot with arrows, that others were hit on the head (presumably by wooden clubs or axes). There is little evidence for warfare between groups, but there was some violence between individuals. The major exception is the site at Ofnet in Germany where 34 decapitated skulls were placed in a cave. These were mostly women and children with a few men. This is often claimed as evidence of a massacre, but one modern study showed only up to 8 skulls with evidence of violence. Others disagree and say more skulls have evidence. The only complete surviving Mesolithic burial from Britain is Cheddar Man, who was hit on the side of the head. Whether this caused his death is not certain.

Rousseau or Hobbes?

Two famous philosophers had very different views of human nature and the prehistoric past. Jean-Jacques Rousseau thought people were naturally kind and cooperative, living close to nature in a kind of Garden of Eden. Thomas Hobbes thought that people were naturally vicious and selfish, and would have lived like brutish animals. Archaeologists often saw the Mesolithic as either one or

the other.

The man who first described the Mesolithic, Hodder Westropp in 1872, saw Mesolithic people as “scarcely less savage than the beasts of the forest”, “living in a wild and uncultivated state”, being “stationary and unprogressive”, and that “his intellect was dormant”.

On the other hand, Chris Tilley wrote in 1996:

“I am politically old-fashioned enough even to want to describe it as a kind of Garden of Eden before the fall. These were a series of communities in which ownership of land and resources was common or collective, sharing was generalized and no one is likely to have gone hungry.”

More recent archaeologists have been more balanced. Bill Finlayson in 1998 wrote that we should “not be fooled by ideas of a people living in a hazy dream time at one with nature”, and that though their way of life was a great success, it could not support the levels of population or social complexities of our own civilisation.

Caroline Wickham-Jones wrote in 2010 that it was a dangerous trap to assume hunter-gatherers lived in a Garden of Eden. There was evidence of violence (both neighbourly and domestic). Mesolithic people were “not happy hippies living in harmony with their environment”. But she also wrote that we can learn lessons from the period about the intertwining of people and the world they live in, using knowledge of the past to think in different ways and open up new possibilities in the present about our relationship with nature.

TELLING OTHERS ABOUT STAR CARR

Excavation is only the beginning of archaeology. You now have to tell everyone what you have found and what the site might have looked like.

Here are some tasks you can do to make yourself a complete archaeologist.

1. Imagine you are the archaeologist who excavated Star Carr. Write your own report on what was found during your excavations. You can write this using the following questions:

- what is the name of the site?
- who found it?
- where is the site, when did you dig it, how much of it did you dig? (draw a map to show where the site is)
- what did you find? (draw some of the finds)
- what do the finds tell us about how people lived?

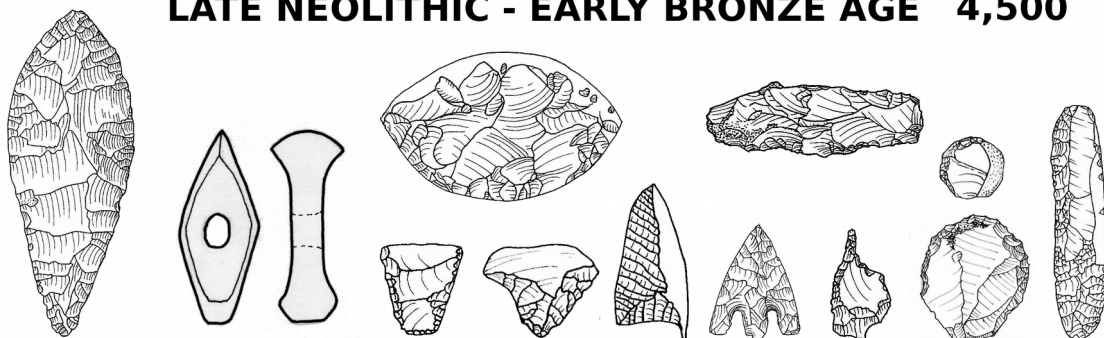
2. Imagine you are a museum curator, create a classroom wall display about the Mesolithic.

- Write your own description of what life during the Mesolithic might have been like for the visitors to the museum.
- Find images or make your own drawings of Mesolithic objects and sites.
- Do your own drawing of what Star Carr might have looked like. You can do this on a separate sheet or as part of the display.
- It is OK to come up with more than one idea of what it might have been like. Display alternative descriptions or drawings of Mesolithic life and ask people to say which they like best.

Congratulations! You have become a young archaeologist. What do you do next? If you are still interested in archaeology, you could ask your parents about joining the Young Archaeologists' Club – <http://www.yac-uk.org/>.

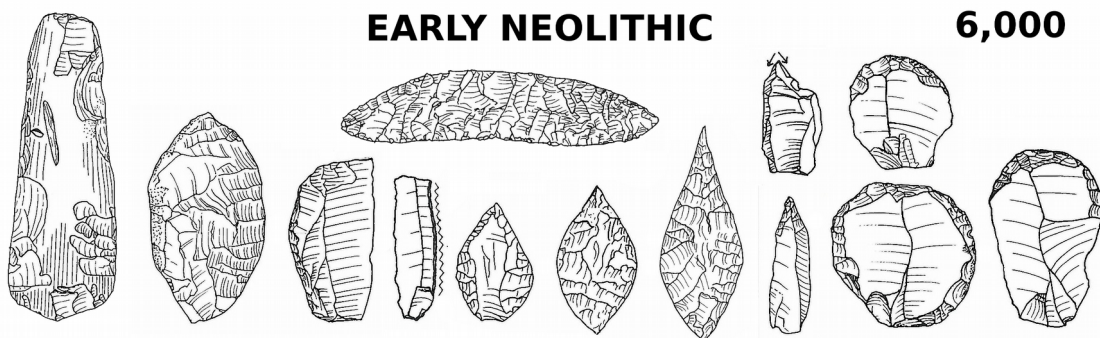
STONE TOOLS 15,000 TO 3,500 YEARS AGO

LATE NEOLITHIC - EARLY BRONZE AGE 4,500



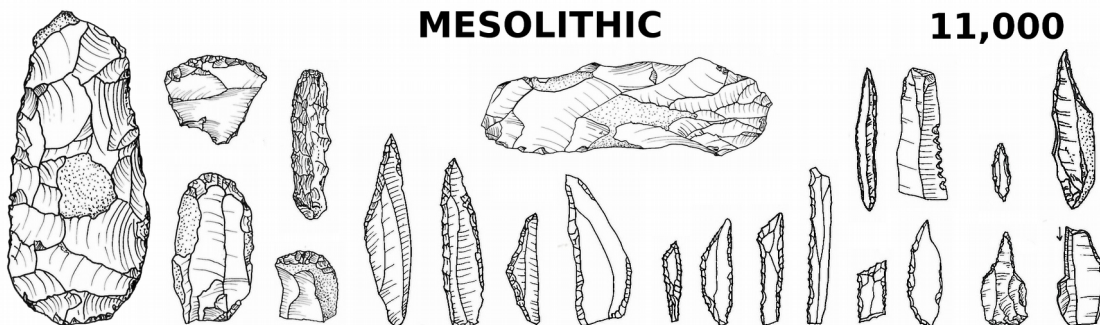
EARLY NEOLITHIC

6,000



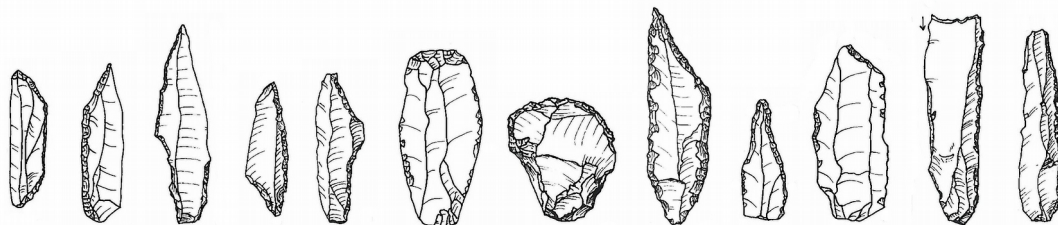
MESOLITHIC

11,000



LATE PALAEOOLITHIC

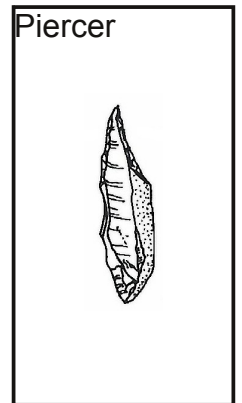
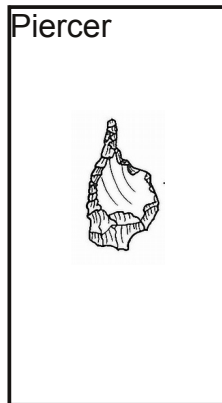
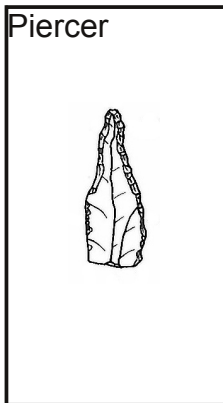
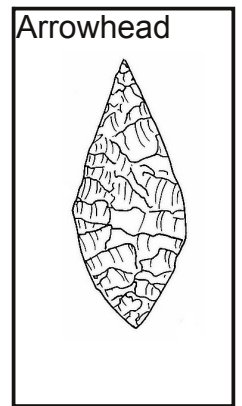
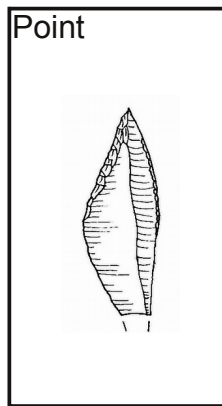
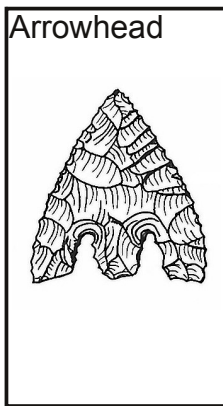
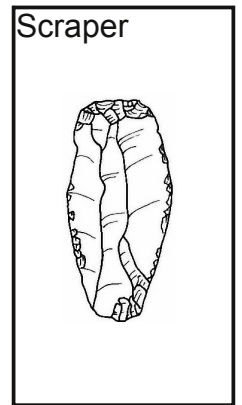
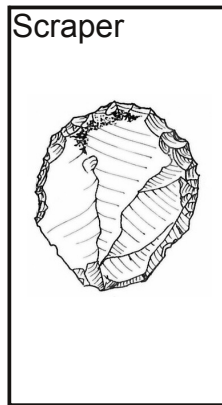
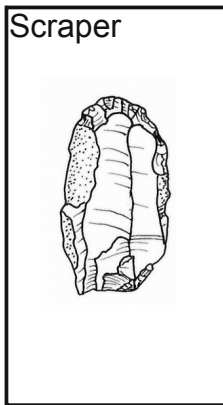
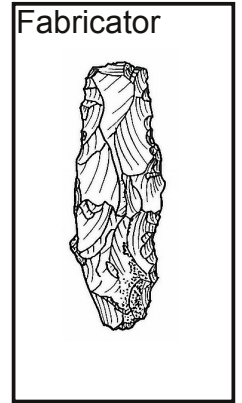
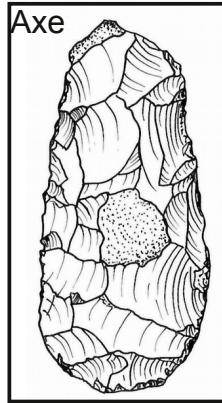
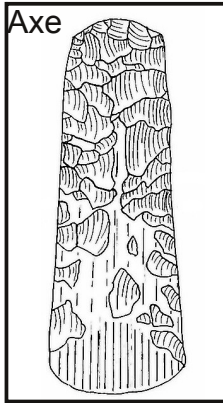
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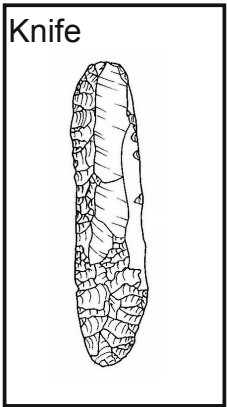
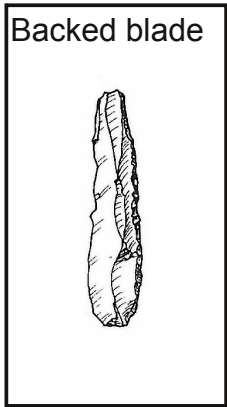
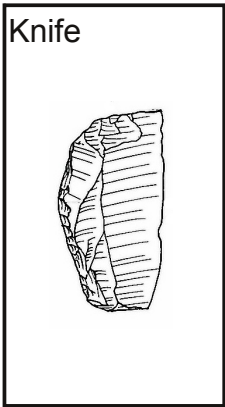
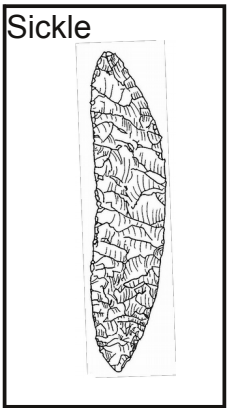
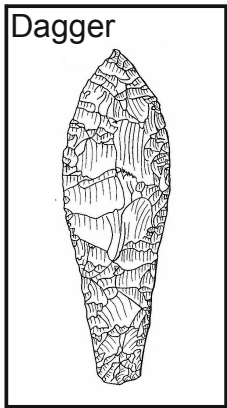
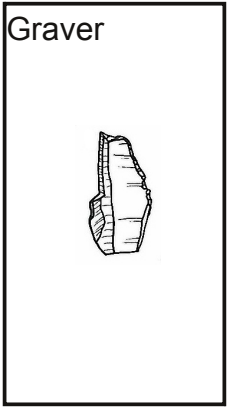
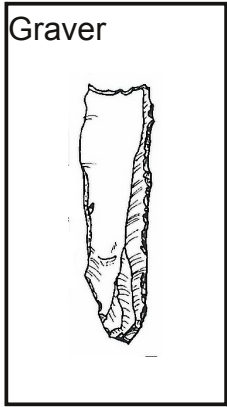
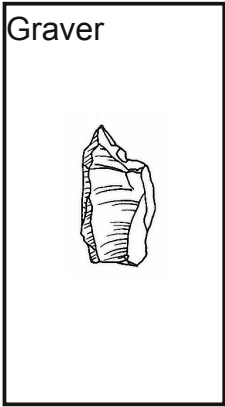
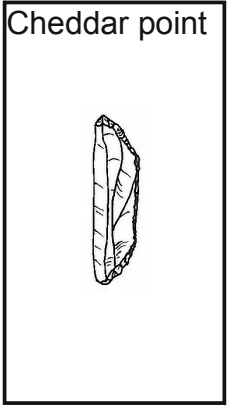
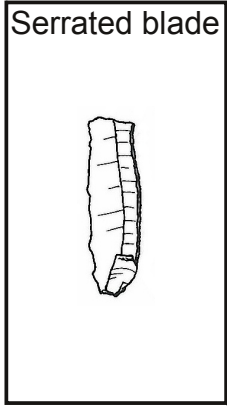
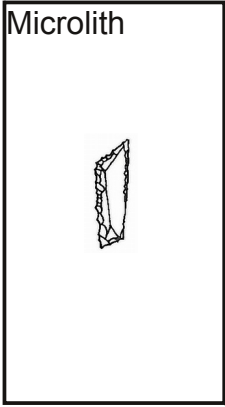


Note:

Most of these images are from Butler 2005 (various pages), other are drawn by the author.

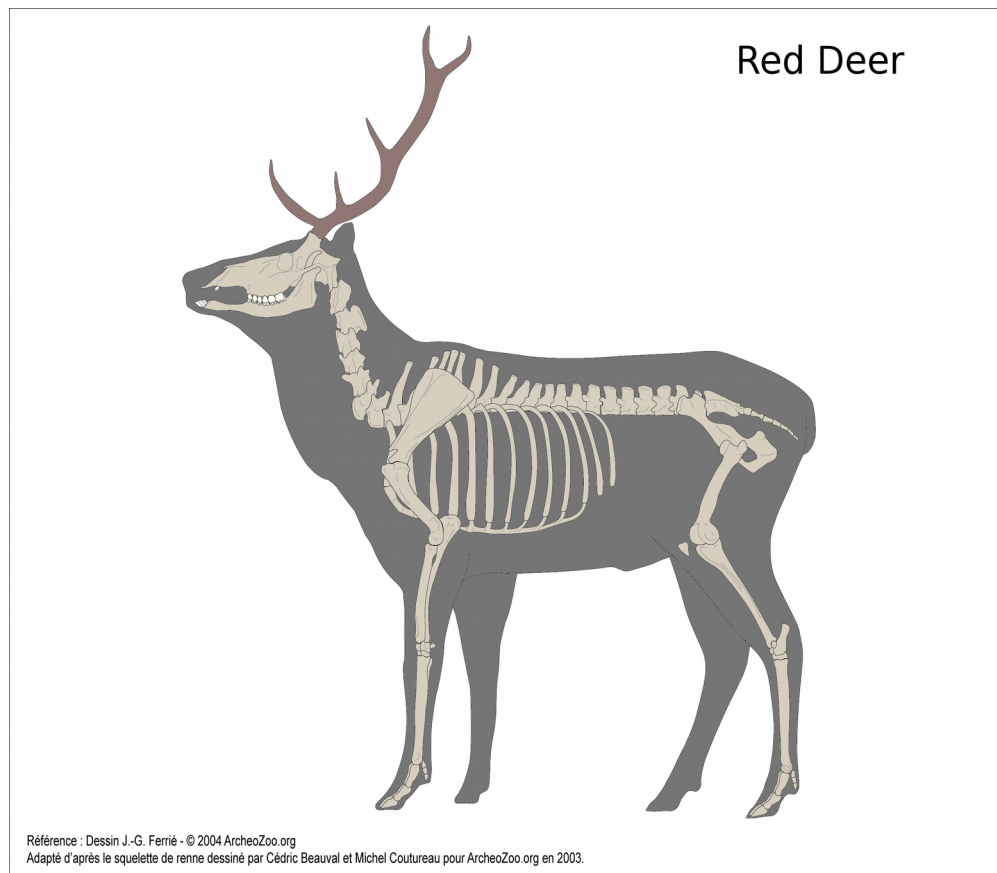
IDENTIFYING FLINTS: FLINT CARDS





Note: these images are all from Butler 2005

IDENTIFYING BONES: RED DEER SKELETON



IDENTIFYING BONES: DEER BONES



These bones are taken from the Red Deer skeleton sheet

IDENTIFYING LEAVES (TEACHER'S VERSION)

Can you tell which tree these leaves belong to?

You can choose from alder, aspen, birch, elm, hawthorn, hazel, juniper, lime, oak, pine, rowan, willow



Birch



Hawthorn



Oak



Pine



Rowan



Elm



Aspen



Juniper



Alder



Willow



Hazel

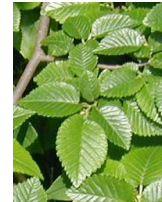


Lime

IDENTIFYING LEAVES (PUPILS' VERSION)

Can you tell which tree these leaves belong to?

You can choose from alder, aspen, birch, elm, hawthorn, hazel, juniper, lime, oak, pine, rowan, willow



ANALYSING USES OF PLANTS: INFORMATION SHEET

PLANTS FOUND AT STAR CARR

All these plants were found at Star Carr during the excavations by the archaeologist Sir Grahame Clark in 1949-1951. We know that many of them were used in later times by people: as food or medicine or for making objects. We also know that some are poisonous and will either make people feel ill, or they will die if they eat them.

We do not know whether Mesolithic people actually ate or used each of these plants. what we can say is they could have done.

Some plants would have grown in the water of the lake, some in swampy ground at the edge of the lake. Other plants would have grown in the open ground in the settlement, while others would have grown in the woodland behind the settlement.

Water plants

Common name	Information
Mare's tail	can heal wounds and upset stomachs
Pondweed	good food for water birds but not for people
Stonewort	smell of rotten eggs, not useful to people
Water lily (white)	seeds, flower buds and roots can be eaten
Water lily (yellow)	seeds can be made into 'cake' and eaten

Swamp plants

Common name	Information
Bittersweet	poisonous
Bog bean	roots can be eaten
Club rush	roots can be eaten, stems used to make baskets
Cowbane	poisonous
Deergrass	no known uses
Gipsywort	can help cure coughs, is relaxing and helps people sleep
Grey willow	bark and leaves can be used like aspirin to reduce fever, small stems can be woven into baskets and fences
Horsetail	poisonous
Marsh willowherb	leaves can be eaten
Meadow rue	boiled roots help cure constipation
Meadowsweet	leaves used as flavouring in other foods
Reed	sugary sap, roots and stems can be eaten
Sedge	can be used to line shoes for warmth, seeds of some sedges can also be eaten

Spearwort	bitter, unpleasant and poisonous
Spike rush	could be woven into mats or baskets
Water dock	powdered root can be used as toothpaste

Open plants

Common name	Information
Bistort	leaves can be eaten
Black nightshade	poisonous
Chickweed	leaves, stems can be eaten
Crowberry	berries can be eaten
Goosefoot	leaves can be eaten
Hemp nettle	can help with coughs
Knotgrass	seeds can be eaten
Nettle	leaves can be eaten
Ragwort	distasteful and poisonous
Redshank	leaves can be eaten
Sorrel	leaves can be eaten
St John's wort	helps lift moodiness and depression but can cause anxiety and over activity

Woodland plants

Common name	Information
Aspen	wood is good for making paddles
Birch	a tough, heavy wood good for furniture and handles, bark used for tanning leather and making boxes, shoes, roof covering, quivers, torches and many other things, bark can be heated to make tar used for waterproofing and as glue
Hawthorn	wood burns well with much heat, leaves can be eaten, berries irritate the stomach
Hedge woundwort	used for healing wounds
Moss	absorbent, can be used as a wound dressing
Pine	pollen can be eaten, leaves can make a tea, strong wood, resin can be used as a glue and to stop bleeding wounds, to waterproof things and to burn for light
Red campion	roots can be used as a soap for washing
Rowan	berries can be eaten
Tinder fungus	can be used to help light fires

ANALYSING USES OF PLANTS (TEACHER'S VERSION)

PLANTS AND PEOPLE

Which of these could people use?

Be careful - some you could use, but some are poisonous!



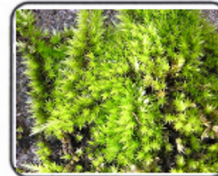
very poisonous!



eating leaves



eating seeds



absorbent - dressing wounds



poisonous



horrid taste, poisonous



eating berries



heals wounds



bark, tar, wood



make tea from leaves



lifts moods but also disturbs



eating roots, thatching roof



lighting fires



eating berries



very poisonous!



good for stomach ache



eating seeds



eating leaves

ANALYSING USES OF PLANTS (PUPILS' VERSION)

PLANTS AND PEOPLE

Which of these could people use?

Be careful - some you could use, but some are poisonous!




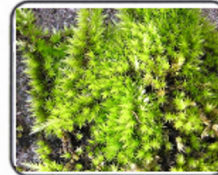
 Bittersweet




 Nettle




 Yellow water lily



 Moss




 Horsetail




 Ragwort



 Crowberry



 Hemp nettle




 Birch



 Pine




 St John's wort




 Reed



 Tinder fungus



 Rowan



 Black nightshade



 Meadowsweet



 Knotgrass



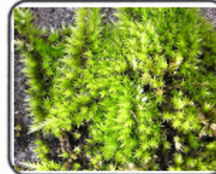
 Sorrel

ANALYSING USES OF PLANTS (BLANK)

PLANTS AND PEOPLE

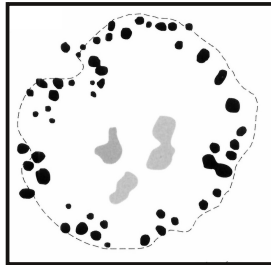
Which of these could people use?

Be careful - some you could use, but some are poisonous!

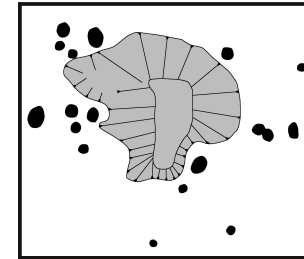


ANALYSING HOUSES: PLANS

MESOLITHIC HOUSES EXCAVATED BY ARCHAEOLOGISTS



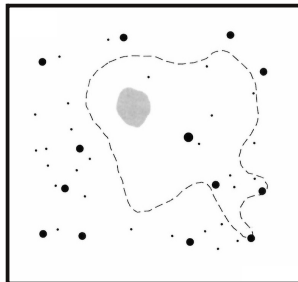
East Barns



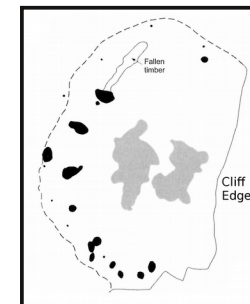
Star Carr



Mesolithic family building a new house
(By artist Alan Braby)



Broom Hill



Howick

Note: East Barns, Broom Hill and Howick plans are taken from Waddington 2007: 109

ANALYSING HOUSES: RECONSTRUCTIONS

RECONSTRUCTED MESOLITHIC HOUSES



Howick in Northumberland



Inside Archeon



Archeon in the Netherlands



Inside Archeon

Archeon photographs by the author, Howick photograph by Andrew Curtis (Wikimedia Commons).

ANALYSING HEADDRESSES (TEACHER'S VERSION)

THE STAR CARR ANTLER HEADDRESS



What is it?	A headdress for wearing on top of a person's head.
What was it made from?	The top of the skull of a red deer.
When was it made?	During the Mesolithic (Middle Stone Age), around 11,000 years ago.
Where was it found?	At the archaeological excavation at Star Carr, in the Vale of Pickering, North Yorkshire.
How many were found?	Around 30 have been found at Star Carr. More than anywhere else in the world.
Why was it made?	<p>We are not sure! There are two main ideas that archaeologists have put forward, that it was worn -</p> <ul style="list-style-type: none">• by a shaman as part of a ceremony to speak to the spirits of the deer and keep them friendly towards people;• by hunters as a disguise to help them get closer to the deer when hunting them. <p>A shaman is a kind of 'priest' who can speak with the spirit world on behalf of people to help in hunting, keep nature kind towards humans or to cure illnesses.</p>

WHAT DO YOU THINK?



Write below why you agree or disagree with these answers.

<p>The headdresses were used by shamans</p>	<p>We know that some hunters in Siberia had shamans who dressed as animals to go and visit the spirit world. The animals are afraid of people, so people need to pretend to be animals to get to talk to them.</p>
<p>The headdresses were used by hunters.</p>	<p>We know that some hunters did wear animal skins to hide their smell to get close to the animals. The antlers would make it easier to get close to animals to hunt them.</p>

Can you think of another answer yourself? Write it down and say why.

<p>They were worn by chiefs to show their status.</p>	
<p>Children wore them in a ceremony to make them adults.</p>	
<p>Warriors wore them to look fierce to their enemies.</p>	

WHAT ANIMAL WOULD YOU BE?

Mesolithic people lived very close to nature. Wild animals were very important to them. They provided meat for food, skins for clothing and leather, and their bones, horns and antlers could be made into tools.

Different animals had different characters. Some were fierce and dangerous. Some lived alone, while some lived in family herds. Some paired for life like humans getting married.

A Mesolithic person or clan would often have a close relationship with one particular kind of animal. Some would believe that the animals and humans were one in a mythical past, united as a special kind of human-animal. Only later did humans and animals split apart to become different.

Shamans would go into a trance and have visions, and return to the original state of human-animal to talk to the spirits of nature. Some would have a favourite animal spirit they became or talked to. Sometimes when children became adults, they would get an animal spirit helper who would guide them in their life.

So – what animal would you see as your spirit helper, or as the spirit friend of your clan or class?

Choose one of the animals shown, or add your own animal to the list. Then write down what it is about that animal that you like and why you chose it. You can also write down why you did not choose the other animals.

What part of the animal would you wear? Write down why? Now draw a picture of yourself wearing that part of the animal.

Animal	Which is it?	Why is this your spirit animal? Or not?
	<p>wild boar</p> <p>hedgehog</p> <p>dog</p>	
	<p>salmon</p> <p>cod</p> <p>pike</p>	
	<p>lizard</p> <p>adder</p> <p>worm</p>	
	<p>buzzard</p> <p>eagle</p> <p>seagull</p>	
	<p>reindeer</p> <p>cow</p> <p>red deer</p>	
	<p>frog</p> <p>toad</p> <p>mouse</p>	
	<p>eagle</p> <p>heron</p> <p>white stork</p>	

Animal	Which is it?	Why is this your spirit animal? Or not?
	<p>dog</p> <p>wild cat</p> <p>weasel</p>	
	<p>salmon</p> <p>cod</p> <p>pike</p>	
	<p>bison</p> <p>dog</p> <p>brown bear</p>	
	<p>porcupine</p> <p>hedgehog</p> <p>cat</p>	
	<p>duck</p> <p>goose</p> <p>swan</p>	
	<p>wolf</p> <p>lion</p> <p>dog</p>	
	<p>rat</p> <p>beaver</p> <p>otter</p>	

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Green, B & Sorrell, A 1968 Prehistoric Britain, Guildford: Lutterworth Press.

The animals shown are taken from Wikimedia Commons, by courtesy of the following authors:

adder	Thomas Brown
beaver	Klaudiusz Muchowski
brown bear	Malene Thyssen
buzzard	Andreas Trepte, www.photo-natur.de
frog	Richard Bartz
hedgehog	Jörg Hempel
mute swan	Sanchezn
pike	Georg Mittenecker
red deer stag	Smudge 9000
salmon	Hans-Petter Fjeld
white stork	Guido Gerding
wild boar	4028mdk09
wild cat	Schorle
wolf	Gunnar Ries

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Why was it made?	<p>We are not sure! There are two main ideas that archaeologists have put forward, that it was worn -</p> <ul style="list-style-type: none">• by a shaman as part of a ceremony to speak to the spirits of the deer and keep them friendly towards people;• by hunters as a disguise to help them get closer to the deer when hunting them. <p>A shaman is a kind of 'priest' who can speak with the spirit world on behalf of people to help in hunting, keep nature kind towards humans or to cure illnesses.</p>

WHAT DO YOU THINK?



Write below why you agree or disagree with these answers.

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The headdresses were used by hunters.	

Can you think of another answer yourself? Write it down and say why.

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wild cat	Schorle
wolf	Gunnar Ries

ANALYSING THE PENDANT (TEACHER'S VERSION)

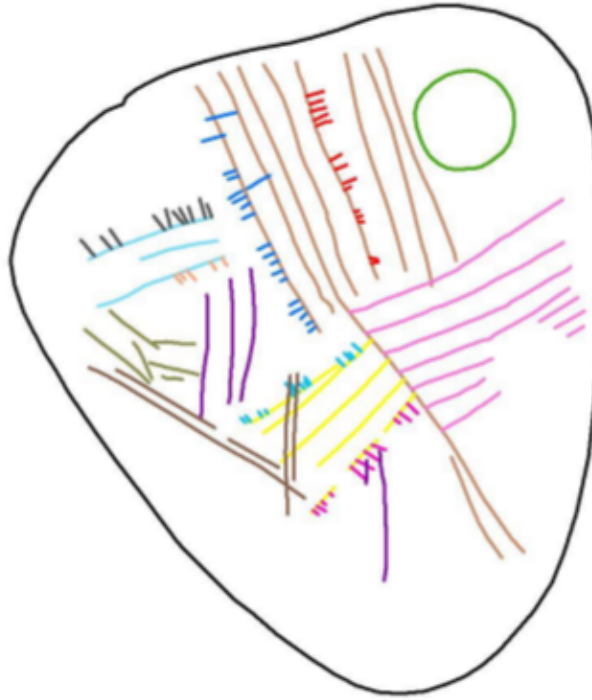


3.5 cm long by 3 cm wide

What is it?	A pendant for wearing from a cord around the neck.
What was it made from?	A smooth pebble of shale.
When was it made?	During the Mesolithic (Middle Stone Age), around 11,000 years ago.
Where was it found?	At the archaeological excavation at Star Carr, in the Vale of Pickering, North Yorkshire.
Why was it made?	We are not sure! It might have been - <ul style="list-style-type: none">• just a nice decoration to wear;• a symbol of someone's status;• representing an activity they specialised in;• a way of showing the campsite by the lake in the forest. Or something we can't think of yet!

The photograph and drawing of the pendant are provided by the POSTGLACIAL Project, University of York.

WHAT DO THESE LINES SHOW?



Write below why you agree or disagree with these answers.	
The tree trunks of the forest	
A way of counting days or hunting trips	
Planks of a wooden jetty at the lake edge	
Fishing lines strung out across the water	
People in canoes on waves in the lake	
	Can you think of another answer yourself? Write it down and say why.

NOW MAKE YOUR OWN PENDANT.

You will make it out of modelling clay or plasticine.

Choose what shape you want it to be.

A circle, a square, a rectangle, a tear-drop or any other that you like.

Choose the size you want it to be.

Make it large enough to draw a design on, but small enough to be comfortable when you wear it.

Decide what you want to show in the design.

It could be something about you, something you like or a place you enjoyed visiting.

You could design a pendant to represent the whole class or the school itself.

Think about how to show it without directly drawing it!

For example, your classroom could be a square, the pupils could be dots or short lines and the teacher could be a bigger dot or long line.

















Decide how to show it.

Inscribe lines, or paint – or both?

SYMBOLS

We often use symbols to represent something without having to write out its name or a long description.

Here are some modern symbols. Can you recognise what they mean?

Some symbols you might have seen.		Make your own symbols here.	
	A smiley, saying I am happy.		School
	The sun, or sunshine on a weather map		Motor car
	Music		
	A star		
	Men and boys		
	Women and girls		
	Love		
	The pound, money		
	And		
	Go right		
	Christianity		
	Islam		
	Judaism		
	Poisonous. Or pirates!		
	Girls' toilet		
	Boys' toilet		

Now make up your own symbols for things around school, your classroom, or for how you feel or things that you do.

ANALYSING THE PENDANT (PUPILS' VERSION)

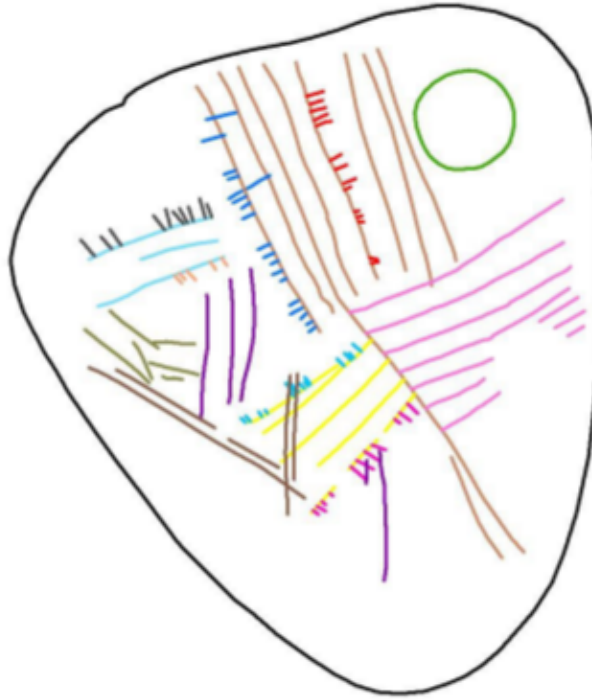


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













Decide how to show it.

Inscribe lines, or paint – or both?

SYMBOLS

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Some symbols you might have seen.		Make your own symbols here.	
	A smiley, saying I am happy.		School
	The sun, or sunshine on a weather map		Motor car
			
			
			
			
			
			
			
			
			
			
			
			
			
			

Now make up your own symbols for things around school, your classroom, or for how you feel or things that you do.

ANALYSING LIFE IN CAMP



11,000 YEARS AGO: STORIES FROM THE MIDDLE STONE AGE

This resource consists of a set of 9 short stories.

Chapter 1. Moving home [[link to heading below](#)]

Chapter 2. Making things [[link to heading below](#)]

Chapter 3. Food [[link to heading below](#)]

Chapter 4. Friends and strangers [[link to heading below](#)]

Chapter 5. A hint of winter [[link to heading below](#)]

Chapter 6. Coming of age [[link to heading below](#)]

Chapter 7. A new life [[link to heading below](#)]

Chapter 8. The bad old days [[link to heading below](#)]

Chapter 9. Boy or girls, animals or plants? [[link to heading below](#)]

All the stories can be found **here**. [[link to 11,00_Years_Ago.pdf](#)]

For each there is:

- a set of background notes for each story;
- a set of suggested classroom activities.

Some of the activities have supporting information or worksheets:

Moving home

Sister and brother (Neska, aged 9, and Mutil, aged 6) move back with their family from the coast to the lake inland where they live during the summer. They have to repair last year's houses, but look forward to the plentiful food from the lake and the forest.

Making things

The family set about making the different tools they need from the natural materials in the landscape. Neska's father is injured by a wild boar.

This story has a separate activity guide:

- Tools R Us, 18-page activity guide [[link to Tools_R_Us.pdf](#)]

Food

Neska's mother goes off hunting with her uncle and comes back with a deer. The others have been preparing for fishing and gathering plants. That night they ate a full meal and were thankful to the

spirits of nature.

The following worksheets can be used with this story:

- Which of these could you eat?
 - Teacher's copy [[link to Eating_teacher.pdf](#)]
 - Pupils' worksheet [[link to Eating_pupils.pdf](#)]
- Whose footprints?
 - Teacher's copy [[link to Footprints_teacher.pdf](#)]
 - Pupil's worksheet [[link to Footprints_pupils.pdf](#)]
- Foods then and now
 - Teacher's copy [[link to Foods_teacher.pdf](#)]
 - Pupils' copy [[link to Foods_pupils.pdf](#)]
- A Mesolithic picnic
 - Teacher's copy [[link to Picnic_teacher.pdf](#)]
 - Pupil's worksheet [[link to Picnic_pupils.pdf](#)]

Friends and strangers

They spy another group of people coming towards them on the lake shore. Are they strangers and dangerous? They turn out to be cousins and part of their wider family. They come together over summer to share their lives and help each other.

A hint of winter

The day grow short and the weather becomes colder. The family will have to decide soon whether to leave the lake and return to the coast for the winter where they can fish and eat the shellfish and seaweed of the seashore.

The bad old days

The elders love to tell stories around the camp fire. Tonight's story is of the old days, long ago when the world was very cold. The old animals were disappearing and new animals, trees and plants replacing them. They had to learn new ways and leave their old life behind.

This story is illustrated by a map of northern Europe at 11,000 years ago:

- Doggerland map [[link to Doggerland.pdf](#)]

Boys or girls, animals or plants

Gazte was annoyed. She wanted to go and hunt with her father, not spend the day picking plants. Her brother Gorri was happy doing that, but not she. It was so unfair. She would be as a good a hunter as any of the boys when she grew up.

Coming of age

Lagun is nervous today. He will undergo a ceremony that will turn him from a boy into a man. He will wear the antler headdress, be hunted by the adults and 'die' to be reborn as a man.

A new life

Neska is older now, married to Lagun and today gives birth to her first child. This is a new life for the family and the birth must be done right with the old rituals.

This story is supported by an illustration of a burial from Denmark:

- Vedbæk burial [[link to Vedbaek.pdf](#)]

Acknowledgements

Images used in the schools resource are acknowledged where appropriate in the resource itself. Some of the resources use multiple images or are intended for free-standing use without text. The sources for these are acknowledged here.

Which of these could you eat?

The images on the *Which of these could you eat?* worksheets are taken from Wikimedia Commons, by courtesy of the following authors:

black briony	Kate Jewell
blackberry	Angela Huster
bladder wrack	Anne Burgess
brown birch bolete	John Fielding
cattail	Mokkie
death cap	George Chernilevsky
devil's bolete	H. Krisp
fly agaric	H. Krisp
hazelnuts	Maša Sinreih

nettle	Uwe Friese
pine	H. Zell
saffron milkcap	Petritap
sea lettuce	H. Krisp
wild strawberry	Jörg Hempel
wood mushroom	Frank Gardiner
woody nightshade	Ylem
yellow water lily	Hans Hillwaert

The mage of fool's parsley is courtesy of aphotoflora.com.

Whose footprints?

The images of the animals on the *Whose footprints?* worksheet are taken from Wikimedia Commons, by courtesy of the following authors:

badger	Chris. P
bear	Malene Thyssen
beaver	Klaudiusz Muchowski
cat	Michael Gäbler
dog	Trigueiro martins
duck	Andreas Trepte
fox	Robin West (U.S. Fish and Wildlife Service)
hare	AlanWolfe
hedgehog	Jörg Hempel
lynx	Johan Hansson
marten	Dani Kropivnik
mole	Michael David Hill
otter	Bernard-boehne
red deer	Donald Macauley
roe deer	Domoflash53
squirrel	Ray eye
stoat	Steve Hillebrand (U.S. Fish and Wildlife Service)

wolf Malene Thyssen

Foods then and now

The images on the *Foods then and now* worksheet are taken from Wikimedia Commons, by courtesy of the following authors:

bread	ElinorD
carrots	Jeremy Keith
cheese	John Sullivan
chips	Gaetan Lee
chocolate	Andre Karwath
crab apples	Per Avid Åsen
duck eggs	Tuomas Räsänen
hazelnuts	Maša Sinreih
milk	H. Zell
nettle	Uwe Friese
oranges	Challiyān at Malayalam Wikipedia
pasta	Kevin Todora
peas	David Adam Kess
red deer	Donald Macauley
salmon	NOAA Fish Watch
wood mushroom	Luridiformis at English Wikipedia
wood snail	Michael Gäbler

The photograph of limpets is a personal one by the author.

11,000 YEARS AGO (TEACHER'S VERSION)

This is a set of activities which aim to give some idea of how people lived during the Mesolithic. The story is based around two children and their family who move from the coast, somewhere near Scarborough, to Star Carr by the now vanished Lake Flixton.

The story has five chapters. These are meant to be read, either by the teacher or by the pupils. Each chapter has a section of background information on what we think we know about the period, and what the evidence is for this.

There are then some suggested classroom activities based on each of the chapters. Some of these can be done only using the information in the story as well as the background information. Others will involve extra research by the pupils, or will be supported by a stand-alone resource.

This resource is designed to support the following areas of the key stage 2 curriculum for schools in England.

History

- Changes in Britain from the Stone Age to the Iron Age
- A local history study: of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality

Art and design

- Improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]

Computing

- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Collecting, analysing, evaluating and presenting data and information

Design and technology

- Understand and apply the principles of a healthy and varied diet
- Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed

English: years 3 and 4

- Listening to and discussing a wide range of fiction, poetry, plays, non-fiction and reference books or textbooks
- Preparing poems and play scripts to read aloud and to perform, showing understanding through intonation, tone, volume and action

Mathematics

- Interpret and present data

Science

- Research different food groups and how they keep us healthy

The characters in the story are:

The family

Neska	a girl, 9 years old
Mutil	a boy, 6 years old
Aita	their father, 31 years old
Ama	their mother, 28 years old
Osaba	Aita's brother, 26 years old
Chakur	their dog

Their friends

Amona	the mother of Emakume and Senar, 51 years old
Emakume	daughter of Amona, 32 years old
Gizon	husband of Emakume, 38 years old
Senar	son of Amona, 24 years old
Emazte	the new wife of Senar, 16 years old
Lagun	eldest son of Gizon and Emakume, 12 years old
Gazte	younger daughter of Gizon and Emakume, 9 years old
Ume	youngest daughter of Gizon and Emakume, 7 years old
Gorri	youngest son of Gizon and Emakume, 4 years old

Emakume was the sister of Aita and Osaba's mother, and so great-aunt of Neska and Mutil.

These people lived during the Mesolithic Age of prehistory.

The Mesolithic Age (or Middle Stone Age), lasted in Britain from around 11,100 to 5,800 years ago. It was a period of hunting and gathering in the woodlands that grew in Britain and Europe after the end of the last ice age. People also lived on the coasts by fishing and collecting shellfish. At first, the North Sea was still dry land all the way from Bridlington across to Copenhagen. It

slowly became flooded by rising sea levels, to disappear at around 8,400 years ago. Archaeologists call this lost land Doggerland.

11,000 YEARS AGO

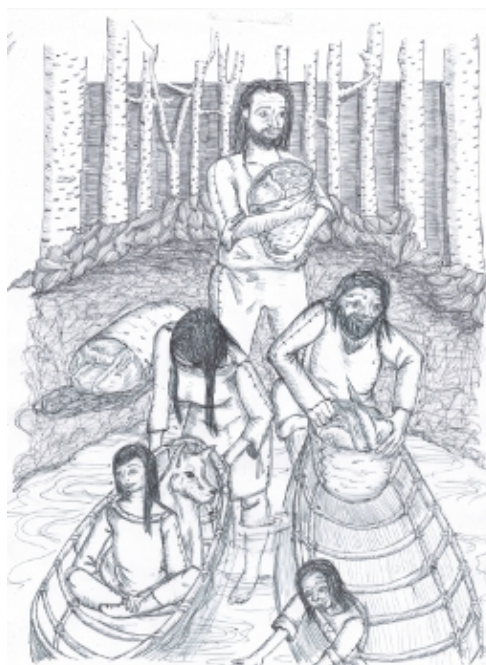
STORIES FROM THE MIDDLE STONE AGE

Chapter 1. Moving home.

Neska woke first, the morning sunlight coming in through the door of the house. Mutil was still fast asleep next to her. On the other side of the hearth, Aita was snoring as usual, while Ama was beginning to wake too.

Neska was excited. The winter snows had melted and the sun was warmer now. Today they would be going inland to the happy place she remembered from last year. Mutil would remember too but he wasn't quite so keen on going back. Last year, he had wandered away into the woods and startled a family of wild boar. They had squealed and charged at him, making him run back crying to Ama. Neska was looking forward to the different foods she remembered from last time, and the sunlight reflecting on the lake. She thought their home there was the most beautiful place.

By the time the men were awake, she and Ama had begun packing away the food, tools and clothes into bundles they could carry. Aita and his brother Osaba began to damp down the fire in the hearth, to store the flint nodules in the pit they had dug and take the waste scraps of old bones and the bark from the floor to the dump by the edge of the sea. Mutil, as usual, was getting in the way playing with Chakur, the dog.



Drawing by Robyn Croft, specially for this resource, 2015.

When all was ready, they set off along the path, away from the coast and into the wood. The spring sun was dappled by the birch leaves as they followed the light grey trunks into the distance. Osaba seemed to know the way, and they walked on going westwards. They walked quietly so as not to disturb the trees nor the animals they glimpsed in the distance. Mutil was worried. Everyone was

carrying a lot of heavy things and he knew that no one had thought to bring the flint cobbles with them as they were just too heavy. He didn't know what they would use for tools when they got to their new home.

After a while, they come out of the trees to the edge of the lake. This was not the place she remembered. They would have to walk all round the edge of the lake to other end of the water. Her feet were tired already and her heart sank at the thought. Aita caught her look and smiled. He always seemed to understand what she was thinking. He walked down through the plants to edge of the lake. There, hidden on the bank, were the two coracles he and Osaba had made last year.

She had forgotten. Of course, they went across the lake in the coracles to the other side. So much quicker and less tiring for her feet. Mutil was also happy, splashing his hand in the water as they went along. Ama quietly stopped his arm and gently said "Now don't disturb the spirit of the lake or she won't send us any fish to eat later!". Mutil liked the fish. He stopped and happily looked at the birds paddling on the water and flying overhead, playing a game with Ama to see if he could identify what they were called.

Eventually, they came to the far end of the lake and the coracle turned to the right to come in on the near side of small headland that jutted out into the lake a little way. Now Neska was happy. This was her happy place. Mutil was quieter, looking at the trees as they spread back away from the shore. They landed, got out and upturned the coracles on the bank. The tall rushes by the edge of the lake were high this year. Neska and Mutil felt like they were a little forest, built just for them. They never liked it when the adults set about burning the rushes away to make a clear shoreline for their new home. Ama was the guardian of the fire, keeping hot embers of fungus in a leather pouch so they could easily restart the fire. Last year, the embers had gone out and Aita was cross. He never liked making fire from scratch as it took a lot of hard work, especially as that year, he did not have a good firestone to strike and had to use a bow drill instead.

It was mid afternoon by the time they got round to repairing their houses from last year. Aita had brought the flint axe with them to cut down new branches and trim the wood for mending the walls and roof of the house. Ama and Osaba together started unwrapping the rolls of animal skins they had carried to cover the outside of the house with. Neska and Mutil helped Ama with setting the hearth in the middle of the house and unpacking the items they had brought from the coast. Aita and Osaba went off to make and set new fish traps. Ama spotted the wooden post they had placed in the ground last year. This marked where they would place the skull of the first of the wild cattle they caught to watch over and protect them.

Mutil went round looking at everything, searching. Ama wondered what he was searching for. He looked so worried. He said he was trying to see if anyone had brought the flint with them. He thought they were all going to run out of tools and then they wouldn't be able hunt and he would not have any more food. She smiled at him. Then she took him to a tree they had marked last year. It had a set of parallel lines cut into the trunk. She quickly dug a hole at the base of the tree with her

digging stick and found the small pit in which, last year, they had placed the flint they needed to make new tools. Mutil smiled and laughed. He hadn't known that the trees would give them new flint for the year.

By the time evening came, they were all tired. The smoked and dried food they had brought was nice, but they all looked forward to having good roasted meat to eat and succulent fish. Mutil especially liked the long green fish in the lake. Neska loved the roots of the bog bean and the mushrooms they found in the woods later in the year. They both went to sleep next to each other excited at what the next few days would bring.

Background information

Environment and society

Mesolithic people were hunter-gatherers. They moved around the landscape from place to place, wherever was best for finding food. Some moved around a lot, while others stayed longer in one place or only moved around between a few regular places. People had to move on foot, walking long distances (how far could you walk in one day?) or by boat on the rivers, lakes and seas. Boats could be either dugout tree trunks or, like a modern coracle, made of a framework of wooden branches covered in waterproofed leather.

All settlements had to have access to fresh water, fuel for the fire and materials to make houses. Particular locations were good for different kinds of foods:

- coasts: fishing at sea, shellfish on the shore, seaweeds and seashore plants to eat, flint cobbles on the beach and in the cliffs, minerals like pyrite (for making fire) or haematite (for making red ochre) and the eggs of seabirds;
- lakes: fresh water, fish, plants by the edge, easy access to the forest;
- rivers: fresh water, fish, flint cobbles in the river bed;
- woodland: wood, animals to hunt, nuts, berries and mushrooms.

People would probably have lived in small family groups. Women would have married in their late teens and had children from then into their mid to late 30s. Each child would not have been weaned until the age of 2 or 3. The family would have met up with others from time to time to exchange news, trade in objects and raw materials, and marry. They may have belonged to named clans, with rules on which clans could marry and which could not. Some in the wider clan would be shamans, powerful individuals who knew how to commune with the world of the spirits. They could help to ensure successful hunts by appeasing the spirits of the animals. They may also have been skilled in the lore of plants and in treating illnesses.

A major factor in where people could live, and when they might have to move, would be the passage of the seasons. In the Early Mesolithic, winters would have been colder than today, with snow a regular feature. Summers would have also been cooler but still pleasant. We might imagine a climate similar to that of the middle of Norway (Trondheim) or Sweden (north of Stockholm) today.

Mesolithic houses have been excavated at a number of sites in Britain. Some are early, and some late, but they share some common characteristics. They were roughly round in shape and between 3 and 7 metres wide, with an open hearth in the middle. The entrance or door could face to the west or south to make the most of the sunlight during the day. Some think they had domed roofs, others that they were conical, like a kind of teepee. There were no separate rooms, although some sort of

screen could be put up to shield parts of the house from the rest. Most of the activities we now do at home may have been done outdoors if the weather was good, such as preparing and cooking food, making tools, sitting chatting or telling stories.

How do we know all this?

We don't really know all of this from archaeology. There is much that does not leave archaeological remains for us to interrogate. We can look at other hunter-gatherers who have lived and had their lives recorded in the last 400 years, and especially by anthropologists in the last 100 years. These modern hunter-gatherers are not exactly like Mesolithic people. Their environments are often different and they are often in contact with modern societies. But there are broad patterns and similarities within the hunter-gatherer way of life. We are left with possibilities for how Mesolithic people live rather than hard certainties.

Activity 1 (guided questioning)

Moving home

Ask the pupils some key questions after reading the story, such as:

- what would make you move from the coast to the lake?
- Why do think that Mutil was worried about moving to the other camp?
- If you were Mutil or Neska, how could you have helped during the day?

Activity 2 (pupils' investigation)

Making camp

Get the pupils to work out how much space they need for a round, one room house with a central hearth

Mark out a space on the floor that is 5 metres long by 4 metres wide and see how many could sleep or sit in the space

How many activities take place in their modern home and which of these activities would also be done in the Mesolithic, and where might they be done (in the house or outside)?

Activity 3 (creative expression)

Your experience of the day

Choose one of the characters and write your own account of the day and what it would have been like for you.

Draw one aspect of their activities that day, as though you were taking a photograph of them.

Chapter 2. Making things.

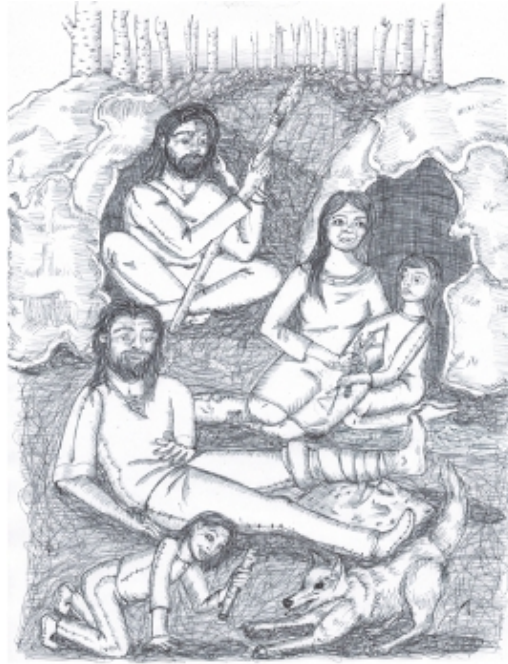
Osaba sat outside crosslegged on the birch bark mat. He had lumps of the flint they kept from last year, and was weighing one in his hand, looking for a suitable flat surface to strike with the smooth pebble in his other hand. A quick motion of the hand later, the surface was struck and a small flake of flint fell to the ground off the cobble. He looked at the scar showing the inside of the flint and grunted with satisfaction. This was a good cobble of flint, smooth and dark grey inside. He began knapping the nodule, quickly making a lot of small flakes.

Neska loved watching her uncle making tools. He had made the lovely wooden paddle for the coracle last year and covered it in beautiful designs. She liked the skill of his hands as they worked, and the sound of the hammerstone hitting the flint. Mutil was with her, equally entranced. He reached out to pick up one of the small flakes. Neska smiled, remembering when she had done that. She would let Mutil find out for himself how dangerous that was. Osaba finished making the flakes and picked up the antler prong he kept in the leather pouch hanging from his belt. He then used this to press the sides of the flakes, shaping them into the tools he wanted. Some of these were precious ones called 'aitchiki', the little stones.

Ama was off searching the fish and small animal traps, while Aita had gone off into the wood to find firewood and good timber for tools. Neska was hoping Osaba would teach her how to knap the flint like he did, coaxing the right shapes out of it by hitting it just right with the pebble or the antler. She loved making things and was good with her hands. She took after her mother that way. Aita was a good hunter and kind to his family, but awfully clumsy and really not very good at knapping. It was one reason he was glad his brother Osaba had stayed with them this year.

Aita came stumbling back into camp. He was limping and holding his leg with one hand. They could all see the blood that had seeped down his leg. Ama and Neska rushed to help him and they got him lying down in their house by the hearth. He had accidentally startled a boar and her piglets in the wood. The boar had attacked him and her sharp tusk had pierced his leg. Boars really were dangerous. Ama collected the herbs she kept in a bag and pressed them to the wound, tying them in place with strips of leather. Aita was brave but let out a cry of pain. Neska was worried. If Aita lived, then it would take a while for him to get better. She didn't like to see her father hurt, but she also wondered how Osaba would manage to hunt on his own.

After eating, Osaba began sorting out the hunting equipment, while Ama and Neska sat together making tools. Ama had nimble hands and began cutting slits into the smooth wooden shafts they had brought with them. Neska helped to heat the birch resin they had, for Ama to glue one of the tiny 'aitchiki' at the point, and others along the edge at the end of the shaft. These would make fine arrowheads for hunting with. Neska was entrusted now with adding the feathers at the other end of the shaft that would help the arrow fly straight through the air. Tomorrow, she would help her mother make knives by fitting 'aitchiki' in a different way into a wooden handle.



Drawing by Robyn Croft, specially for this resource, 2015.

They had found plenty of shed antlers when they had all gone through the woods a few days ago. Osaba though had some antler taken from the store in the pit they had left on the site last year and was working the ends with a stout flint tool. He carefully cut pointed teeth along one edge, all pointing in one direction backwards from the point. He had some already prepared, and began tying two of them to the end of a long wooden haft. The two were angled slightly apart and, of course, had their teeth pointing backwards. Mutil would be happy Osaba had made these as they would enable him to enjoy his favourite food.

Mutil was playing with the dog again, throwing sticks for it to catch, but being careful not to throw a stick in the water in case it should disturb and make angry the water spirit. Ama watched over him while she took the smellier organs from the latest deer they had caught – the stomach and intestines. These had already been washed and cleaned. She took them off their stretching frame. They would make good bags and containers, or even hats now that they were stretched and dried.

Later, during the evening, they all sat around the hearth while Ama told stories of the forest and the spirits of the trees – how each spirit had its own personality. She told of how some trees and plants were kindly spirits, while others were not and did their best to harm people. Most of the others listened while they twined the fibres of plants they had taken a few days ago, twisting them to make string and cord: some thick, some thin, some long and some short.

Osaba though was working on some flat pieces of grey shale. He cut them into round discs and then began drilling holes through the middle. With some string, they would make a nice necklace. One larger piece of shale would be cut and coloured with red ochre to be a pendant to wear. He would carefully scratch on the design of a tree, a special symbol of the woodland that gave them so much. The trees watched over and protected them. He would give the pendant to Aita to wear so the trees would protect him in future from the boar.

In time, as they grew sleepy, they went to bed happy that they had had a good day and achieved a lot.

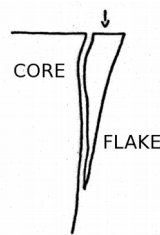
Background information

Making tools

People need all kinds of tools to live their lives. The most important are tools for cutting and shaping, which then had to be made out of stone. Making stone tools goes back at least 3 million years in human evolution. By the Mesolithic, tools had become very sophisticated.

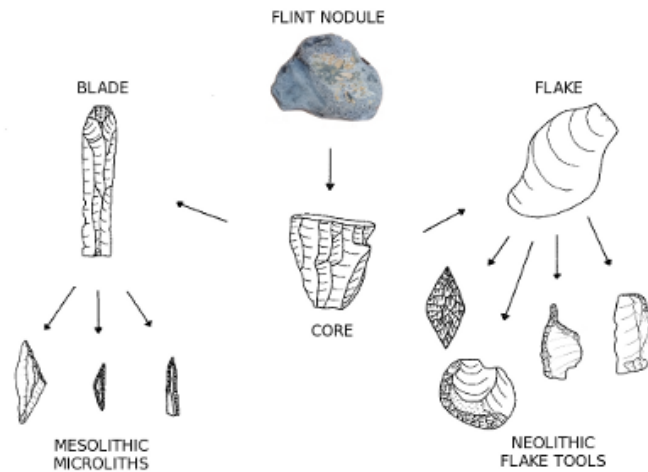
Not all stone is good for making tools. The stone needs to be very fine grained and smooth. It must also be easy to shape, but hard enough also to keep a working edge. Around the world people have used stone like obsidian (a volcanic glass), quartz and hardened volcanic ash or lava. In southern Britain, the most important stone is flint and its coarser relative, chert. These are forms of silica which occur in limestone (chert) and chalk (flint). The flint for making tools at Star Carr comes from two places. The local chalk of the Yorkshire Wolds has a whitish grey, opaque flint. A brownish-black to dark grey, translucent and much finer flint is found in the clay cliffs and beaches of the east coast. This was left behind by the ice sheets of the last Ice Age which scraped up flint from farther north and east, out in the North Sea.

A cobble of flint would be struck (knapped) with a hammerstone (any kind of hard pebble). It had to be struck just right. Where you strike should be on the top above a face of the cobble. The face should run at an angle of less than 90 degrees downwards from the top.



A small flake of flint will fall away from the cobble. Cobbles with flakes taken off them are called cores. The flakes may well have sharp edges and can be used straight away as cutting tools. Often they will be shaped further using a small pebble, the tine of antler or a hard wooden point. This is called retouching. Archaeologists give names to the retouched flakes according to their shape and possible purpose, such as scraper, knife, awl, graver (also called by its French name of burin), arrowhead etc.

Mesolithic knapping aimed at making flakes that were long and had parallel sides, which we call blades. The blades could then be snapped into small segments and retouched into various shapes. We call these microliths (literally 'small stones'). The name 'atichiki' in the story is a made-up name. We don't know what Mesolithic people would have called them. Microliths are characteristic of the Mesolithic and came in various shapes, often geometric such as triangles, rhomboids and trapezes. They were used as small component parts to be fitted into bone, antler or wooden hafts to make tools like arrowheads or knives. In later periods, like the Neolithic, people made tools on wider flakes all in one piece.



Flint is the most usual find to survive on a Mesolithic site, but most of the really useful tools they had were made of other materials that have rotted away, such as wood, bone and leather. As well as clothes, shoes and the tools to cut and sew them with, they would need pouches, bags and baskets for carrying and storing things, musical instruments, tools for digging in the ground, implements to help with cooking and eating as well as lines, rods, nets, traps and snares for catching small animals, birds and fish.

Wood would be all around them in the forest, and each kind of tree would have its own properties and uses, some better as fuel for the fire, some for making handles, some for making bows etc. For example, birch makes good firewood and produces a tar that can be used as a glue, while willow is bendy and fibrous and so is good for weaving into baskets or for making string, rope and nets. Birch bark can be peeled away in big strips for use as flooring for the houses, sewn as baskets and boxes or in small rolls as lamps. Antler would come from the deer, either from hunted deer or collected as the deer shed their antler every year in early spring. Horn could come from the aurochs. Bone would come from the bodies of the animals they hunted, which would also provide skins (and leather made from the skins) and sinew for making tough fastenings and bowstrings. The soft tissues like the stomach and intestines would make good light coverings and containers.

How do we know all this?

Archaeologists find various tools on sites. Some of which have an obvious use, but many do not. We can look at the edges of the tools under a microscope to see the traces of scratching and polishing left as wear from the use of the tool. We can also do chemical analysis of any deposits left sticking to the tools which can help to narrow down the substances they might have been used on. Archaeologists will also use experimental archaeology, where they make a copy of the tool and use it in different ways to see what use-wear or chemical traces are left. A big help is to use ethnographic analogy, looking at similar tools used in more modern times. Ethnography is especially good for telling us the types of tools we may be missing because they do not survive on the archaeological site.

Activity 1 (guided questioning)

A day in camp

Ask the pupils some key questions after reading the story, such as:

- why would Mutil be happy with Osaba's tools?
- why would he not want to anger the water spirit?
- which of the activities would you like to have done, and why?
- how would Ama make a knife out of the microliths?

Activity 2 (making)

Making tools

Using easily available materials, get the class to make their own Mesolithic tools. See *Tools R Us* in the *Life in the Mesolithic* activity resource pack. [Link to the Tools R Us activity]

Activity 3 (pupils' investigation)

Making and using tools

Get the pupils to do research on some of these questions.

- What tools would you need for preparing, cooking and eating food?
[Answer - think about cutting, skewering, pounding, grinding]
- What would the tools be made of?
[Answer - flint and stone knives and pounders, wooden skewers]
- What would you need containers for?
[Answer - boiling and carrying water, making porridge]
- How would you make containers?
[Answer - sew together birch bark or make baskets out of willow and plant stems]
- What could you use to dig up the roots of plants or to make pits in the ground?
[Answer - a wooden digging stick with a pointed end]

Chapter 3. Food.

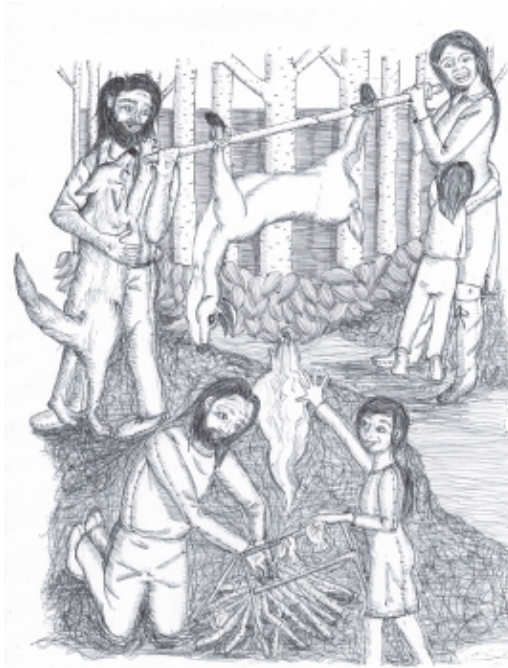
Mutil was hungry. He sometimes felt he was always hungry. He loved the fish that came from the lake. But, he was beginning to think perhaps the smoked venison they sometimes ate was almost as good. What was Ama cooking today? More roots and leaves. He was not happy.

Neska had come back from along the lake shore with some different green leaves she had tried to tempt Mutil to eat. He made such a face though as he tested one in his mouth before spitting it out. Never mind. She liked these leaves, trying to remember what Ama had called them last year. It may have been mint. She would have to tell her where she had found a clump of them growing.

Ama and Osaba had already gone when she got back. Ama had been firm, telling Osaba that she too could use a bow and would help with the hunt now that Aita was injured and still too ill. Neska was annoyed. She felt she was old enough now not to get in the way and had desperately wanted to go and help with the hunting. Mutil was still too young. He would make too much noise and scare off the prey. Perhaps Osaba would take Mutil out fishing in the lake tomorrow, testing his new fish spears carved out of antler. She would leave that to Mutil. Once Aita had taken her out in the coracle and she had tipped out into the lake and had to be pulled back on board spluttering and half drowned. She had always felt the water spirit did not like her and was happier in the woods.

Neska and Mutil did go and inspect the traps. They came back with some fish, and one hare from a trap in the woods. Mutil helped Aita build the fire for cooking them outside the house. He helped place some dry wood on the ground and then some dry moss and fungus, and then piled up some small twigs before putting some bigger branches in a kind of pyramid on top. Aita took a long twig to the hearth, lit the end in the fire and took it to the wood pile, poking it through to the moss and fungus. Mutil knew what to do next, crouching down and blowing gently to let the sparks catch and grow into flame. He loved helping make the fire, often staring into the flames, entranced by their yellow-red dancing in the breeze.

Later that day, the two hunters came back singing softly through the woods, carrying a deer on a long pole between them. The song was a song of thanks to the deer spirit for being kind and letting them take one of his precious deer. Everyone stood up to greet their return, smiling and happy, knowing the deer would provide food for them for some days to come. Chakur ran towards Mutil for a big hug in thanks for his part in tracking the deer and helping the hunt. Neska and the still limping Aita already had their best knives in their hands waiting to help butcher the carcass.



Drawing by Robyn Croft, specially for this resource, 2015.

So much of the deer would be used. They hung the doe upside down from a strong tree branch and began to cut it up. The blood they collected in a bowl underneath it to use later. Once they had taken off the hide, they cut off the meat and took out the internal organs. It was their custom that the animal's liver would be given to the hunters' wife or mother, so Ama was really pleased. She gave the liver to Aita, joking that she was the hunter today, and Aita was her 'wife'. Some of the meat they would eat that day. The rest they would hang over a fire to smoke, so that it would be preserved. The smoked meat would be delicious over the next few weeks. Mutil was looking forward to the breaking of the bones. Inside was the delicious, sticky marrow, full of fat and yummy. Aita and Osaba would fill the long intestines with the blood and some herbs, and some of the fat, to dry and become a delicious black pudding.

Ama had her favourite basket already by the hearth, tightly made and waterproof. Inside, she had a porridge of nettles and dock leaves, soaking in water. Smooth stones were lying in the hearth getting very hot. Using sticks, she picked up each stone when it was hot enough and dropped it into the basket. The hot stones steamed and began to heat the mixture of green leaves and water. By the hearth were some large flat stones. These were also getting very hot. Slices of the deer meat were laying on them, cooking slowly. Ama also placed some of the store of bulrush shoots they had collected a few days ago on the stones.

Everyone was very hungry. But they all stopped and sat together and each gave thanks to the spirits for providing them with food to eat. Ama and Osaba apologised for only bringing back one small and not very good deer. Aita then assured everyone that the nettle and dock leaves this year were really not as tasty as they should be. Secretly, they thought that the meat was good, juicy and succulent. The nettle and dock porridge, flavoured with mint leaves was tasty and the bulrush was a special favourite. Mutil said that he didn't care, the meat tasted really delicious and the marrow was

the best he'd ever had. This earned him a stern stare from Ama, but a quiet wink on the side from Aita. Neska was secretly proud she had found the mint to give the nettle and dock porridge some more flavour, and was looking forward to going out tomorrow to see what small animals she could find in the traps and snares.

Background information

Obtaining, cooking and eating food

As hunter-gatherers, Mesolithic people would not have had many of the foods we take for granted today. Many of our modern foods are the products of farming, which has only been part of our diet since the Neolithic or later. The Mesolithic diet did not include any farmed foods such as dairy (milk or cheese) and gluten (wheat or other cereals), and so had no bread, pasta or beer. They also had no cultivated peas or beans. Some of our modern foods were simply not available in Britain, being cultivated elsewhere in the world until more recently, such as potatoes, rice, tomatoes or chocolate. All Mesolithic foods would be gathered from the wild, and most would have to be eaten in season.

We can get some idea of what they might have eaten at Star Carr from the animals and plant remains found during the excavations. Among the woodland animals to be hunted were aurochs (extinct wild cattle), elk, roe deer, red deer, wild boar. Animals that could be trapped included badger, beaver, fox, hare, hedgehog and pine marten. Birds found included buzzard, great crested and little grebes, lapwing, pintail, red throated diver and white stork. The lake would have had fish, although none of the fragile bones were found in the excavation. Common freshwater fish that used to be eaten in Britain include bream, carp, eel, perch and pike.

Many of the plants found at the site could have been used for food. These include seeds of the yellow and white water lilies, great fen sedge and knotgrass, the underground rhizomes of bog bean, common reed and club rush, the leaves of willow, pine (as an infusion), fat hen, bistort, redshank, chickweed and nettle, and berries such as crowberry, hawthorn and rowanberry. Mushrooms would also have been eaten. Hazelnuts became a very common food, when the forest had changed later in the Mesolithic, along with blackberries, raspberries, many kinds of herbs etc.

Today we eat only a selected part of the animals we keep for food. Earlier peoples were less squeamish and many of the soft organs would have been great delicacies. Bone marrow is especially nutritious, as are liver and kidneys. Blood is also highly nutritious, and delicious in its modern form as black pudding.

The coast was a very important source of many different foods. Sea fish such as cod, haddock and halibut were eaten, and estuaries and rivers would provide sturgeon and salmon. Many kinds of shellfish were collected, not only the modern ones of mussels, whelks, cockles and oysters but also limpets. Seaweeds would have been another good source of food, and many edible plants also grow at the coast, such as the tasty samphire.

Dogs were an important aid for hunting. They have a much better sense of smell than humans, and would track game over long distances, especially if the game were wounded. They could gather birds that had been shot down, much like a modern hunting dogs. Dogs could also help to herd or drive animals towards the hunters.

Without ovens or modern pots and pans, the main cooking methods would have been roasting by the fire, baking in the earth or in clay and boiling. Waterproof containers could be made out of basketry or birch bark, and water boiled directly on the fire. More likely would be the use of pot boilers: stones heated and dropped into the water or food.

In spite of the many sources of food, the changes in the weather and the natural variations in the distribution of animals and plants, affected by drought, flooding, disease etc., would make food supply uncertain. Some families would almost certainly face times of starvation or malnutrition. This and the occurrence of diseases would mean that perhaps 20% of babies might die within their first 12 months. Mothers would most likely breast feed their babies for up to two or three years.

Food provides people with basic substances which our bodies need to build their tissues and for energy. The three main substances are proteins, fats and carbohydrates (sugars and starches). Proteins are a big element in meat, fish and nuts. Fats come in a variety of types. Saturated fats are high in meat and dairy products. Poly-unsaturated fats are found in fish, shellfish and seaweed. Nuts also contain a lot of unsaturated fat. There are many kinds of carbohydrates, some of which are used directly by the body like glucose. Others have to be broken down before the body can absorb them. Fruits, honey and fibrous foods like roots and tubers are good sources of carbohydrates. Starches can be fermented to break them down and make them more nutritious for the body. Many of the green plant foods have vitamins and minerals that are essential for keeping the body healthy.

Modern hunter-gatherers have rules for the sharing of food. Certain parts of an animal may be reserved for particular people. Giving food away, being generous, is seen as the ideal. All families would rely on others being generous to them in return when times were hard. People are not supposed to boast about their skill or abilities. Being humble, as well as sharing, helps to keep the family and the clan together in the common interest.

How do we know all this?

The first excavator of Star Carr, Sir Grahame Clark, pioneered the excavation of information about the environment, including the remains of the animals and plants on a site. Archaeologists now know a lot about the potential foods available to prehistoric people. Ethnographic studies also show us that people usually eat as much of an animal carcass as they can and throw away very little apart from the bones. People also have a detailed knowledge of plants, such as which were poisonous, which were good to eat, and which had medicinal properties. Experimental archaeology can tell us a lot about methods of cooking. The analysis of human bones and teeth can also tell us a great deal about diet, any vitamin or mineral deficiencies and possible episodes of malnutrition during life. By studying the relative amounts of different isotopes of carbon and nitrogen in human bone, we can tell what proportions of food they were eating: land animal, sea animals, plants etc.

Activity 1 (quiz)

Identifying food

Using the photographs or drawings of plants and animals tracks supplied [link to the sheets *Which of these could you eat?* and *Whose footprints?*] get the children to:

- work out which plants are poisonous and which we can eat;
- which tracks belong to which animals.

If the class can do the quiz in teams, you could find out which team will find enough to eat, and which will have been poisoned.

Activity 2 (guided questioning)

Mesolithic v modern food

Thinking about how we cook food today, ask the pupils how they might cook particular Mesolithic foods, and which foods they might eat raw.

Look at a range of modern and prehistoric foods [link to the sheet *Foods then and now*] and identify which would not be available in the Mesolithic.

Using the sheets from Activity 1, can they identify which foods available today would also be eaten in the Mesolithic?

Activity 3 (game)

A Mesolithic picnic

Divide the class into groups of 4 or 5 children. Get each group to create a picnic [link to the sheet *The Mesolithic picnic*]. They are only allowed to choose 6 types of foods. They must pack a balanced diet into their picnic basket.

Chapter 4. Friends and strangers.

The family had been at the lake now for several days, almost one full turning of the moon. Mutil was out in the coracle helping Osaba with the fishing. Out in the middle, he had a good view of both sides of the lake and the end of the lake where it narrowed into the river. In the morning, he had glimpsed some deer on the opposite side of the lake coming down to drink. Now, he thought he saw some movement in the trees on the same side as the family were camped. There was a patch where the birch trees were thinner, and he could now see that the movement was a small group of people moving towards the camp. He knew it wasn't Aita, Ama or Neska. He had seen five adults and three children.

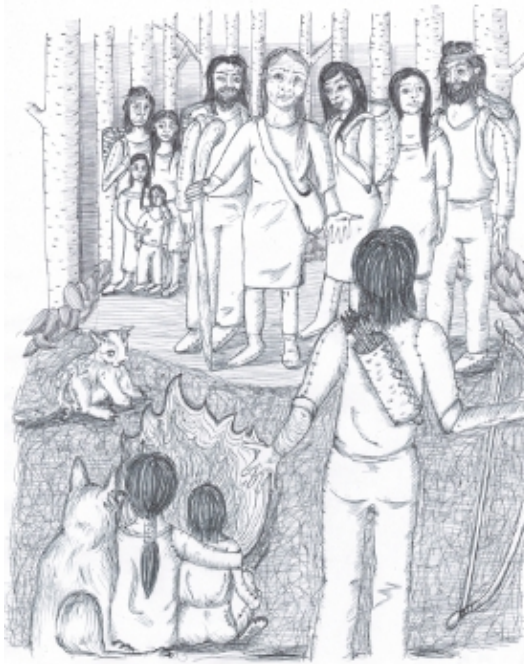
Mutil nudged Osaba, who turned and also saw the strangers. Quickly, he turned the coracle and began paddling to the shore. Mutil wanted to shout out to warn the family, but then the strangers would hear him too. As the coracle reached the shore, he jumped out and ran to the camp, while Osaba went to retrieve his bow. The strangers could be dangerous.

Ama was out of camp with Aita, checking the traps and hoping to come across an animal to hunt. Ama loved these times alone with Aita, they so seldom had chance just to be together. Neska was tending the hearth and mending some of the arrows. Mutil burst in wide-eyed yelling about strangers. Neska reached out to quieten him and they both nervously looked out of the doorway of the house as Osaba stood in the middle of the camp waiting for the strangers to appear.

The strangers walked to the edge of the trees, standing still while the eldest among them, a grey haired woman came forward. She stood, holding a staff to lean on, with a leather satchel on her left side. Showing an open palm to Osaba, she spoke, saying they had walked far and were glad to come upon the family. Their winter by the river had been mild and they had stayed longer than usual. But now they were come to the lake to join the others.

Osaba also held his palm open and welcomed the group to the lake. He recognised the woman at once. She was his mother's sister, Amona. They belonged to the same clan, the eagle clan, the Arrano. The group was made welcome. They would have to share food with them this evening when Aita and Ama returned, but Amona's family were friends and would share with them on another day.

Neska ran out to greet the newcomers. She recognised the children. The eldest boy, Lagun, was three years older than her, and almost ready to be made a man. They had played together a lot last year and she was happy to see him again. She was nervous this year, wondering if he would be happy to play again or whether he would think she was too young now. Mutil wondered where the other child was. There had been four of them last year, not three. The youngest was Gorri. He had really enjoyed helping to look after him.



Drawing by Robyn Croft, specially for this resource, 2015.

Later that day, after they had eaten, the old woman, Amona, gestured to her son Gizon. He sat upright and began to tell their story, of what had happened to them since they had last met. They had left the lake to return to their home in the west, by the river. It had been a good winter there, mild and with plenty of fish in the waters. But, they had met another group of people, strangers they did not know who spoke in a different way and had come from far away in the east. They struggled to understand each other but it seemed like they had left their home when it had been flooded by the sea. Amona thought they said that the sea was rising every year and would soon drown the whole of their land. She wasn't sure she had understood them right and couldn't see how the sea could do this. The strangers had killed a deer in the family's forest. This was wrong to do without first asking permission. They got angry and eventually had to threaten the strangers with their bows and spears. The strangers had disappeared and were last seen heading to the west.

Gizon's voice changed and became sadder. Not long after that, two of the children had become ill. They had become very hot and shivered, not wanting to eat and sleeping all day. Young Gazte had recovered after a few days, but Gorri had not. He had died. Neska and Mutil were sad. They remembered Gorri as a fun friend.

Then Gizon smiled. They had a new addition to the family. Emazte had been married to Amona's younger son, Senar. She had come from the wolf clan, the Otso. Otso and Arrano were allowed to marry. Their clans were long-time allies and friends.

After Neska and Mutil went off to play with Lagun, Gazte and Ume, the elders sat and talked until the sun set. They were eager to meet the other families who would soon be coming to the lake, to hear their tales of the wider world and swap marriage partners and gifts. Ama had a store of the firestone, pyrite, she would give in exchange for some of the baskets that her friends could make better than her. The families would remember those who had died, and celebrate the girls and boys

who were to be accepted now as women and men. They would make and share spears and bows, bowls, baskets and clothes.

The next day, Mutil came across an injured young wild cat. It lay shivering and mewling, not moving to run away as most cats did. Mutil carefully took it up and cradled it in his arm. Bringing it back to camp, he announced to everyone that he had found Gorri. Gorri's spirit was reborn in the cat and Mutil would look after it to make sure it got well again. Everyone was pleased, and went to over to welcome Gorri back to the family. He did get well again, and Mutil and he played together just like they had last year. The lake truly was a happy place. Mutil and Neska were glad they were back.

Background information

Social life

Most hunter-gatherers live in small groups, usually of a few families who live together. They may move around the landscape together at different seasons, or they may split apart and come back together at different times. There will often be a time when many families get together for celebrations, arranging marriage, exchanging goods etc. Most hunter-gatherers have a clan as well as a family, often named after important animals or plants. There may be rules about which clans can intermarry and which can't. There will also be rules about which clan you belong to – your mother's or your father's.

Children will come of age at puberty, and there will often be a special ceremony to mark this and they are then treated as full adults. This will happen at around 13-15 years old. Marriages will take place between women of around 16, with men aged around 19-25. Wives will have children from around the age of 19 onwards into their mid 30s. They may have 5-6 children in total.

Of the children, around 20% or more will die within the first 12 months of disease or malnutrition. Between a third and a half of all children may die before they reach puberty. Most of those who do live to puberty will live into their 50s, with a few into their 60s or exceptionally 70s.

Hunter-gatherer life was not always peaceful. Arguments between families could be sorted simply by moving away and living apart. But we do have archaeological evidence of violence where fighting must have broken out. This could be because the family or clan might have a territory it would defend. There will be others reasons too.

Marriage between families would create bonds of kinship, which would also help a family share with the others, as they would be related.

Language

We do not know what language they spoke in the Mesolithic. Most of the languages now spoken in Europe, including English, are descended from a group of languages called Indo-European, originally spoken north of the Black and Caspian Seas around 5,000 years ago. The exceptions include Finnish, Estonian and Hungarian which are descended from the Finno-Ugric languages of northern Russia. The other exception is Basque, spoken in northern Spain and southern France at the western end of the Pyrenees. This is not related to any other language and seems to be descended from the language always spoken in that area. It may be the only descendent of what was spoken there in the Neolithic or earlier in the Mesolithic and Upper Palaeolithic. If this is so, the language of the Mesolithic there would have looked very different to modern Basque.

Languages change a great deal over time if left to themselves without being taught 'correct' grammar in schools. Modern English is very different after 1,500 years from its original Anglo-Saxon, which looked and sounded more like modern German or Dutch. So Basque would now be

very different from whatever 11,000 year-old language it was descended from. If Basque is descended from the Mesolithic speech of the area, it does not tell us what was spoken in Britain as this is a long way from southern France. It may have been a completely different language. Or, if it was the same language, it will have been a different dialect that might have been very hard to understand. Just think how the English of Glasgow is very different to English of Plymouth.

How do we know all this?

Archaeology seldom provides direct information about kinship or social structures. We have to infer a great deal. Many of our ideas about hunter-gatherer society have been obtained through ethnographic study of living hunter-gatherers over the last few hundred years. One problem with ethnography is that modern hunter-gatherers do not live in the same kind of landscape as those in Mesolithic Britain, so their lives may have been quite different. These studies give us a range of possibilities.

A good source of information is Kelly, R L 2013 *The lifeways of hunter-gatherers: the foraging spectrum*, Cambridge: Cambridge University Press.

Activity 1 (role play)

Friends and enemies

Divide class into groups and have each be a separate family, then arrange the families into 2 or 3 clans. Each clan can decide its own name and what animal or plant it wants to respect.

Have each family live in a different location, with different foods and resources. Get each to come up with a list of what it would have to give to others, and what it would want in return.

Which other families could it cooperate with or compete with? Some clans would be friendly, others would be hostile.

How would each family make sure the others stayed as friends?

Which families would they be hostile towards?

Activity 2 (drama)

Meeting friends and strangers

Based on activity 1, have the class, or a group in the class, create a drama to act out during school assembly based on two families or clans meeting and what would happen.

Activity 3 (creative expression)

Being someone in the Mesolithic

Make a cartoon strip of one day in the life of a Mesolithic person and the people they might meet during the day. Show how each character has a role to play and what they might say or think.

Chapter 5. A hint of winter.

It was chilly this morning as Mutil poked his head out of the door of the house. Neska was snoring quietly. Of course, she said she never snored but he knew better. Aita and Ama were already up and about. Ama was checking the fish traps in the lake, while Aita was sitting making new shafts for the arrows. Osaba was nowhere to be seen. Mutil shivered then quickly gave Neska a kick to wake her up before running out of the house.

Neska was annoyed. She hated it when Mutil woke first. She was even more annoyed he had kicked her and woken her out a nice dream about finding a log with loads of juicy snails. Yawning, she went to sit with Aita. Without saying a word, he handed her a wooden stick. She knew what to do. Taking the small notched scraper in one hand she began scraping it down so that it was smooth with no bark left on it.

Mutil was playing with Gorri. He dropped leaves and feathers down for Gorri to try and catch. Ama saw him playing and smiled. She knew this would not last long. There was never enough time to let the children play. After a while, she called him to her and began teaching him once more the names of the different fish in the lake, which tasted best and how best to catch them.

Osaba came walking back. He had spent the morning with Amona's family, helping them make tools and chatting. Both families were keeping an eye on the weather. There were more cold mornings now, and the sun was getting lower down in the sky. The nights seemed longer than they used to be. Everyone had been talking recently about when it might be time to move back to the coast. Amona's family were thinking that they might go there too this year.

... [To be continued]

Background information

Moving or staying

It has always been assumed that hunter-gatherers move with the seasons to go wherever was best for finding food. It was originally thought by Sir Grahame Clark that the people lived at Star Carr from December to April. Later archaeologists have looked at the evidence and come up with different ideas:

- May to July and September to December;
- early summer (March/April to June);
- all summer (April to August);
- all year round;
- visited at different times throughout the year.

Living at the coast has some advantages over living inland. Food is available all year round as fish in the sea, seaweeds and shellfish on the beach and rocks. There may also be birds nesting in cliffs or wading along the coast. Inland during winter, the snows may cover the woodland and lakes may ice over. Animals may be harder to find, and most plants will be dormant with no berries, nuts or leaves. The coast also has disadvantages. The weather can be very cold and stormy. The storms may make it impossible to go out in boats to fish. High tides and storm surges can flood the low-lying coasts. Nevertheless, there is a lot of evidence for Mesolithic camps along the coast, especially in Denmark where the sites are better preserved for archaeologists to find.

Taking decisions

Most hunter-gatherers do not have formal leaders, kings or chiefs. They will have people with great skill as hunters, plant collectors, flint knappers etc. and these people will have prestige. They may also have people with the special skill of communicating with the spirit world to make sure hunting is successful or that sickness can be healed. Important decisions may be taken by discussion, or by the elders who have the greatest experience.

Talking, telling stories and holding ceremonies like coming of age, or working together on a hunt or in gathering plants are important ways of bonding the families. Mealtimes or time sitting around the fire in the evening would be important times for discussing what needed to be done.

Telling the passage of time

The people living in Britain would have seen changing seasons through the year from cold winters to warm summers. Each month would not only have been warmer or colder than the one before. Each would have seen different plants and animals become available to eat. Some months would have seen snow and ice, or gales and storms, or heavy rains. All of these could have made it harder

to find food and meant spending days sheltering indoors. How did people know when each month changed into the next? All early peoples used the phases of the moon, over 29 or 30 days to mark out each month. The word month in English is derived from the word moon. This though has a problem. The year as measured by the sun has 365 days. Twelve months of the moon have 354 days, 11 days short. Every year, the phases of the moon would be out of alignment with the year of the sun and the seasons. Knowing how to add extra days, or an extra month to the year to bring to two closer together would be important.

How do we know all this?

Ethnography shows us how hunter-gatherers make decisions and the ways that they organise society. Most move with the seasons and make decisions by group consensus or listening to those with necessary skill or prestige. Only a few live in one place all year round and have hereditary chiefs.

Archaeology reveals the precise plants and animals on a site, and when they might have been gathered and hunted. At Star Carr it also revealed the burning of lakeside reeds, possibly done every year in the spring. Archaeology is still revealing new evidence for the period. A line of 12 pits at Warren Field in Aberdeenshire was probably used to measure the age of the moon as it rose above the hills behind the pits and so align the ages of the moon with the year as measured by the sun. Mesolithic people were more sophisticated than we had thought.

Activity 1 (creative writing)

Just another day?

Finish the story.

What would each character do the rest of that day? Do you think they would decide to leave camp and go to the coast? How would Neska and Mutil feel about that?

Activity 2 (creative expression)

Talking, learning, making or deciding?

Make a drawing of the family that shows some of what they did that day. Talking within the family, or between the two families might have been important. So might making new arrows. Teaching Mutil about fish or Neska how to make arrows could have been a big part of the day.

They would also have to eat, so cooking food, checking the traps for small animals, picking roots and berries, sharing dried, smoked meat or roasting snails on the fire could have been the highlight of the day.

Activity 3 (guided questioning)

Where to next?

If the families did decide to leave for the winter, where might they have gone?

Look at a map of the Vale of Pickering with the Yorkshire Wolds to the south, the North York Moors to the north, the Vale of York to the west and the coast to the east.

The Moors and the Wolds are high ground, possibly covered in snow and chilly in the winter winds, where food might be hard to find. The Vale of York would have been very similar to the Vale of Pickering. The coast would offer fish, shellfish and seaweed, and perhaps some shelter from the cold westerly winds.

Chapter 6. The bad old days.

It had been a cold day. The wind had come down from the north and brought with it a blast of cold that had made them put on their fur cloaks. It should have been warm and sunny. After all, this was summer. Now they were sitting around the large fire in the open, between the houses. The children were bored. They begged the elders to tell them a story.

Emakume smiled and eventually said:

“All right, I shall tell you a tale of the old ones. A tale that my grandfather told me when I was young.”

“A long time ago, before anyone can remember, we lived a life just like we do now. Only, the trees had yet to cover whole the land and, in places, you could see far away into the distance. We moved around a lot, following herds of strange animals without horns but with big hooves.”

“Then, as we waited for winter to turn into summer, we were disappointed. Summer did not come. The sun rose high but the wind remained cold. The fruits were few, the animals hard to find and our bellies were hungry. When winter returned, we had the great snow, covering all the land. It was hard to find food. Still, we said that summer would come again. It did not. Again, the sun brought little warmth and the wind made us shiver.”

“The trees began to die and the wide open plains grew bigger. The deer, the aurochs and the boar headed south to be with the sun. We were hungry. The first ones to die were the elders, our grandparents. We knew then that the spirits were angry with us, but we did not know why.”

“The families prepared their elders for burial. They laid them out with respect on the little hill top they had always used, and let their bodies crumble away to release their spirits to the sky. We hoped their spirits would plead with the winds to stop and bring back the warmth. Alas, they failed and the spirits remained angry.”

“Then some of the rest of us began to die. We lost many, and grieved long into the night. In the end, we moved away, south and east, far from here and onto the wide plain where there would at least be rivers that we might fish in. We met others of our kin, who had come from the east. They also were fleeing the angry spirits and the cold winds.”

“The shamans often went into their trances and tried to speak to the winds and the sun. By then, we were few and our kin to the east also were reduced in number. Others who had always lived in the lowlands would share food with us if they could and slowly we learnt the ways of the new land we lived in. Still, we missed our old land.”

“One day, one of the shamans, Mamizlari, went into a deep trance. It was so deep that everyone thought his soul had permanently left his body never to return. He journeyed far in the spirit world. Instead of speaking to the winds and the sun, he went searching for the deer, the aurochs and the wild boar. He sought fierce spirits who could stand up to the wind and the sun and force them to

bring summer back to the land.”

“Mamizlari woke at last and came back to us. He had found the spirits of the deer. They told him that they had been hurt and upset that we had not shown them the proper respect and so would not defend us against the cold from the north. Mamizlari taught us a new way to respect the deer and to hunt them properly without causing offence. The bow and the arrow were the right way, not the spears that we had always used.”

“Of course, we had used bows before, but only for hunting the small game, like hares and badgers. We thought it would be insulting to use them to kill deer. Alas! We were wrong. The deer felt great kinship with all the fur-bearing animals. They were insulted that we thought them not worth hunting with the bow. We soon mended our ways, Mamizlari teaching us the right words and gestures to use to show our respect to the deer.”

“Not long after, the spirits heard us and began to fight back against the wind and sun on our behalf. The summers grew warmer, the snow in winter less deep. We now felt comfortable among the trees, and had learned the names and uses of the plants they sheltered. As the trees marched back north, we went with them, seeking our old land and our old lake.”

“So, here we are. Back where we belong, showing our respect properly to the deer, and listening to the words of our shamans. Of course, the spirits of the dead old ones were happy. They no longer had to wander trying to speak to the wind and the sun. They come back to earth and found new homes in the children now being born. The old ones are still with us because we ourselves are the old ones, reborn in new bodies time after time.”

The children clapped and chanted, “we are the old ones”. They were no longer bored and ran off to play at hunting the deer with bows and showing it proper respect. The adults smiled, knowing the children had learnt an important lesson – show respect to the animals, behave in the right way and listen to the shamans.

Background information

Changing climate

This story is about the change from the Upper Palaeolithic to the Mesolithic. There has long been an equation between Upper Palaeolithic during the last Ice Age and Mesolithic in the period after the Ice Age. The beginning of the Mesolithic is still often dated to the climatic warming 11,640 years ago which brought about the final end of the glacial conditions in Britain.

We now have a much better idea of the sequence of climate change and human cultural development with better modern excavation and dating methods. The latest Palaeolithic cultures in northern Europe had particular types of stone tools, which are now being recognised from post-glacial sites after 11,640 years ago. The earliest Mesolithic types of tool are now dated a few hundred years later than this, around 11,200 years ago.

The warming of the climate was very rapid at 11,640 years ago, but it took longer for the vegetation to change and for the different kinds of animals that fed on the vegetation to migrate to Britain. We now know that the climate went through a period of cold winters and dry summers between 11,390 and 11,240 years ago. Climatologists call this the *Pre-Boreal Oscillation*. It was only after this that a warmer and wetter climate allowed the new birch forests to expand northwards and become the dominant vegetation. With the forests came red deer, roe deer, wild boar and aurochs (wild cattle), along with a host of useful woodland plants. These replaced open grasslands and the horse and reindeer that people had hunted up till then. The bow and arrow is well adapted for hunting in woodland, and is a hallmark of Mesolithic culture.

Doggerland

As the ice melted, the sea level of the oceans rose. At the end of the Ice Age, there was still much ice to the north of Europe and America, and sea levels were lower than today. The southern half of the North Sea was still dry land and connected Britain west to east across to Denmark and Germany. Archaeologists call this connection Doggerland. It would have been a rich place to settle with a lot of resources and people would have settled across the whole area between Britain and Denmark, and shared a common Early Mesolithic culture. This land was only slowly inundated by rising sea levels, and had disappeared by around 8,500 years ago.

Shamans

For hunter-gatherers, nature is animated with moral, mythical and mystical significance. The world they lived in was alive with spirits. Shamans enter the spirit world for human benefit through altered states of consciousness, usually without narcotics, using drumming, singing and dancing to

go into trance. Shamans are often closely associated with animals. Their main role is to cure illness, ensure success in hunting or gathering, control the weather, find lost objects or help the dead travel to the spirit world.

Reincarnation

Many hunter-gatherers have complex ideas about the spirit world and human life. The human spirit can leave the body to travel in the spirit world and return, as is the case with shamans. In the case of death, it is natural to believe that the spirit also is released into the spirit world. In this case, it seems sensible that it could return to the world by being reincarnated in a new body as a new-born baby.

Note:

The name Mamizlari is made up from the Basque mamua (ghost) and hizlari (speaker), the person who speaks to the spirits.

Activity 1 (guided questioning)

Weather

Ask the pupils some key questions after reading the story, such as:

- can you describe the worst weather you remember and how it made you feel?
- what is the weather you like best?

Activity 2 (map and maths work)

Moving home

Look at a map of Britain and the North Sea across to Denmark (Doggerland_map.pdf). You have to move home and go down to Doggerland to live. You can only walk, and you can walk for 15 miles a day carrying everything with you and building a shelter every night. Measure the distance and work out how long it would take you. How long would it take your distant relatives from Denmark to get to the middle of Doggerland?

Where in the world would you like to go if you had to leave home now?

Activity 3 (creative expression)

Telling tales

What stories would you like to hear when sitting together around the campfire in the evening? Can you write a story to tell? Can you rewrite the story of the old ones and tell their tale to the class?

Draw one aspect of their activities that day, as though you were taking a photograph of them.

Chapter 7. Boy or girl, animals or plants?

Gazte was seriously annoyed. Mother had told her she had to come gathering the berries with her today. She, mother, Ume and Mutil would all go off into the wood with their wicker baskets strapped to their backs and search for all kinds of ripe berries. Meanwhile, her brother Lagun was off with their father and Osaba and Senar in a different part of the wood going after the animals. She would much rather be with them.

Where was the fun in creeping up on a blackberry? Emakume had taught her all the names of the plants since she had been a young girl. She knew their uses, which ones were good for settling a sick stomach or taking away the headache. She knew which ones tasted good with the wild boar, and which went better with the fish. Gazte felt her head was filled with all this knowledge. It was heavy, weighing her down, stopping her from having fun.

Mutil loved coming with his cousins on the search for the berries and the leaves and roots. He could think of nothing better than the colours and smells of the forest. Back in camp, he would shuffle up close to mother when she was preparing the roots or mixing the berries and leaves with the fish. Now that he was six, he was being trusted to go off on his own and explore the forest a little, just so long as he stayed within site of camp. His father Aita would beckon him over and show him how to strike the flint with the antler to make new blades and shape them into pieces they could fit into the wooden handles and shafts to make arrows and knives. Flint was hard, harsh and made a thin sound. It was nothing like the softness, colours and smells of the plants he loved.

They had a good day collecting in the woodland and back in camp they set their baskets on the ground and stretched. Gazte wanted to run off and use up some of her energy. She saw Aita's bow resting up against the wall of his house. She cast envious glances at it. She yearned to pick it up and fire arrows with it, but did not dare. It was one of their rules: you never fired someone else's bow. The bow was part of them, an extension of their arms. Even to touch it without asking would bring a stern rebuke.

Instead, Gazte had to sit with the others sorting through the baskets of fruit, mushrooms and leaves. Sitting, when she wanted to be active, stalking through the forest, searching out the animals, following tracks and signs to where they might be.

Mutil was happy, with the others chatting and picking through the fruit, getting rid of rotten ones and thorns. Seeing a strange leaf, he would ask Emakume what it was. Slowly, he was learning about the names of the plants and their uses. He sometimes asked Gazte to tell him these but she was always irritable and reluctant to talk about them. Last month Ume had had a headache and he had hugely enjoyed helping Emakume go and collect the willow bark, then pound it and add the water. Sloshing it around the birch bark bowl, the thick murky liquid could then be drunk. It didn't taste nice. He had laughed at Ume's face when she drank it, but he had enjoyed helping and was glad when Ume's headache went away.

Later that day, the men returned with a wild boar slung on a pole between them. Their hunt had been successful. Not only the boar, but Senar had managed to shoot a hare as well. As the men carefully hung the boar from the strong branch of a tree, Gazte ran over to see. She knew they would soon be getting their flint knives to cut open, skin and butcher the boar, and she wanted to be there to help. Gizon looked over and rolled his eyes at Emakume. They had talked about this before. It was Mutil who should be eager to help, not Gazte. Emakume just smiled back and shrugged. After all, she remembered that her cousin Ama had loved helping with the hunt when she had been young.

Mutil came over to the men but was more interested in playing than helping with the boar. Lagun took pity on him and took him off along the lake and the woods but not too far from the camp. He liked Lagun and remembered playing with him and Neska last year. Playing at hunting with Lagun was OK, but he usually wanted to be the deer hiding and running away before Lagun could tag him.

Aita and Emakume talked quietly by the fire in the evening, while their children were over with Gizon and Ama helping to put new thatch on their house. Aita was worried. Gizon's son had turned out well, helping with the hunt and eager to learn. He had hoped that Mutil would be the same. He was trying to teach him how to knap the flint and help with butchering the animals but he could tell that Mutil's heart wasn't in it. Mutil seemed much keener on being with his sister and her cousins.

But then Gazte was a worry too. She would soon be a woman and Emakume needed to think about whom she might marry. There were a few young men in the other families who she might like. Gazte though was more interested in wanting to go and hunt. Aita knew she had been looking at his bow, although that seemed simply wrong to him. A woman should not own a bow! He knew Emakume loved her daughter but thought that she should be more like her sister Ume or his own daughter Neska. Emakume was less worried and urged Aita to persuade Gizon let her come and help on the next hunt. It might make her understand how difficult it was. If not, then at least the family might have another good hunter. At least Mutil was taking her place in the gathering and was really keen to learn about plant lore.

They all went to bed thinking about the future. Aita worried about whether to ask Gizon if he should make a bow for Gazte. Emakume was wondering who Gazte might end up marrying and hoped she found someone as good as Gizon. Gazte herself dreamt of tracking aurochs through the woodland. Mutil fell asleep remembering the smells and colours of the plants and berries they had gathered that day.

Background information

Gender

Most hunter-gatherer societies have been relatively egalitarian and in many, women tend to have greater freedom and personal authority than in farming or industrial societies. In some societies, decisions were taken jointly by men and women. However, in others the men dominated and some hunter-gatherer groups are recorded as treating women harshly.

Gender roles

It is often assumed that men did the hunting of animals and women did the gathering of plants. While there is some truth to this, the real picture is more complicated. Men usually hunted the large game that needed hunting at some distance from camp. Hunting weapons were often seen as reserved for men. However, women would often hunt the smaller game closer to camp or help in a big game hunt by driving the animals towards the archers. In some groups, if a family had no son then the eldest daughter might be raised and treated as a boy to become the big game hunter. While women often did a lot of plant gathering, men were capable of joining in or gathering for themselves when needed.

In modern illustrations of Mesolithic hunter-gatherers it is men who are shown hunting and making tools or canoes, while women are shown gathering plants, scraping animal skins, cooking and looking after the children. This is probably far too simplistic. There is no reason why women did not make tools. Likewise, modern hunter-gatherer men would often share in looking after children.

More than two genders

Both men and women could be shamans, and often being a shaman involved consciously blurring the boundaries of the earthly world. Just as shamans could exist in both the material and spirit worlds, so they could exist in both male and female categories of the human world. Some shamans could be openly transvestite to symbolise this.

Some hunter-gatherers recognised more than two genders. They could accept a third gender in which men would act as women, or women act as men. In a few, there was a range of genders in a continuum from outright male to outright female.

Activity 1 (guided questioning)

Gender

Ask the pupils some key questions after reading the story, such as:

- what do girls do that boys don't?
- what do boys do that girls don't?
- what do both boys and girls do?
- do you think all boys behave the same, and all girls behave the same?

Activity 2 (pupils' discussion)

Gender words

Work in groups.

Write down five words which you think apply to boys and five that apply to girls. Compare your words with the other groups' words. Do you all agree on the words or not?

Activity 3 (pupils' discussion)

What would you like to do?

Imagine you were in the Mesolithic. Would like to go hunting or help collect the berries, roots and mushrooms? Give three reasons why.

Compare your answers with the others.

Draw one aspect of their activities that day, as though you were taking a photograph of them.

Chapter 8. Coming of age.

Lagun was feeling very nervous this morning. This was the day he was both looking forward to but anxious about. His father had told him at their winter home that something special would take place for him this summer at their lake home. He knew he was looking forward to seeing Neska and Mutil again, but wasn't sure whether he would enjoy playing with them the same way as he had last summer. He felt he was older, and some of the games they had played seemed a little silly now.

He still wasn't used to waking up alone in the small hut. He was used to sharing a bed with his sisters and brother in the same house as his parents. However, Gizon had explained that part of the special ceremony was to sleep at night on his own from one full moon to the next. At first he found it hard to sleep without his sisters and brother next to him to keep him warm. Now he quite liked being alone.

He left the hut and walked into the camp. The others treated him strangely. The mothers would encourage their daughters not to look at him and avoid talking to him. He noticed his mother Emakume quickly hide something so he could not see what she had been working on. The adult men would give him orders to do whatever needed doing around camp. This morning it was fetching firewood. They had told him to do this before, but this morning he noticed that the adult men were watching him as he walked into the wood. After a while he heard them follow him. Now, he began to feel nervous.

As he began to walk back with his arms full of firewood, he noticed the men had formed a rough line between him and the camp. Aita stepped forward, arms out and palms up as though talking to a stranger. He told Lagun to come with the men farther into the wood, away from the eyes of the women and children in the camp. They walked into a clearing in the forest, where they could no longer see or hear the camp. Lagun wondered what would happen next. Gizon had not said much about this part of the special ceremony.

They all sat, and Gizon brought out his fire-making kit of firestone and flint, and made a fire using the firewood Lagun had collected. They all sat round the fire and talked about what it meant to be a hunter, to show respect to the animals hunted and the sharing of the kill with the others. To learn all this, they said they had to know how it feels to be an animal. For Lagun to be one of them and leave his childhood behind, he had to become a deer and be hunted. His childhood would be killed and he could be reborn as a full man.

They stood Lagun on his feet and then strapped to his head a headdress made out of the skull of a red deer. Because he was still young, they had cut down the antlers to make it lighter for him to wear. Gizon as the eldest male took him to one side and gave him his instructions. Lagun went off into the wood, out of sight of the men and wandered left and right through the trees. He listened carefully, trying to hear the hunters coming after him. They were skilled and made no noise. He crouched on all fours, hoping they would not see him. Crawling through the wood, he brushed against branches and rustled the leaves.

Suddenly, an arrow whistled over his head and landed in the earth to one side of him. He looked up, startled and began to run. Another arrow narrowly missed him. But the hunters had been careful, they formed a line in the trees and if one could not see him then others could. The third arrow struck him lightly on the side of his leg. He straight away fell down as Gizon had told him to do. The arrows were only light, blunt tipped with no flint arrowhead. The hunters only partly drew back their bowstrings so the arrows would not go far or fast. He was not hurt other than a bruise on his leg. The hunters came up and surrounded him. The one who had shot him knelt down and thanked the spirit of the deer for allowing one of his animals to be caught. It would feed the whole group for several days. The hunter then drew his knife and cut the leather strap holding the headdress on Lagun's head. He was now 'dead'. His childhood had been killed.

The men helped him back to the fire. They stood round chanting quietly. Their shaman brought out his drum and started beating it in a slow rhythm. Lagun joined in the chant. As they chanted, they swayed slightly. The drum was passed round the circle until it came to Lagun. Gizon had told him what to do. He kept the drum and began beating louder and faster. As he beat he turned round and round and began dancing with the others around the fire. The sound and the turning made him feel light-headed. His attention drifted away from the others. He slowly stopped turning and could no longer hear the others. His world was only him and the fire.

Eventually, he noticed the flames of the fire had a life of their own. One flame grew big and came towards him. Others changed colour, from red to green to blue and yellow. His head began to swim and the trees around him began to bend and whisper. He felt the wood was whispering about him, judging him to be inadequate, not good enough to be a hunter. His vision narrowed until all he could see was a spotlight shining into the darkened wood. The spotlight searched this way and that through the trees. Eventually, it came upon a hare, sitting looking at him. The hare somehow spoke in his mind. He could not hear words but he knew what it was saying to him – “do not worry, you will be a good hunter, you will bring back a lot to share with your family”.

Lagun opened his eyes. He was kneeling on the ground and the men stood over him, smiling. They welcomed him back. They asked him where he had been, what he had seen. They explained that his spirit had left his body and travelled to the spirit world where everything is alive. Usually, only shamans could do that. If he tried again, there was a risk that his spirit might never return to his body. He told them about the hare. This was good. The hare was his personal spirit helper, now and forever. He must always show respect to the hare in future.

They talked long into the evening, teaching Lagun about hunting and the making of bows and arrows. Later, they went back to camp. His headdress was given to the lake, for the spirits as a thanks for their help. Emakume welcomed him, embracing him and giving him a gift of leather trousers to wear now he was a man, and showed him his new bed in the house where he would now sleep. His sisters teased him of course, saying that now he was a man he should leave them and go find himself a wife. Across the camp, he could see Neska was looking at him but in a new way, very shyly, no longer as her playmate and childhood friend.

Background information

Initiation rites

Our only knowledge of initiation rites among hunter-gatherers comes from ethnography; the study of modern hunter-gatherer groups. What this shows us is that there is no pattern to them. Some societies have little or no initiation of children into adults. Some pay more attention to having rites for girls. Some do make sure there is some kind of ritual that formally welcomes all children into being adults.

Where initiation rites exist, they often have three parts. The children are separated from childhood and the things they have previously known. Then there is some kind of activity that marks the transition from child to adult. Finally, the new adult is welcomed amongst the other adults. The transition can be marked by the physical marking of the person: for example, cutting the skin or shaping the teeth. It can also be marked by making the child perform an unpleasant task or test.

The initiation described above is entirely fictional with no ethnographic evidence to support its details, such as the use of the headdress or the mock hunting.

Hallucinations

A few hunter-gatherer groups have used drugs to cause hallucinations as part of initiation rites. The most famous are probably the north American Algonquin peoples. However, this is not common practice. It is more usual for shamans to use music, chanting, drumming and dancing to go into a trance as part of their journey into the spirit world. Hallucinations have often been treated like dreams – both are visions of things that do not exist in the physical world – and so treated as glimpses of the world of the spirits.

Activity 1 (guided questioning)

Becoming adult

Ask the pupils some key questions after reading the story, such as:

- what are the most important things you want to do as an adult?
- how do you think life might be different for you as an adult?

Activity 2 (creative expression)

Ume's coming of age

Write an account of what you think Ume's coming of age as a woman would have been like.

Activity 3 (creative expression)

Lagun's experience of the day

Write an account of the day and what it would have felt like for you if you were Lagun.

Draw one aspect of their activities that day, as though you were taking a photograph of them.

Chapter 9. A new life.

Neska groaned as she got up off the bed to go out and greet the morning. She felt so heavy these days. She wondered whether Ama had felt the same way when she had been pregnant with Neska. Lagun was already up and out in the warm sunshine. He was sitting and mending one of the fish traps. She never got tired of looking at him. His wavy brown hair framed his face with his blue eyes concentrating on his task. Her old home was across the other side of the clearing. Ama and Aita were busy about their work, while Mutil was now grown up and an adult. He was getting ready to go off hunting with Osaba.

It would be soon now. Neska wondered if Ama or even Aimana would be the one to help. She would prefer Ama, her own mother, but Aimana had more experience of helping with the birth of a baby. She was eager now to see the new baby that had been growing inside for so long. She was sure it would be fine. She knew that the spirit of Chozuri would be watching over to help her. Chozuri had lived far to the east, where the sun rose. Chozuri was the same age as Neska, 19 years old. She had had her first baby but the baby boy had taken too long to come out. By the time it was born, she was very weak and could not stop bleeding. Chozuri had died, and her baby very soon after. They had buried them side by side, the baby laid on a swan's wing. The swan was their clan and the spirit of the swan would help guide the baby's spirit into the other world. Chozuri had chosen not to come back into the world reborn in another. She had chosen instead to stay in the spirit world and protect all future mothers.

Neska had made sure she followed the rules. She and Lagun had slept in separate beds for the last moon (she thought this was a stupid idea but kept that to herself). She had avoided eating any duck the others had caught as this was her particular spirit animal. Showing it respect would make the spirits be kind during the birth. She also avoided eating the leaves of the dandelion or any red-coloured berries. These were thought to be bad luck to pregnant women. However, she had enjoyed eating a lot of the deer and the fish, and had been really fond of the eating the cattails that she usually thought rather boring.

Lagun had finished mending the trap and he went with Neska into the wood looking for mushrooms and berries. He knew of a good place where he had spotted elder trees earlier in the year and there should be a lot of elderberries there now. The birch bark containers should be full by the end of the day. Neska was hoping for some good patches of mushrooms. They would be very tasty with the dried wild boar they had back at camp.

Neska began to feel a cramp in her stomach. A cramp that slowly came and went, as though her belly were tightening and loosening. Every few minutes Neska would stop and breath deeply. Lagun looked across and nodded, suggesting they go back to camp. Their containers were only half full, but they both knew the baby was on its way. Then the water inside her released and came out. They got back to camp and Lagun headed off to get Aimana. Neska settled down on the bed in their house. At last, the baby would come. She was relieved but happy.

Aimona arrived and made sure Neska came with her to a shelter that had been built especially for this. This was the sign for Lagun to go away and wait with the men. He wasn't too happy, but knew that Aimona would take care of Neska. She told Neska to walk around the shelter. This helped her cope with the cramps. Every so often Aimona would give her some dried fish and the herbal tea from the plants that soothed the body. After a while the cramps were more frequent. Aimona brought her inside the shelter and told her to kneel down and breath deeply in and out.

It seemed like a long time, but as Neska breathed, she became more aware of her own body and the world outside seemed to fade away. She began pushing from the inside. Neska breathed hard and moaned. Would the baby never come? Aimona smiled, and told Neska of when her daughter Emakume had given birth to Lagun. He had been so stubborn and refused to come out into the world for a long time. Neska's baby was not so stubborn. Suddenly, the baby's head appeared and Aimona guided it all the way out.

Aimona used the special flint blade that she had made earlier to cut the cord by the baby's tummy. She then carefully handed the baby to Neska. She looked tired but happy as she took her baby and held it for the first time against her chest. She could feel the little baby's heart-beat and hoped the baby could hear hers. The baby gurgled and Aimona helped her turn its head close to her breast and helped the baby begin to feed. Aimona had told her it was a girl. It didn't matter whether it was a girl or a boy. Every baby born into their world was precious. She wondered whose spirit had chosen to return the world in her new daughter.

Ama and Emakume were waiting on the edge of the camp. When Aimona called out, they rushed up to join Neska and look at the new girl in their family. Now Neska was a mother just like they had been all those years ago. They were happy Neska had grown up so well. The men then came to join them, standing to one side and nodding and smiling. Lagun came forward, eager to see his daughter and hold Neska's hand.

Back in the house, Neska and Lagun looked after their daughter together. He made sure that Neska took plenty of food to keep her strong. Neska was back the next day, helping out around camp and the day after came out gathering mushrooms with the others. She and Lagun wondered what the baby's name would be. Of course, they had to be sure it would live. They could not give her a name until after one full cycle of the moon had passed. Even then, the baby might not live long. After all, Neska's mother Ama had lost one baby only a year after his birth, as had Aimona. The meeting of the families at midsummer was often a time when the children would fall sick.

Of course, the baby's soul would be an old one. One of the old one's will have decided to come back to earth and live among them again. Neska and Lagun were happy about that. They just hoped it was a wise and happy old one.

Background information

Having children

Modern hunter-gatherers usually reach puberty at the ages of 13 to 17, and will marry a year or two afterwards. Women will normally have children from the ages of 18 or 19 onwards into their mid 30s or early 40s. They will breast feed for at least 2-3 years, and sometimes for as long as 6 years. Women may have up to six children in all.

Child mortality and life span

Without modern medicines, and with sometimes unpredictable food supplies, it was not always easy for young children. They could catch diseases that would be deadly to them.

Hunter-gatherers have a wide variety of patterns of life span. However, on average, around 20% of babies might die in the first 12 months. Also, around 35% of children might die before they reach 15 years old. Even worse, in a few societies, the number of babies dying before 1 year might be as high as 35%, and those not reaching 15 could be up to 60%.

For those who did reach adulthood, life expectancy could be good. About two thirds of adults would live to at least 45, and half would live into their 60s. Rare individuals might live into their 80s. A lot would depend on diseases and starvation from lack of food due to bad weather.

Modern births

The description of the birth owes a lot to modern hypno-birthing ideas. These try to make giving birth as natural an experience as possible. Ethnographic observations of hunter-gatherer births also help us to understand birth in societies without modern hospitals.

Lagun's role

Not all societies make giving birth an all female affair. Many will involve the father in helping. By choosing to have Lagun sent away, this offers the chance to discuss the issue in class, and the notion of genders being treated differently.

Note:

Chozuri is named after the Basque for white bird – txori zuriak. In the Late Mesolithic cemetery at Vedbaek in Denmark is the burial of an 18/19 year old woman with a new born baby. The baby had been lain on a swan's wing. Both presumably died in childbirth, a 6,500 year old tragedy.

Activity 1 (pupils' discussion)

Neska and Lagun's experience

Write down five words which you think describe how Neska and Lagun both felt during the day. Do you think it was right that Lagun was sent away during the birth? How would he feel? Say why you chose those words. Share those words with the rest of class.

Activity 2 (creative expression)

Names

What names would you choose for the new baby? Can you make up a name that sounds right for the family?

Activity 3 (creative expression)

Swan's wing

Make a drawing of the burial of Chozuri and her baby.

(An example is in [Vedbaek_burial.pdf](#) from the Vedbaek Museum)

Could you write a story about what happened to Chozuri?

11,000 YEARS AGO (PUPILS' VERSION)

STORIES FROM THE MIDDLE STONE AGE

The characters in the story are:

The family

Neska	a girl, 9 years old
Mutil	a boy, 6 years old
Aita	their father, 31 years old
Ama	their mother, 28 years old
Osaba	Aita's brother, 26 years old
Chakur	their dog

Their friends

Amona	the mother of Emakume and Kusi, 51 years old
Emakume	daughter of Amona, 32 years old
Gizon	husband of Emakume, 38 years old
Senar	son of Amona, 24 years old
Emazte	the new wife of Senar, 16 years old
Lagun	eldest son of Gizon and Emakume, 12 years old
Gazte	younger daughter of Gizon and Emakume, 9 years old
Ume	youngest daughter of Gizon and Emakume, 7 years old
Gorri	youngest son of Gizon and Emakume, 4 years old

Emakume was the sister of Aita and Osaba's mother, and so great-aunt of Neska and Mutil.

11,000 YEARS AGO

STORIES FROM THE MIDDLE STONE AGE

Chapter 1. Moving home.

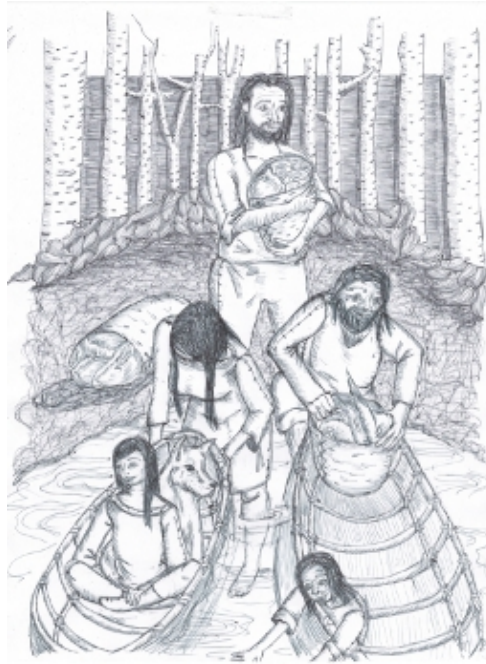
Neska woke first, the morning sunlight coming in through the door of the house. Mutil was still fast asleep next to her. On the other side of the hearth, Aita was snoring as usual, while Ama was beginning to wake too.

Neska was excited. The winter snows had melted and the sun was warmer now. Today they would be going inland to the happy place she remembered from last year. Mutil would remember too but he wasn't quite so keen on going back. Last year, he had wandered away into the woods and startled a family of wild boar. They had squealed and charged at him, making him run back crying to Ama. Neska was looking forward to the different foods she remembered from last time, and the sunlight reflecting on the lake. She thought their home there was the most beautiful place.

By the time the men were awake, she and Ama had begun packing away the food, tools and clothes into bundles they could carry. Aita and his brother Osaba began to damp down the fire in the hearth, to store the flint nodules in the pit they had dug and take the waste scraps of old bones and the bark from the floor to the dump by the edge of the sea. Mutil, as usual, was getting in the way playing with Chakur, the dog.

When all was ready, they set off along the path, away from the coast and into the wood. The spring sun was dappled by the birch leaves as they followed the light grey trunks into the distance. Osaba seemed to know the way, and they walked on going westwards. They walked quietly so as not to disturb the trees nor the animals they glimpsed in the distance. Mutil was worried. Everyone was carrying a lot of heavy things and he knew that no one had thought to bring the flint cobbles with them as they were just too heavy. He didn't know what they would use for tools when they got to their new home.

After a while, they come out of the trees to the edge of the lake. This was not the place she remembered. They would have to walk all round the edge of the lake to other end of the water. Her feet were tired already and her heart sank at the thought. Aita caught her look and smiled. He always seemed to understand what she was thinking. He walked down through the plants to edge of the lake. There, hidden on the bank, were the two coracles he and Osaba had made last year.



Drawing by Robyn Croft, specially for this resource, 2015.

She had forgotten. Of course, they went across the lake in the coracles to the other side. So much quicker and less tiring for her feet. Mutil was also happy, splashing his hand in the water as they went along. Ama quietly stopped his arm and gently said “Now don't disturb the spirit of the lake or she won't send us any fish to eat later!”. Mutil liked the fish. He stopped and happily looked at the birds paddling on the water and flying overhead, playing a game with Ama to see if he could identify what they were called.

Eventually, they came to the far end of the lake and the coracle turned to the right to come in on the near side of small headland that jutted out into the lake a little way. Now Neska was happy. This was her happy place. Mutil was quieter, looking at the trees as they spread back away from the shore. They landed, got out and upturned the coracles on the bank. The tall rushes by the edge of the lake were high this year. Neska and Mutil felt like they were a little forest, built just for them. They never liked it when the adults set about burning the rushes away to make a clear shoreline for their new home. Ama was the guardian of the fire, keeping hot embers of fungus in a leather pouch so they could easily restart the fire. Last year, the embers had gone out and Aita was cross. He never liked making fire from scratch as it took a lot of hard work, especially as that year, he did not have a good firestone to strike and had to use a bow drill instead.

It was mid afternoon by the time they got round to repairing their houses from last year. Aita had brought the flint axe with them to cut down new branches and trim the wood for mending the walls and roof of the house. Ama and Osaba together started unwrapping the rolls of animal skins they had carried to cover the outside of the house with. Neska and Mutil helped Ama with setting the hearth in the middle of the house and unpacking the items they had brought from the coast. Aita and Osaba went off to make and set new fish traps. Ama spotted the wooden post they had placed in the ground last year. This marked where they would place the skull of the first of the wild cattle

they caught to watch over and protect them.

Mutil went round looking at everything, searching. Ama wondered what he was searching for. He looked so worried. He said he was trying to see if anyone had brought the flint with them. He thought they were all going to run out of tools and then they wouldn't be able hunt and he would not have any more food. She smiled at him. Then she took him to a tree they had marked last year. It had a set of parallel lines cut into the trunk. She quickly dug a hole at the base of the tree with her digging stick and found the small pit in which, last year, they had placed the flint they needed to make new tools. Mutil smiled and laughed. He hadn't known that the trees would give them new flint for the year.

By the time evening came, they were all tired. The smoked and dried food they had brought was nice, but they all looked forward to having good roasted meat to eat and succulent fish. Mutil especially liked the long green fish in the lake. Neska loved the roots of the bog bean and the mushrooms they found in the woods later in the year. They both went to sleep next to each other excited at what the next few days would bring.

Chapter 2. Making things.

Osaba sat outside crosslegged on the birch bark mat. He had lumps of the flint they kept from last year, and was weighing one in his hand, looking for a suitable flat surface to strike with the smooth pebble in his other hand. A quick motion of the hand later, the surface was struck and a small flake of flint fell to the ground off the cobble. He looked at the scar showing the inside of the flint and grunted with satisfaction. This was a good cobble of flint, smooth and dark grey inside. He began knapping the nodule, quickly making a lot of small flakes.

Neska loved watching her uncle making tools. He had made the lovely wooden paddle for the coracle last year and covered it in beautiful designs. She liked the skill of his hands as they worked, and the sound of the hammerstone hitting the flint. Mutil was with her, equally entranced. He reached out to pick up one of the small flakes. Neska smiled, remembering when she had done that. She would let Mutil find out for himself how dangerous that was. Osaba finished making the flakes and picked up the antler prong he kept in the leather pouch hanging from his belt. He then used this to press the sides of the flakes, shaping them into the tools he wanted. Some of these were precious ones called 'aitchiki', the little stones.

Ama was off searching the fish and small animal traps, while Aita had gone off into the wood to find firewood and good timber for tools. Neska was hoping Osaba would teach her how to knap the flint like he did, coaxing the right shapes out of it by hitting it just right with the pebble or the antler. She loved making things and was good with her hands. She took after her mother that way. Aita was a good hunter and kind to his family, but awfully clumsy and really not very good at knapping. It was one reason he was glad his brother Osaba had stayed with them this year.

Aita came stumbling back into camp. He was limping and holding his leg with one hand. They

could all see the blood that had seeped down his leg. Ama and Neska rushed to help him and they got him lying down in their house by the hearth. He had accidentally startled a boar and her piglets in the wood. The boar had attacked him and her sharp tusk had pierced his leg. Boars really were dangerous. Ama collected the herbs she kept in a bag and pressed them to the wound, tying them in place with strips of leather. Aita was brave but let out a cry of pain. Neska was worried. If Aita lived, then it would take a while for him to get better. She didn't like to see her father hurt, but she also wondered how Osaba would manage to hunt on his own.

After eating, Osaba began sorting out the hunting equipment, while Ama and Neska sat together making tools. Ama had nimble hands and began cutting slits into the smooth wooden shafts they had brought with them. Neska helped to heat the birch resin they had, for Ama to glue one of the tiny 'aitchiki' at the point, and others along the edge at the end of the shaft. These would make fine arrowheads for hunting with. Neska was entrusted now with adding the feathers at the other end of the shaft that would help the arrow fly straight through the air. Tomorrow, she would help her mother make knives by fitting 'aitchiki' in a different way into a wooden handle.

They had found plenty of shed antlers when they had all gone through the woods a few days ago. Osaba though had some antler taken from the store in the pit they had left on the site last year and was working the ends with a stout flint tool. He carefully cut pointed teeth along one edge, all pointing in one direction backwards from the point. He had some already prepared, and began tying two of them to the end of a long wooden haft. The two were angled slightly apart and, of course, had their teeth pointing backwards. Mutil would be happy Osaba had made these as they would enable him to enjoy his favourite food.



Drawing by Robyn Croft, specially for this resource, 2015.

Mutil was playing with the dog again, throwing sticks for it to catch, but being careful not to throw a stick in the water in case it should disturb and make angry the water spirit. Ama watched over

him while she took the smellier organs from the latest deer they had caught – the stomach and intestines. These had already been washed and cleaned. She took them off their stretching frame. They would make good bags and containers, or even hats now that they were stretched and dried.

Later, during the evening, they all sat around the hearth while Ama told stories of the forest and the spirits of the trees – how each spirit had its own personality. She told of how some trees and plants were kindly spirits, while others were not and did their best to harm people. Most of the others listened while they twined the fibres of plants they had taken a few days ago, twisting them to make string and cord: some thick, some thin, some long and some short.

Osaba though was working on some flat pieces of grey shale. He cut them into round discs and then began drilling holes through the middle. With some string, they would make a nice necklace. One larger piece of shale would be cut and coloured with red ochre to be a pendant to wear. He would carefully scratch on the design of a tree, a special symbol of the woodland that gave them so much. The trees watched over and protected them. He would give the pendant to Aita to wear so the trees would protect him in future from the boar.

In time, as they grew sleepy, they went to bed happy that they had had a good day and achieved a lot.

Chapter 3. Food.

Mutil was hungry. He sometimes felt he was always hungry. He loved the fish that came from the lake. But, he was beginning to think perhaps the smoked venison they sometimes ate was almost as good. What was Ama cooking today? More roots and leaves. He was not happy.

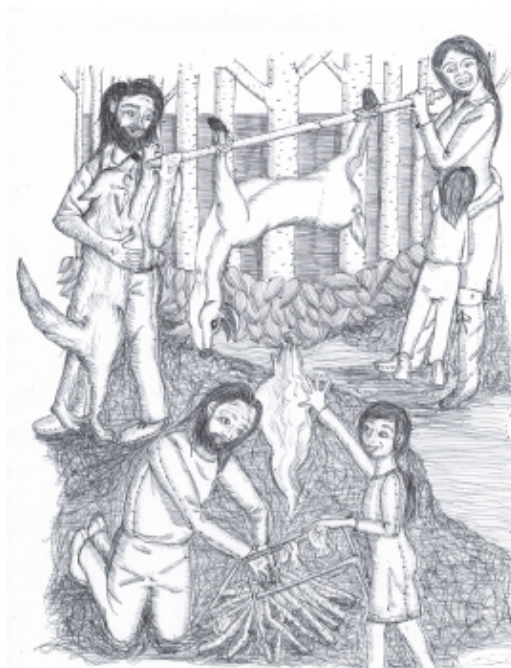
Neska had come back from along the lake shore with some different green leaves she had tried to tempt Mutil to eat. He made such a face though as he tested one in his mouth before spitting it out. Never mind. She liked these leaves, trying to remember what Ama had called them last year. It may have been mint. She would have to tell her where she had found a clump of them growing.

Ama and Osaba had already gone when she got back. Ama had been firm, telling Osaba that she too could use a bow and would help with the hunt now that Aita was injured and still too ill. Neska was annoyed. She felt she was old enough now not to get in the way and had desperately wanted to go and help with the hunting. Mutil was still too young. He would make too much noise and scare off the prey. Perhaps Osaba would take Mutil out fishing in the lake tomorrow, testing his new fish spears carved out of antler. She would leave that to Mutil. Once Aita had taken her out in the coracle and she had tipped out into the lake and had to be pulled back on board spluttering and half drowned. She had always felt the water spirit did not like her and was happier in the woods.

Neska and Mutil did go and inspect the traps. They came back with some fish, and one hare from a trap in the woods. Mutil helped Aita build the fire for cooking them outside the house. He helped place some dry wood on the ground and then some dry moss and fungus, and then piled up some small twigs before putting some bigger branches in a kind of pyramid on top. Aita took a long twig

to the hearth, lit the end in the fire and took it to the wood pile, poking it through to the moss and fungus. Mutil knew what to do next, crouching down and blowing gently to let the sparks catch and grow into flame. He loved helping make the fire, often staring into the flames, entranced by their yellow-red dancing in the breeze.

Later that day, the two hunters came back singing softly through the woods, carrying a deer on a long pole between them. The song was a song of thanks to the deer spirit for being kind and letting them take one of his precious deer. Everyone stood up to greet their return, smiling and happy, knowing the deer would provide food for them for some days to come. Chakur ran towards Mutil for a big hug in thanks for his part in tracking the deer and helping the hunt. Neska and the still limping Aita already had their best knives in their hands waiting to help butcher the carcass.



Drawing by Robyn Croft, specially for this resource, 2015.

So much of the deer would be used. They hung the doe upside down from a strong tree branch and began to cut it up. The blood they collected in a bowl underneath it to use later. Once they had taken off the hide, they cut off the meat and took out the internal organs. It was their custom that the animal's liver would be given to the hunters' wife or mother, so Ama was really pleased. She gave the liver to Aita, joking that she was the hunter today, and Aita was her 'wife'. Some of the meat they would eat that day. The rest they would hang over a fire to smoke, so that it would be preserved. The smoked meat would be delicious over the next few weeks. Mutil was looking forward to the breaking of the bones. Inside was the delicious, sticky marrow, full of fat and yummy. Aita and Osaba would fill the long intestines with the blood and some herbs, and some of the fat, to dry and become a delicious black pudding.

Ama had her favourite basket already by the hearth, tightly made and waterproof. Inside, she had a porridge of nettles and dock leaves, soaking in water. Smooth stones were lying in the hearth getting very hot. Using sticks, she picked up each stone when it was hot enough and dropped it into

the basket. The hot stones steamed and began to heat the mixture of green leaves and water. By the hearth were some large flat stones. These were also getting very hot. Slices of the deer meat were laying on them, cooking slowly. Ama also placed some of the store of bulrush shoots they had collected a few days ago on the stones.

Everyone was very hungry. But they all stopped and sat together and each gave thanks to the spirits for providing them with food to eat. Ama and Osaba apologised for only bringing back one small and not very good deer. Aita then assured everyone that the nettle and dock leaves this year were really not as tasty as they should be. Secretly, they thought that the meat was good, juicy and succulent. The nettle and dock porridge, flavoured with mint leaves was tasty and the bulrush was a special favourite. Mutil said that he didn't care, the meat tasted really delicious and the marrow was the best he'd ever had. This earned him a stern stare from Ama, but a quiet wink on the side from Aita. Neska was secretly proud she had found the mint to give the nettle and dock porridge some more flavour, and was looking forward to going out tomorrow to see what small animals she could find in the traps and snares.

Chapter 4. Friends and strangers.

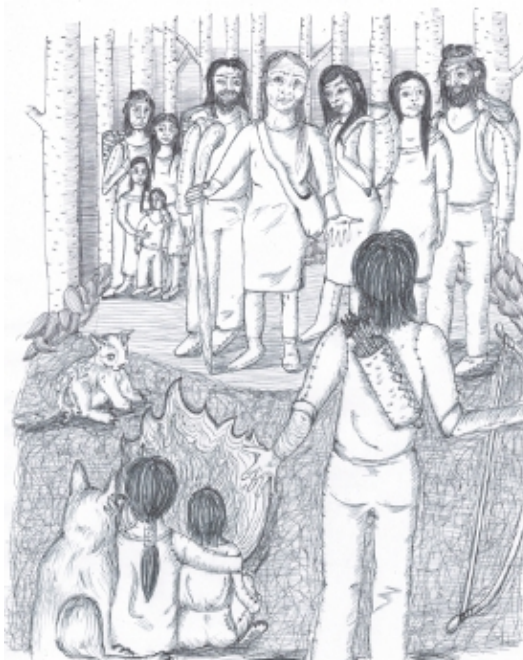
The family had been at the lake now for several days, almost one full turning of the moon. Mutil was out in the coracle helping Osaba with the fishing. Out in the middle, he had a good view of both sides of the lake and the end of the lake where it narrowed into the river. In the morning, he had glimpsed some deer on the opposite side of the lake coming down to drink. Now, he thought he saw some movement in the trees on the same side as the family were camped. There was a patch where the birch trees were thinner, and he could now see that the movement was a small group of people moving towards the camp. He knew it wasn't Aita, Ama or Neska. He had seen five adults and three children.

Mutil nudged Osaba, who turned and also saw the strangers. Quickly, he turned the coracle and began paddling to the shore. Mutil wanted to shout out to warn the family, but then the strangers would hear him too. As the coracle reached the shore, he jumped out and ran to the camp, while Osaba went to retrieve his bow. The strangers could be dangerous.

Ama was out of camp with Aita, checking the traps and hoping to come across an animal to hunt. Ama loved these times alone with Aita, they so seldom had chance just to be together. Neska was tending the hearth and mending some of the arrows. Mutil burst in wide-eyed yelling about strangers. Neska reached out to quieten him and they both nervously looked out of the doorway of the house as Osaba stood in the middle of the camp waiting for the strangers to appear.

The strangers walked to the edge of the trees, standing still while the eldest among them, a grey haired woman came forward. She stood, holding a staff to lean on, with a leather satchel on her left side. Showing an open palm to Osaba, she spoke, saying they had walked far and were glad to come upon the family. Their winter by the river had been mild and they had stayed longer than usual. But now they were come to the lake to join the others.

Osaba also held his palm open and welcomed the group to the lake. He recognised the woman at once. She was his mother's sister, Amona. They belonged to the same clan, the eagle clan, the Arrano. The group was made welcome. They would have to share food with them this evening when Aita and Ama returned, but Amona's family were friends and would share with them on another day.



Drawing by Robyn Croft, specially for this resource, 2015.

Neska ran out to greet the newcomers. She recognised the children. The eldest boy, Lagun, was three years older than her, and almost ready to be made a man. They had played together a lot last year and she was happy to see him again. She was nervous this year, wondering if he would be happy to play again or whether he would think she was too young now. Mutil wondered where the other child was. There had been four of them last year, not three. The youngest was Gorri. He had really enjoyed helping to look after him.

Later that day, after they had eaten, the old woman, Amona, gestured to her son Gizon. He sat upright and began to tell their story, of what had happened to them since they had last met. They had left the lake to return to their home in the west, by the river. It had been a good winter there, mild and with plenty of fish in the waters. But, they had met another group of people, strangers they did not know who spoke in a different way and had come from far away in the east. They struggled to understand each other but it seemed like they had left their home when it had been flooded by the sea. Amona thought they said that the sea was rising every year and would soon drown the whole of their land. She wasn't sure she had understood them right and couldn't see how the sea could do this. The strangers had killed a deer in the family's forest. This was wrong to do without first asking permission. They got angry and eventually had to threaten the strangers with their bows and spears. The strangers had disappeared and were last seen heading to the west.

Gizon's voice changed and became sadder. Not long after that, two of the children had become ill.

They had become very hot and shivered, not wanting to eat and sleeping all day. Young Gazte had recovered after a few days, but Gorri had not. He had died. Neska and Mutil were sad. They remembered Gorri as a fun friend.

Then Gizon smiled. They had a new addition to the family. Emazte had been married to Amona's younger son, Senar. She had come from the wolf clan, the Otso. Otso and Arrano were allowed to marry. Their clans were long-time allies and friends.

After Neska and Mutil went off to play with Lagun, Gazte and Ume, the elders sat and talked until the sun set. They were eager to meet the other families who would soon be coming to the lake, to hear their tales of the wider world and swap marriage partners and gifts. Ama had a store of the firestone, pyrite, she would give in exchange for some of the baskets that her friends could make better than her. The families would remember those who had died, and celebrate the girls and boys who were to be accepted now as women and men. They would make and share spears and bows, bowls, baskets and clothes.

The next day, Mutil came across an injured young wild cat. It lay shivering and mewling, not moving to run away as most cats did. Mutil carefully took it up and cradled it in his arm. Bringing it back to camp, he announced to everyone that he had found Gorri. Gorri's spirit was reborn in the cat and Mutil would look after it to make sure it got well again. Everyone was pleased, and went to over to welcome Gorri back to the family. He did get well again, and Mutil and he played together just like they had last year. The lake truly was a happy place. Mutil and Neska were glad they were back.

Chapter 5. A hint of winter.

It was chilly this morning as Mutil poked his head out of the door of the house. Neska was snoring quietly. Of course, she said she never snored but he knew better. Aita and Ama were already up and about. Ama was checking the fish traps in the lake, while Aita was sitting making new shafts for the arrows. Osaba was nowhere to be seen. Mutil shivered then quickly gave Neska a kick to wake her up before running out of the house.

Neska was annoyed. She hated it when Mutil woke first. She was even more annoyed he had kicked her and woken her out a nice dream about finding a log with loads of juicy snails. Yawning, she went to sit with Aita. Without saying a word, he handed her a wooden stick. She knew what to do. Taking the small notched scraper in one hand she began scraping it down so that it was smooth with no bark left on it.

Mutil was playing with Gorri. He dropped leaves and feathers down for Gorri to try and catch. Ama saw him playing and smiled. She knew this would not last long. There was never enough time to let the children play. After a while, she called him to her and began teaching him once more the names of the different fish in the lake, which tasted best and how best to catch them.

Osaba came walking back. He had spent the morning with Amona's family, helping them make

tools and chatting. Both families were keeping an eye on the weather. There were more cold mornings now, and the sun was getting lower down in the sky. The nights seemed longer than they used to be. Everyone had been talking recently about when it might be time to move back to the coast. Amona's family were thinking that they might go there too this year.

... [To be continued]

Chapter 6. The bad old days.

It had been a cold day. The wind had come down from the north and brought with it a blast of cold that had made them put on their fur cloaks. It should have been warm and sunny. After all, this was summer. Now they were sitting around the large fire in the open, between the houses. The children were bored. They begged the elders to tell them a story.

Emakume smiled and eventually said:

“All right, I shall tell you a tale of the old ones. A tale that my grandfather told me when I was young.”

“A long time ago, before anyone can remember, we lived a life just like we do now. Only, the trees had yet to cover whole the land and, in places, you could see far away into the distance. We moved around a lot, following herds of strange animals without horns but with big hooves.”

“Then, as we waited for winter to turn into summer, we were disappointed. Summer did not come. The sun rose high but the wind remained cold. The fruits were few, the animals hard to find and our bellies were hungry. When winter returned, we had the great snow, covering all the land. It was hard to find food. Still, we said that summer would come again. It did not. Again, the sun brought little warmth and the wind made us shiver.”

“The trees began to die and the wide open plains grew bigger. The deer, the aurochs and the boar headed south to be with the sun. We were hungry. The first ones to die were the elders, our grandparents. We knew then that the spirits were angry with us, but we did not know why.”

“The families prepared their elders for burial. They laid them out with respect on the little hill top they had always used, and let their bodies crumble away to release their spirits to the sky. We hoped their spirits would plead with the winds to stop and bring back the warmth. Alas, they failed and the spirits remained angry.”

“Then some of the rest of us began to die. We lost many, and grieved long into the night. In the end, we moved away, south and east, far from here and onto the wide plain where there would at least be rivers that we might fish in. We met others of our kin, who had come from the east. They also were fleeing the angry spirits and the cold winds.”

“The shamans often went into their trances and tried to speak to the winds and the sun. By then, we were few and our kin to the east also were reduced in number. Others who had always lived in the lowlands would share food with us if they could and slowly we learnt the ways of the new land we

lived in. Still, we missed our old land.”

“One day, one of the shamans, Mamizlari, went into a deep trance. It was so deep that everyone thought his soul had permanently left his body never to return. He journeyed far in the spirit world. Instead of speaking to the winds and the sun, he went searching for the deer, the aurochs and the wild boar. He sought fierce spirits who could stand up to the wind and the sun and force them to bring summer back to the land.”

“Mamizlari woke at last and came back to us. He had found the spirits of the deer. They told him that they had been hurt and upset that we had not shown them the proper respect and so would not defend us against the cold from the north. Mamizlari taught us a new way to respect the deer and to hunt them properly without causing offence. The bow and the arrow were the right way, not the spears that we had always used.”

“Of course, we had used bows before, but only for hunting the small game, like hares and badgers. We thought it would be insulting to use them to kill deer. Alas! We were wrong. The deer felt great kinship with all the fur-bearing animals. They were insulted that we thought them not worth hunting with the bow. We soon mended our ways, Mamizlari teaching us the right words and gestures to use to show our respect to the deer.”

“Not long after, the spirits heard us and began to fight back against the wind and sun on our behalf. The summers grew warmer, the snow in winter less deep. We now felt comfortable among the trees, and had learned the names and uses of the plants they sheltered. As the trees marched back north, we went with them, seeking our old land and our old lake.”

“So, here we are. Back where we belong, showing our respect properly to the deer, and listening to the words of our shamans. Of course, the spirits of the dead old ones were happy. They no longer had to wander trying to speak to the wind and the sun. They come back to earth and found new homes in the children now being born. The old ones are still with us because we ourselves are the old ones, reborn in new bodies time after time.”

The children clapped and chanted, “we are the old ones”. They were no longer bored and ran off to play at hunting the deer with bows and showing it proper respect. The adults smiled, knowing the children had learnt an important lesson – show respect to the animals, behave in the right way and listen to the shamans.

Chapter 7. Boy or girl, animals or plants?

Gazte was seriously annoyed. Mother had told her she had to come gathering the berries with her today. She, mother, Ume and Mutil would all go off into the wood with their wicker baskets strapped to their backs and search for all kinds of ripe berries. Meanwhile, her brother Lagun was off with their father and Osaba and Senar in a different part of the wood going after the animals. She would much rather be with them.

Where was the fun in creeping up on a blackberry? Emakume had taught her all the names of the

plants since she had been a young girl. She knew their uses, which ones were good for settling a sick stomach or taking away the headache. She knew which ones tasted good with the wild boar, and which went better with the fish. Gazte felt her head was filled with all this knowledge. It was heavy, weighing her down, stopping her from having fun.

Mutil loved coming with his cousins on the search for the berries and the leaves and roots. He could think of nothing better than the colours and smells of the forest. Back in camp, he would shuffle up close to mother when she was preparing the roots or mixing the berries and leaves with the fish. Now that he was six, he was being trusted to go off on his own and explore the forest a little, just so long as he stayed within site of camp. His father Aita would beckon him over and show him how to strike the flint with the antler to make new blades and shape them into pieces they could fit into the wooden handles and shafts to make arrows and knives. Flint was hard, harsh and made a thin sound. It was nothing like the softness, colours and smells of the plants he loved.

They had a good day collecting in the woodland and back in camp they set their baskets on the ground and stretched. Gazte wanted to run off and use up some of her energy. She saw Aita's bow resting up against the wall of his house. She cast envious glances at it. She yearned to pick it up and fire arrows with it, but did not dare. It was one of their rules: you never fired someone else's bow. The bow was part of them, an extension of their arms. Even to touch it without asking would bring a stern rebuke.

Instead, Gazte had to sit with the others sorting through the baskets of fruit, mushrooms and leaves. Sitting, when she wanted to be active, stalking through the forest, searching out the animals, following tracks and signs to where they might be.

Mutil was happy, with the others chatting and picking through the fruit, getting rid of rotten ones and thorns. Seeing a strange leaf, he would ask Emakume what it was. Slowly, he was learning about the names of the plants and their uses. He sometimes asked Gazte to tell him these but she was always irritable and reluctant to talk about them. Last month Ume had had a headache and he had hugely enjoyed helping Emakume go and collect the willow bark, then pound it and add the water. Sloshing it around the birch bark bowl, the thick murky liquid could then be drunk. It didn't taste nice. He had laughed at Ume's face when she drank it, but he had enjoyed helping and was glad when Ume's headache went away.

Later that day, the men returned with a wild boar slung on a pole between them. Their hunt had been successful. Not only the boar, but Senar had managed to shoot a hare as well. As the men carefully hung the boar from the strong branch of a tree, Gazte ran over to see. She knew they would soon be getting their flint knives to cut open, skin and butcher the boar, and she wanted to be there to help. Gizon looked over and rolled his eyes at Emakume. They had talked about this before. It was Mutil who should be eager to help, not Gazte. Emakume just smiled back and shrugged. After all, she remembered that her cousin Ama had loved helping with the hunt when she had been young.

Mutil came over to the men but was more interested in playing than helping with the boar. Lagun took pity on him and took him off along the lake and the woods but not too far from the camp. He liked Lagun and remembered playing with him and Neska last year. Playing at hunting with Lagun was OK, but he usually wanted to be the deer hiding and running away before Lagun could tag him.

Aita and Emakume talked quietly by the fire in the evening, while their children were over with Gizon and Ama helping to put new thatch on their house. Aita was worried. Gizon's son had turned out well, helping with the hunt and eager to learn. He had hoped that Mutil would be the same. He was trying to teach him how to knap the flint and help with butchering the animals but he could tell that Mutil's heart wasn't in it. Mutil seemed much keener on being with his sister and her cousins.

But then Gazte was a worry too. She would soon be a woman and Emakume needed to think about whom she might marry. There were a few young men in the other families who she might like. Gazte though was more interested in wanting to go and hunt. Aita knew she had been looking at his bow, although that seemed simply wrong to him. A woman should not own a bow! He knew Emakume loved her daughter but thought that she should be more like her sister Ume or his own daughter Neska. Emakume was less worried and urged Aita to persuade Gizon let her come and help on the next hunt. It might make her understand how difficult it was. If not, then at least the family might have another good hunter. At least Mutil was taking her place in the gathering and was really keen to learn about plant lore.

They all went to bed thinking about the future. Aita worried about whether to ask Gizon if he should make a bow for Gazte. Emakume was wondering who Gazte might end up marrying and hoped she found someone as good as Gizon. Gazte herself dreamt of tracking aurochs through the woodland. Mutil fell asleep remembering the smells and colours of the plants and berries they had gathered that day.

Chapter 8. Coming of age.

Lagun was feeling very nervous this morning. This was the day he was both looking forward to but anxious about. His father had told him at their winter home that something special would take place for him this summer at their lake home. He knew he was looking forward to seeing Neska and Mutil again, but wasn't sure whether he would enjoy playing with them the same way as he had last summer. He felt he was older, and some of the games they had played seemed a little silly now.

He still wasn't used to waking up alone in the small hut. He was used to sharing a bed with his sisters and brother in the same house as his parents. However, Gizon had explained that part of the special ceremony was to sleep at night on his own from one full moon to the next. At first he found it hard to sleep without his sisters and brother next to him to keep him warm. Now he quite liked being alone.

He left the hut and walked into the camp. The others treated him strangely. The mothers would

encourage their daughters not to look at him and avoid talking to him. He noticed his mother Emakume quickly hide something so he could not see what she had been working on. The adult men would give him orders to do whatever needed doing around camp. This morning it was fetching firewood. They had told him to do this before, but this morning he noticed that the adult men were watching him as he walked into the wood. After a while he heard them follow him. Now, he began to feel nervous.

As he began to walk back with his arms full of firewood, he noticed the men had formed a rough line between him and the camp. Aita stepped forward, arms out and palms up as though talking to a stranger. He told Lagun to come with the men farther into the wood, away from the eyes of the women and children in the camp. They walked into a clearing in the forest, where they could no longer see or hear the camp. Lagun wondered what would happen next. Gizon had not said much about this part of the special ceremony.

They all sat, and Gizon brought out his fire-making kit of firestone and flint, and made a fire using the firewood Lagun had collected. They all sat round the fire and talked about what it meant to be a hunter, to show respect to the animals hunted and the sharing of the kill with the others. To learn all this, they said they had to know how it feels to be an animal. For Lagun to be one of them and leave his childhood behind, he had to become a deer and be hunted. His childhood would be killed and he could be reborn as a full man.

They stood Lagun on his feet and then strapped to his head a headdress made out of the skull of a red deer. Because he was still young, they had cut down the antlers to make it lighter for him to wear. Gizon as the eldest male took him to one side and gave him his instructions. Lagun went off into the wood, out of sight of the men and wandered left and right through the trees. He listened carefully, trying to hear the hunters coming after him. They were skilled and made no noise. He crouched on all fours, hoping they would not see him. Crawling through the wood, he brushed against branches and rustled the leaves.

Suddenly, an arrow whistled over his head and landed in the earth to one side of him. He looked up, startled and began to run. Another arrow narrowly missed him. But the hunters had been careful, they formed a line in the trees and if one could not see him then others could. The third arrow struck him lightly on the side of his leg. He straight away fell down as Gizon had told him to do. The arrows were only light, blunt tipped with no flint arrowhead. The hunters only partly drew back their bowstrings so the arrows would not go far or fast. He was not hurt other than a bruise on his leg. The hunters came up and surrounded him. The one who had shot him knelt down and thanked the spirit of the deer for allowing one of his animals to be caught. It would feed the whole group for several days. The hunter then drew his knife and cut the leather strap holding the headdress on Lagun's head. He was now 'dead'. His childhood had been killed.

The men helped him back to the fire. They stood round chanting quietly. Their shaman brought out his drum and started beating it in a slow rhythm. Lagun joined in the chant. As they chanted, they

swayed slightly. The drum was passed round the circle until it came to Lagun. Gizon had told him what to do. He kept the drum and began beating louder and faster. As he beat he turned round and round and began dancing with the others around the fire. The sound and the turning made him feel light-headed. His attention drifted away from the others. He slowly stopped turning and could no longer hear the others. His world was only him and the fire.

Eventually, he noticed the flames of the fire had a life of their own. One flame grew big and came towards him. Others changed colour, from red to green to blue and yellow. His head began to swim and the trees around him began to bend and whisper. He felt the wood was whispering about him, judging him to be inadequate, not good enough to be a hunter. His vision narrowed until all he could see was a spotlight shining into the darkened wood. The spotlight searched this way and that through the trees. Eventually, it came upon a hare, sitting looking at him. The hare somehow spoke in his mind. He could not hear words but he knew what it was saying to him – “do not worry, you will be a good hunter, you will bring back a lot to share with your family”.

Lagun opened his eyes. He was kneeling on the ground and the men stood over him, smiling. They welcomed him back. They asked him where he had been, what he had seen. They explained that his spirit had left his body and travelled to the spirit world where everything is alive. Usually, only shamans could do that. If he tried again, there was a risk that his spirit might never return to his body. He told them about the hare. This was good. The hare was his personal spirit helper, now and forever. He must always show respect to the hare in future.

They talked long into the evening, teaching Lagun about hunting and the making of bows and arrows. Later, they went back to camp. His headdress was given to the lake, for the spirits as a thanks for their help. Emakume welcomed him, embracing him and giving him a gift of leather trousers to wear now he was a man, and showed him his new bed in the house where he would now sleep. His sisters teased him of course, saying that now he was a man he should leave them and go find himself a wife. Across the camp, he could see Neska was looking at him but in a new way, very shyly, no longer as her playmate and childhood friend.

Chapter 9. A new life.

Neska groaned as she got up off the bed to go out and greet the morning. She felt so heavy these days. She wondered whether Ama had felt the same way when she had been pregnant with Neska. Lagun was already up and out in the warm sunshine. He was sitting and mending one of the fish traps. She never got tired of looking at him. His wavy brown hair framed his face with his blue eyes concentrating on his task. Her old home was across the other side of the clearing. Ama and Aita were busy about their work, while Mutil was now grown up and an adult. He was getting ready to go off hunting with Osaba.

It would be soon now. Neska wondered if Ama or even Aimona would be the one to help. She would prefer Ama, her own mother, but Aimona had more experience of helping with the birth of a baby. She was eager now to see the new baby that had been growing inside for so long. She was

sure it would be fine. She knew that the spirit of Chozuri would be watching over to help her. Chozuri had lived far to the east, where the sun rose. Chozuri was the same age as Neska, 19 years old. She had had her first baby but the baby boy had taken too long to come out. By the time it was born, she was very weak and could not stop bleeding. Chozuri had died, and her baby very soon after. They had buried them side by side, the baby laid on a swan's wing. The swan was their clan and the spirit of the swan would help guide the baby's spirit into the other world. Chozuri had chosen not to come back into the world reborn in another. She had chosen instead to stay in the spirit world and protect all future mothers.

Neska had made sure she followed the rules. She and Lagun had slept in separate beds for the last moon (she thought this was a stupid idea but kept that to herself). She had avoided eating any duck the others had caught as this was her particular spirit animal. Showing it respect would make the spirits be kind during the birth. She also avoided eating the leaves of the dandelion or any red-coloured berries. These were thought to be bad luck to pregnant women. However, she had enjoyed eating a lot of the deer and the fish, and had been really fond of the eating the cattails that she usually thought rather boring.

Lagun had finished mending the trap and he went with Neska into the wood looking for mushrooms and berries. He knew of a good place where he had spotted elder trees earlier in the year and there should be a lot of elderberries there now. The birch bark containers should be full by the end of the day. Neska was hoping for some good patches of mushrooms. They would be very tasty with the dried wild boar they had back at camp.

Neska began to feel a cramp in her stomach. A cramp that slowly came and went, as though her belly were tightening and loosening. Every few minutes Neska would stop and breath deeply. Lagun looked across and nodded, suggesting they go back to camp. Their containers were only half full, but they both knew the baby was on its way. Then the water inside her released and came out. They got back to camp and Lagun headed off to get Aimona. Neska settled down on the bed in their house. At last, the baby would come. She was relieved but happy.

Aimona arrived and made sure Neska came with her to a shelter that had been built especially for this. This was the sign for Lagun to go away and wait with the men. He wasn't too happy, but knew that Aimona would take care of Neska. She told Neska to walk around the shelter. This helped her cope with the cramps. Every so often Aimona would give her some some dried fish and the herbal tea from the plants that soothed the body. After a while the cramps were more frequent. Aimona brought her inside the shelter and told her to kneel down and breath deeply in and out.

It seemed like a long time, but as Neska breathed, she became more aware of her own body and the world outside seemed to fade away. She began pushing from the inside. Neska breathed hard and moaned. Would the baby never come? Aimona smiled, and told Neska of when her daughter Emakume had given birth to Lagun. He had been so stubborn and refused to come out into the world for a long time. Neska's baby was not so stubborn. Suddenly, the baby's head appeared and

Aimona guided it all the way out.

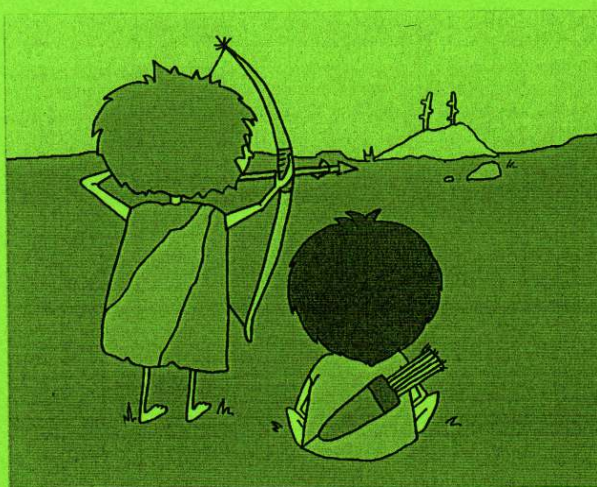
Aimona used the special flint blade that she had made earlier to cut the cord by the baby's tummy. She then carefully handed the baby to Neska. She looked tired but happy as she took her baby and held it for the first time against her chest. She could feel the little baby's heart-beat and hoped the baby could hear hers. The baby gurgled and Aimona helped her turn its head close to her breast and helped the baby begin to feed. Aimona had told her it was a girl. It didn't matter whether it was a girl or a boy. Every baby born into their world was precious. She wondered whose spirit had chosen to return the world in her new daughter.

Ama and Emakume were waiting on the edge of the camp. When Aimona called out, they rushed up to join Neska and look at the new girl in their family. Now Neska was a mother just like they had been all those years ago. They were happy Neska had grown up so well. The men then came to join them, standing to one side and nodding and smiling. Lagun came forward, eager to see his daughter and hold Neska's hand.

Back in the house, Neska and Lagun looked after their daughter together. He made sure that Neska took plenty of food to keep her strong. Neska was back the next day, helping out around camp and the day after came out gathering mushrooms with the others. She and Lagun wondered what the baby's name would be. Of course, they had to be sure it would live. They could not give her a name until after one full cycle of the moon had passed. Even then, the baby might not live long. After all, Neska's mother Ama had lost one baby only a year after his birth, as had Aimona. The meeting of the families at midsummer was often a time when the children would fall sick.

Of course, the baby's soul would be an old one. One of the old one's will have decided to come back to earth and live among them again. Neska and Lagun were happy about that. They just hoped it was a wise and happy old one.

TOOLS R US



Can you make tiny "microliths"
into useful hunter-gatherer
tools?

In association with:

THE UNIVERSITY of York



Note: This is taken from Helliwell, E, Elliott, B, Hadley, P, Loffman, G, Robson, H, Williams H & Borrett, J n.d. *Life in the Mesolithic: activity pack*, York: University of York

TOOLS R US– Mesolithic Flint Technology

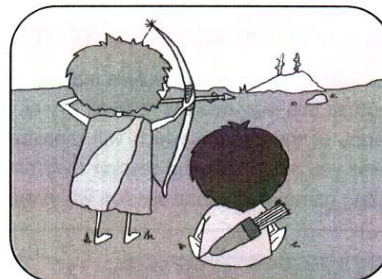
Leader Information Sheet



AIM OF THE SESSION

During this session we will explore the flint technology which the Mesolithic is most famous for - **microliths**.

By making replica microliths and experimenting with different haftings the participants will discover the versatility of these tiny flint tools.



BACKGROUND INFORMATION

Microliths are found on archaeological sites in Britain from the start of the Mesolithic period (9,500BC) and continue to be used until the beginning of the Neolithic period (4,000BC). They are found in great numbers and are often used as the diagnostic artefact for identifying Mesolithic activity at a site.

Microliths are small stone tools that have been manufactured from stone blades and retouched to form a variety of different shapes. In the Early Mesolithic (9,500-6,500BC) microliths were slightly larger c. 40mm in length with more minimal retouch across the leading edge. Later Mesolithic (6,500-4,000BC) microliths were much smaller c. 20mm in length and were retouched to form geometric shapes.

Further information about what microliths were used for and why Mesolithic groups might have started using them is available on the *Microlith Worksheet* included in this pack.

MATERIALS AND RESOURCES NEEDED

Starter Activity

- * Colouring pencils

Activity 1

- * Air drying clay/ Fimo modelling clay (one golf ball sized piece per person)
- * Modelling tools for clay
- * Rulers to act as a size guide for the replicas
- * Protective covering for modelling with clay
- * *Optional:* Circle of leather or cloth to make a carrying pouch. Base this on the Viking pouch example available on the YAC website <http://tinyurl.com/bxclwvx>

Activity 2

- * Wood in varying widths & lengths (collect twigs etc. or buy dowelling from a DIY shop)
- * Sand paper
- * Plasticine- 8 sticks

General

- * Tools R Us resources from this pack
- * 4 tables for hafting game

SUGGESTED 2-HOUR SESSION PLAN

1. **Starter activity:** Find the microlith (10 mins)
2. **Introduction:** Background to Mesolithic tools (10 mins)
3. **Activity 1:** Making replica microliths (20 mins)
4. **Break** (15 mins)
5. **Discussion:** What do hunter-gatherers need tools for? (10 mins)
6. **Activity 2:** Hafting microliths game (40 mins)
7. **Round-up:** Judging microlith hafting and discussion of versatility of this type of tool (10 mins)

8. Pack-up/ End

TOOLS R US– Mesolithic Flint Technology

Leader Information Sheet



NOTES FOR RUNNING THE ACTIVITY

The first half of the session involves making replica microliths out of modelling clay. Depending on the type of clay you use this may need time to air dry or be baked in the oven. You might want to prepare some replicas in advance of the session which will then be used in the hafting games which makes up the second half. Otherwise you could split the session over two meetings and make the replicas in the first session, and play the hafting game in a second session when the replicas have dried. *N.B. Fimo will need to be cooked to harden.*



AGE RELATED ADAPTATIONS

Younger participants could use pre-made microliths and simply try hafting them into a variety of tool types. Or they could make their own replicas by simply moulding and cutting the right shapes into the clay.

Older participants could follow the stages of making a microlith (on the worksheet) to make the replica making process more realistic.

RISKS TO CONSIDER*

- ♦ Wooden hafts may cause splinters; sand rough edges before use
 - ♦ Wood and modelling tools can be poked into eyes; ensure supervision
 - ♦ Fimo replica microliths can be quite sharp; careful handling needed
- * **Intended as a guide only and does not constitute a full risk assessment.**

OTHER USEFUL INFORMATION

Websites:

- ♦ www.stoneagetools.co.uk: A great website organised like a museum with lots of information about how stone tools were made and some additional teaching resources.
- ♦ www.ancientcraft.co.uk: An ex-YAC member who is now a flint knapper. Replica tool kits are available to buy and there is lots of information and useful links.

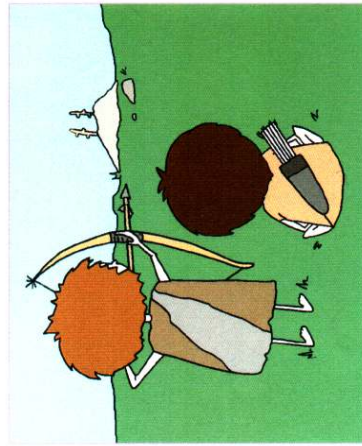
General books:

- ♦ Lord, John William. 1993. *The Nature and Subsequent Uses of Flint: The Basics of Lithic Technology*. First ed.
- ♦ Waddington, C. 2004. *The Joy of Flint: An Introduction to Stone Tools and Guide to the Museum of Antiquities Collection*. Museum of Antiquities: University of Newcastle-upon-Tyne.

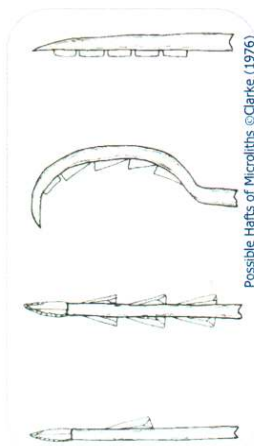
References used for this resource:

- ♦ Butler, C. 2005. *Prehistoric Flintwork*. Stroud, Tempus.
- ♦ Clarke, D. 1976. Mesolithic Europe: the economic basis. In: Sieveking, G. D. G., Longworth, I. H. & Wilson, K. E. (eds.) *Problems in Economic and Social Archaeology*. London: Duckworth.

TOOLS R US: Mesolithic Flint Tools



Long thin pieces of flint called **blades** were taken off the flint **core**



Possible Hafts of Microliths ©Clarke (1976)

Life in the Mesolithic lifeinthemesolithic.wordpress.com

People in the Mesolithic used **flint** (a type of stone) to create lots of their tools



Mesolithic people made tiny flint tools for the first time. These are called **microliths** and were less than 0.5cm long



Microliths were made by breaking a blade into smaller pieces. Several microliths were stuck into a haft to make **composite tools**

They shaped the flint using a stone hammer or a piece of antler. This is called **knapping**



A San Tribesman ©Wikimedia Commons

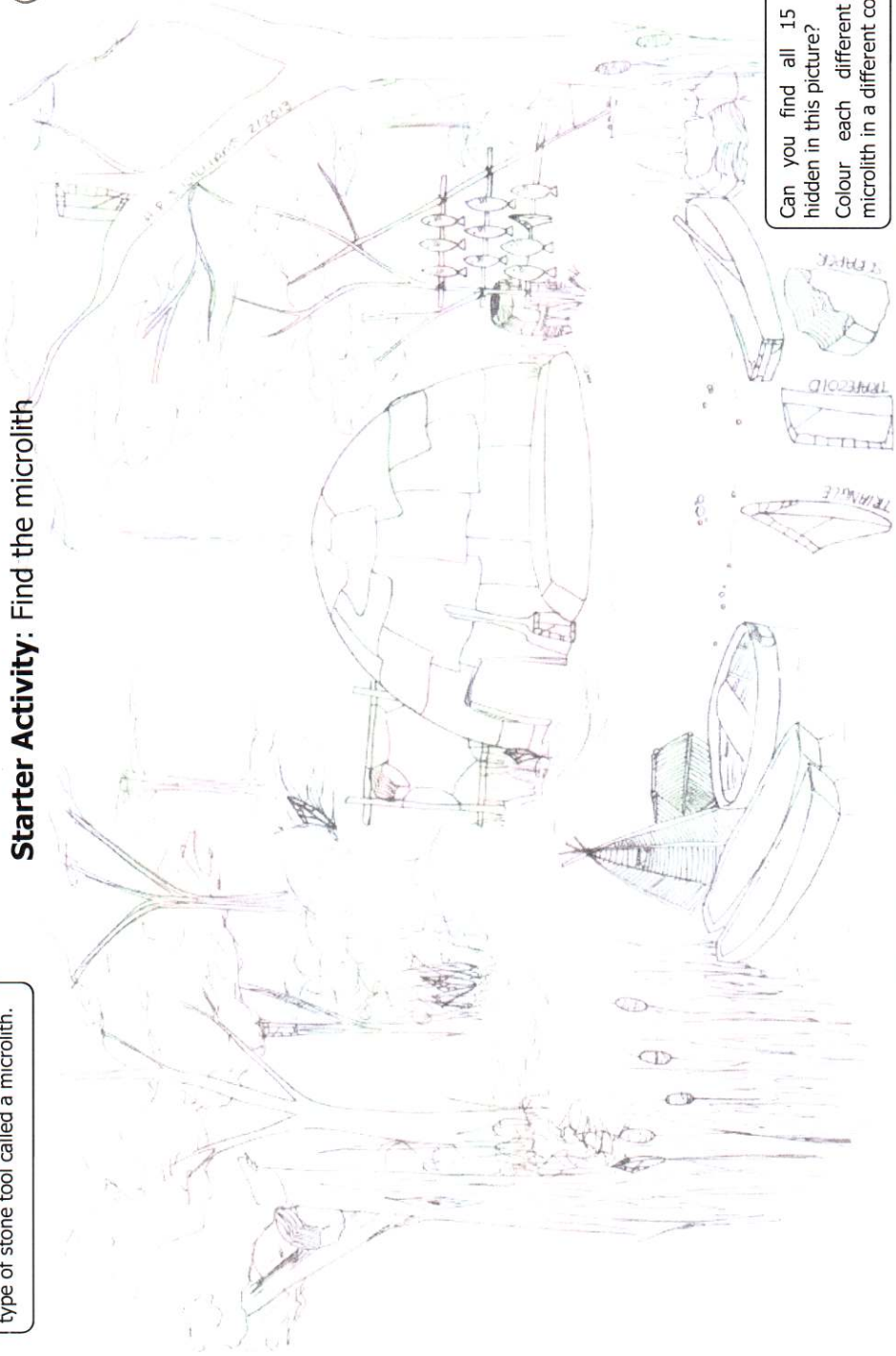
Archaeologists are not sure how the microliths would have been hafted, so they have studied **modern day hunter-gatherers** to get inspiration



TOOLS R US— Mesolithic Flint Technology

Starter Activity: Find the microlith

Mesolithic people made a special type of stone tool called a microlith.



Can you find all 15 microliths hidden in this picture?
Colour each different type of microlith in a different colour.



LIFE IN THE MESOLITHIC

Life in the Mesolithic <http://lifeinthemesolithic.wordpress.com>

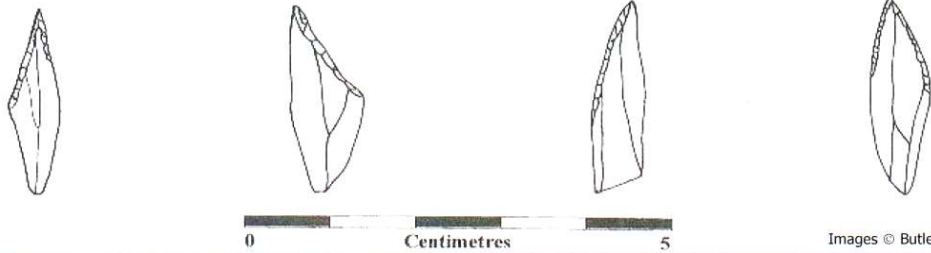
TOOLS R US– Mesolithic Flint Technology

Microlith Worksheet



This worksheet shows some common shapes for **Mesolithic microliths** and gives some additional **background information** about the tools. Use this with the *Tools R Us Activity 1* sheet to make your own microlith replicas. To use them in the *Tools R Us Hafting Game (Activity 2)* you will need about 20 microliths per person.

EARLY MESOLITHIC MICROLITH TYPES



Images © Butler 2005

LATE MESOLITHIC TRIANGLE

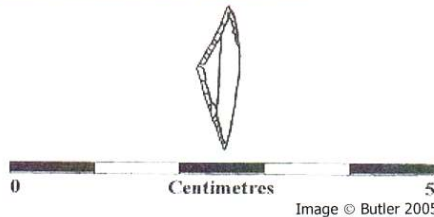


Image © Butler 2005

TRAPEZOID

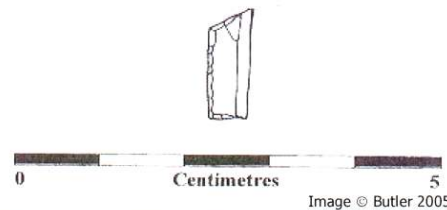
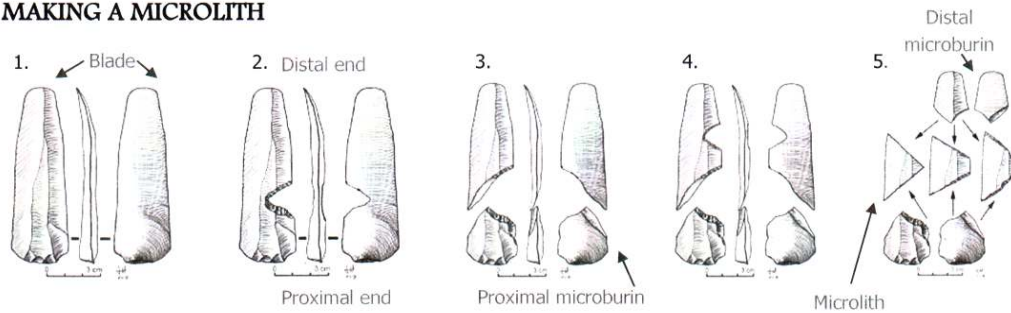


Image © Butler 2005

MAKING A MICROLITH



1. Start with a blade
2. Make a notch on the edge of the blade
3. Snap the blade to remove the proximal end of the piece (the broken off piece is called a proximal microburin)
4. Make a notch in the distal end of the blade and snap the end off (to make distal microburin)
5. Retouch the edges of the middle section to make the shape of a microlith

Pictures © José-Manuel Benito Álvarez, Creative Commons

TOOLS R US– Mesolithic Flint Technology

Microlith Worksheet



ADDITIONAL BACKGROUND INFORMATION

WHAT WERE MICROLITHS USED FOR?

Ethnographic research pioneered by David Clarke showed that small stone tools are used by hunter-gatherers around the world to make a vast variety of tools and it is likely that microliths were hafted onto wooden or bone hafts to form larger composite weapons and tools. Their small size makes it unlikely that they were used individually as cutting tasks could be better carried out with a simple flint flake with a sharp unretouched edge. Microliths have been found on archaeological sites deposited in a line with the wooden haft having decayed (eg. Dean Clough, England). In waterlogged sites in Scandinavia there are examples still attached to their haft. Microliths were probably hafted using combinations of birch glue and animal sinews or plant fibres.



Images © Butler 2005

WHY DID MESOLITHIC GROUPS START TO USE MICROLITHS?

A number of factors relating to the changing conditions of the post glacial landscape probably drove the development of microlith technology. The environment warmed considerably during the Mesolithic with open tundra giving way to an increasingly forested environment. In the preceding Upper Palaeolithic hunter gatherers may have used spears with larger flint points to take down larger mammals of the tundra. While in the Mesolithic the environment meant that smaller more fleet of foot animals such as red deer were hunted with microliths making excellent barbs for arrows.

Microlithic technology also allowed the replacement of individual components should they break during use and their small size made it possible to carry a supply of readymade replacements. This would have been a great advantage as groups moved great distances from sources of flint. Different patterns of mobility after the Ice Age may have made large flint nodules hard to find and meant that microliths, which are made from smaller blade blanks than Upper Palaeolithic points, became more suitable tools.

Technology is also entwined with the social interactions of a society. The manufacture of microlithic tools involves collecting a variety of raw materials for a number of different tasks (woodworking, flint knapping, making birch glue, hafting etc.). These may have been carried out by different members of the group and the traditions of making microliths may have played a large part in the persistence of this technology throughout the Mesolithic.

TOOLS R US– Mesolithic Flint Technology

Activity Sheet 1: Making Replica Microliths

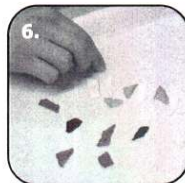
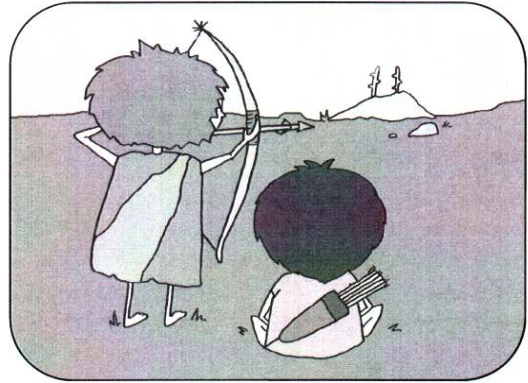


BACKGROUND

You will be making replica **Mesolithic microliths**. These are tiny stone tools, half the size of a 1p coin, which are often found on Mesolithic sites.

Mesolithic people made their microliths out of **flint**, a type of stone, because it has very sharp edges when it is broken.

Try to make your replicas as small as you can—imagine how fiddly it must have been for Mesolithic people making them out of stone!



INSTRUCTIONS

You will need:

- * A ball of modelling clay the size of a 50p coin
- * Modelling tools
- * A ruler to check the size of your microliths
- * A plate or tray to put your microliths on to dry
- * Microlith worksheet
- * *Optional:* Circle of leather or cloth and cord to make a carrying pouch

What to do:

1. Warm the modelling clay by rolling it around in your hands until it is soft enough to work with
2. Break off a very small amount of clay; you don't need much because your tool should be less than 1cm big
3. Choose which microlith you will make from the Microlith Worksheet
4. Flatten out the clay and cut it into a microlith shape
 - Tip:** Make sure that you can still lift the clay off the table after you have flattened it out.
5. Press down the edges of the clay so that they are thinner than the middle. This will look like **retouching** of the tool, where Mesolithic people sharpened the microliths after they had been used for a while
6. Put your replica microliths on a plate or tray to dry
7. Keep making lots of different types of microlith for your Mesolithic toolkit. You will need at least 20 microliths to do well in the Mesolithic hafting game!
8. If you want to you could make a pouch to carry your microliths in

TOOLS R US– Mesolithic Flint Technology

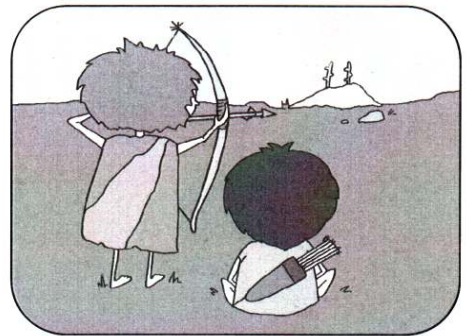
Activity Sheet 2: Hafting Game



BACKGROUND

Mesolithic hunter-gatherers were the first people to use bows and arrows. After the Ice Age most of the landscape was covered in forest and it would have been easier to fire an arrow than throw a spear, especially because the animals were smaller and faster in the Mesolithic too.

Archaeologists think that **microliths** are so small because Mesolithic hunters used a few of them to make an arrow. Their small size also made them ideal for making all sorts of other tools. Each tool would have been made out of several microliths which were **hafted** (stuck) onto wood- these are called **composite tools**.



INSTRUCTIONS

Depending on the size of your group and resources available you can either split the participants into 4 teams who will haft one tool per team per station, or split them into 4 groups and each individual hafts one tool at each station. Allow at least 5 microliths and one piece of wood per tool.

You will need:

- * 4 tables positioned around the room to act as stations for hafting tools
- * 4 hafting resource sheets, 1 for each station
- * Plasticine– 2 sticks at each station
- * Wood in varying widths & lengths (enough for 1 piece of wood per person/team at each station)
- * 20 replica microliths per person/ team
- * *Optional:* Pouch for each person/ team to carry the microliths in

What to do:

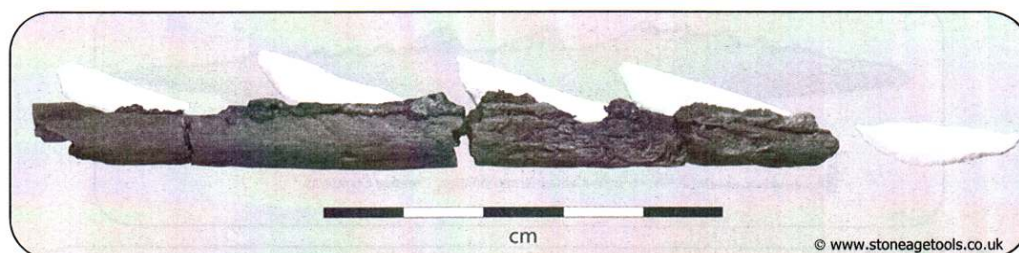
1. 10 minute discussion on what types of activities that hunter-gatherers might have been doing in their lives, eg. hunting and skinning animals, cutting and processing plants etc.
2. Split group into 4 teams and allocate one group to each hafting station.
3. Spend up to 10 minutes at each station. Think about the activity and design and haft a tool which can be used for this activity.

Tip: Choose the microliths and wood wisely as there are only limited resources and each person/ team will need to leave enough to make all four tools.

4. After 10 minutes each team moves round to the next station and repeats the hafting for a new activity type. At each move they should take their completed tools with them ready to be judged at the end.
5. When every team has been to each station come back together as a group and compare the designs of each tool. Have they come up with similar designs? Judge which individual/team has the best Mesolithic toolkit and declare a winner!

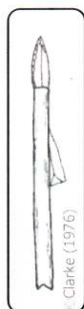


Station 1: Hunting



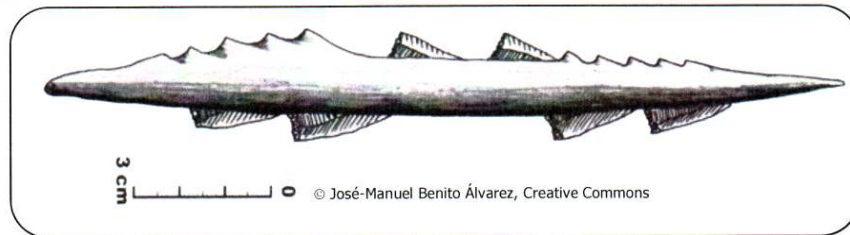
What type of tools did Mesolithic people need for hunting animals?

1. Choose a type of wood that you would like to make your tool out of
2. Decide which shapes of microliths you will use to make this hunting tool
Tip: Don't use too many microliths for this tool- you need to leave some for the other tools at the other stations
3. Use plasticine to haft (stick) the microliths to the wood to make the best tool possible
Question: What would Mesolithic people have used instead of plasticine to haft their microliths?
4. Keep your tool safe when you move to the next station, you will need to show it to everyone else at the end of the game





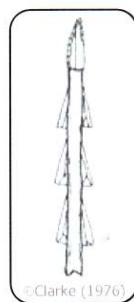
Station 2: Fishing



We know that Mesolithic people ate a lot of fish. Can you make a fishing tool out of wood and microliths?

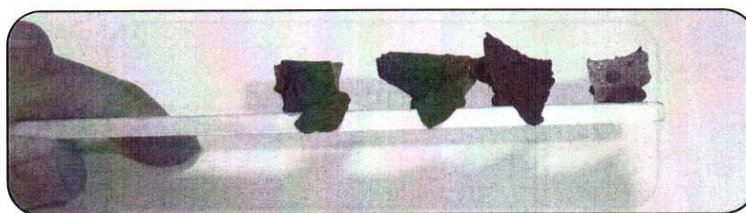
Question: What type of tools apart from nets can you use to catch fish?
Answer: Harpoons were probably used as well as nets during the Mesolithic.

1. Choose a type of wood that you would like to make your tool out of
2. Decide which shapes of microliths you will use to make this fishing tool
Tip: Don't use too many microliths for this tool- you need to leave some for the other tools at the other stations
3. Use plasticine to haft (stick) the microliths to the wood to make the best tool possible
4. Keep your tool safe when you move to the next station, you will need to show it to everyone else at the end of the game





Station 4: Gathering



Mesolithic hunter-gatherers didn't only eat meat and fish. They must have eaten a lot of gathered foods, like hazelnuts, berries and roots.

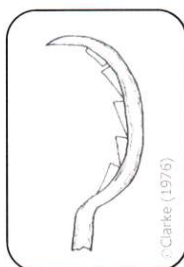
What type of tool would you find useful when gathering?

Tip: Think about how you would gather roots and plants which are tough and hard to pick by hand.

1. Choose a type of wood that you would like to make your tool out of
2. Decide which shapes of microliths you will use to make this gathering tool

Tip: Don't use too many microliths for this tool- you need to leave some for the other tools at the other stations

3. Use plasticine to haft (stick) the microliths to the wood to make the best tool possible
4. Keep your tool safe when you move to the next station, you will need to show it to everyone else at the end of the game



We know that Mesolithic people liked hazelnuts because we often find burnt shells at Mesolithic sites.

FOOD: WHICH OF THESE COULD YOU EAT (TEACHER'S VERSION)

PLANTS, MUSHROOMS AND SEAWEED

Which of these could you eat?

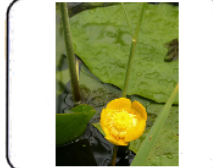
Be careful - some you could eat but some are poisonous!



Bladder wrack



Nettle



Yellow water lily



Brown birch bolete



Sea lettuce



Wild strawberry



Blackberry



Saffron milkcap



Black briony



Death cap



Cattail



Woody nightshade



Pine



Devil's bolete



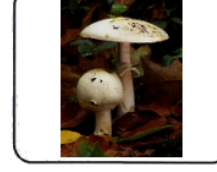
Fool's Parsley



Hazelnuts



Fly agaric



Wood mushroom

FOOD: WHICH OF THESE COULD YOU EAT (PUPILS' VERSION)

PLANTS, MUSHROOMS AND SEAWEED

Which of these could you eat?

Be careful - some you could eat but some are poisonous!



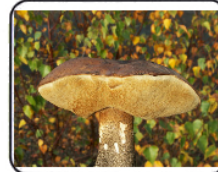
Bladder wrack



Nettle



Yellow water lily



Brown birch bolete



Sea lettuce



Wild strawberry



Blackberry



Saffron milkcap



Black briony



Death cap



Cattail



Woody nightshade



Pine



Devil's bolete



Fool's Parsley



Hazelnuts



Fly agaric



Wood mushroom

FOOD: WHOSE FOOTPRINTS? (TEACHER'S VERSION)

FOOTPRINTS IN THE SAND

Whose footprints?



Can you work out what animal made the footprint trails on this sheet?



WOLF



FOX



DOG



ROE DEER



BEAVER



BADGER



SQUIRREL



HARE



MOLE



STOAT



CAT



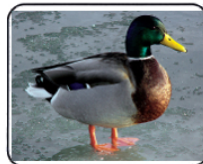
OTTER



BEAR



MARTEN



DUCK



HEDGEHOG



RED DEER



LYNX

FOOD: WHOSE FOOTPRINTS? (PUPILS' VERSION)

FOOTPRINTS IN THE SAND

Whose footprints?



Can you work out what animal made the footprint trails on this sheet?



















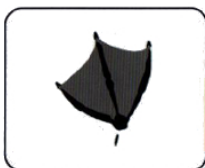




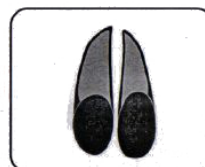














FOODS: FOODS – THEN AND NOW (TEACHER’S VERSION)

FOODS - THEN AND NOW

Can you tell which foods were eaten in the Mesolithic?



Red deer



Bread



Peas



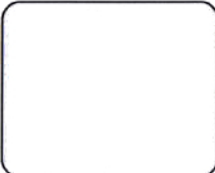
Crab apples



Pasta



Wood mushroom



Chocolate



Limpets



Milk



Salmon



Carrots



Chips



Nettle



Wood snail



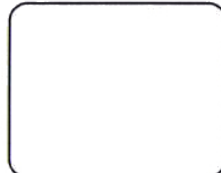
Duck eggs



Oranges



Hazelnuts




Cheese

FOOD: FOODS – THEN AND NOW (PUPILS’ VERSION)


FOODS - THEN AND NOW

Can you tell which foods were eaten in the Mesolithic?




 Red deer



 Bread




 Peas




 Crab apples




 Pasta




 Wood mushroom



 Chocolate




 Limpets



 Milk



 Salmon



 Carrots




 Chips




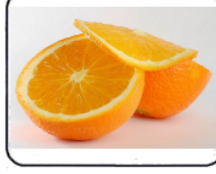
 Nettle



 Wood snail



 Duck eggs



 Oranges



 Hazelnuts



 Cheese

FOOD: THE MESOLITHIC PICNIC (TEACHER VERSION)

The full score sheet (example)

Type	Food	Size	Portions	KCals.	Total	Protein	Fat	Sugar	Fibre	Vitamins	Minerals
eggs	duck egg	1	2	1	2	★	★			★★★	
fish	salmon	½ fillet	2	3	6	★★★	★			★	★★★
fowl	duck breast	½ breast		2		★★★	★				★
fruit	crab apples	2	2	2	4	★	★	★★★	★	★★★	★
fungi	mushrooms	5		½		★	★	★	★	★	★
leaves	nettles	30 g	3	0	0	★	★	★	★	★★★	★
mammal	red deer	100 g	1	2	2	★★★	★		★	★	★
nuts	hazelnuts	15		1		★	★★★	★★★	★★★	★★★	★★★
roots	cattails	1	2	½	1	★	★	★★★	★		
seaweed	laver	10 sheets		1		★	★	★	★★★	★★★	
seeds	fat hen	80 g		0		★★★	★★★	★		★	
shellfish	crayfish	1		1		★	★	★			★★★
TOTAL			12		15	2		2		3	1

QUESTION 1

Which foods have you got that give the most nutrients?

- Protein - salmon, red deer
- Fat - none
- Sugars - crab apples, cattail roots
- Fibre - none
- Vitamins - duck eggs, crab apples, nettle leaves
- Minerals - salmon

QUESTION 2

How much energy have you eaten? 15

- A man needs 25 units a day 10 units short
- A woman needs 20 units a day 5 units short
- A boy of 7 needs 17 units a day 2 units short
- A girl of 7 needs 16 units a day 1 unit short

Add more food until you get enough energy!

FOOD: THE MESOLITHIC PICNIC (PUPILS' VERSION)

The rules

You must choose 6 types of food

You are allowed 12 items in total

Write down the number of portions of six of the foods you will take

Your personal score sheet

Type	Food	Size	Portions
eggs	duck egg	1	
fish	salmon	½ fillet	
fowl	duck breast	½ breast	
fruit	crab apples	2	
fungi	mushrooms	5	
leaves	nettles	30 g	
mammal	red deer	100 g	
nuts	hazelnuts	15	
roots	cattails	1	
seaweed	laver	10 sheets	
seeds	fat hen	80 g	
shellfish	crayfish	1	
TOTAL			

Each food gives you nutrients for your body.

Proteins - for making the body's tissues like muscle and skin

Fats - a way of storing energy and protecting the body's organs

Sugars - the main source of energy we use every day

Fibre - essential for a healthy digestive system

Vitamins - involved in the chemical processes of the body

Minerals - small amounts are essential for how the body functions

Which food do you think gives you the most of each nutrient?

Proteins -

Fats -

Sugars -

Fibre -

Vitamins -

Minerals -

Fill in the full score sheet and see if you were right.

THE MESOLITHIC PICNIC

The full score sheet (example)

Type	Food	Size	Portions	KCals.	Total	Protein	Fat	Sugar	Fibre	Vitamins	Minerals
eggs	duck egg	1		1		★	★			★★★	
fish	salmon	½ fillet		3		★★★	★			★	★★★
fowl	duck breast	½ breast		2		★★★	★				★
fruit	crab apples	2		2		★	★	★★★	★	★★★	★
fungi	mushrooms	5		½		★	★	★	★	★	★
leaves	nettles	30 g		0		★	★	★	★	★★★	★
mammal	red deer	100 g		2		★★★	★		★	★	★
nuts	hazelnuts	15		1		★	★★★	★★★	★★★	★★★	★★★
roots	cattails	1		½		★	★	★★★	★		
seaweed	laver	10 sheets		1		★	★	★	★★★	★★★	
seeds	fat hen	80 g		0		★★★	★★★	★		★	
shellfish	crayfish	1		1		★	★	★			★★★
TOTAL											

QUESTION 1

Which foods have you got that give the most nutrients?

Protein -
Fat -
Sugars -
Fibre -
Vitamins -
Minerals -

QUESTION 2

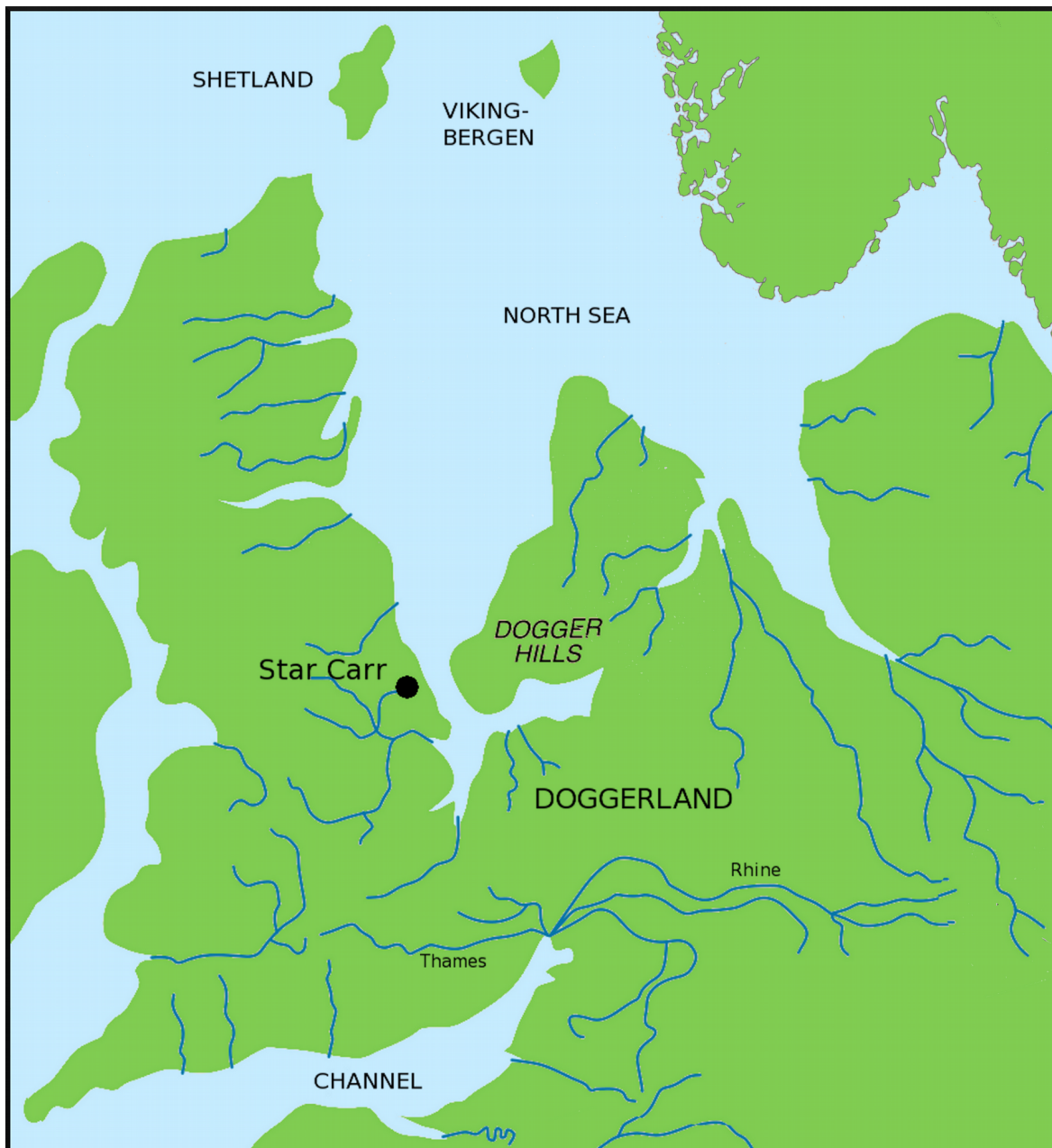
How much energy have you eaten? 15

A man needs 25 units a day
A woman needs 20 units a day
A boy of 7 needs 17 units a day
A girl of 7 needs 16 units a day

Add more food until you get enough energy!

THE BAD OLD DAYS: MAP OF DOGGERLAND

DOGGERLAND 11,000 YEARS AGO



The map is adapted from one on Wikimedia Commons by Max Naylor.

The Vedbæk burial

7,000 years ago
Woman aged 18,
and her new born baby



At Vedbæk,
north of Copenhagen,
Denmark

Image courtesy of Inge Rein, Vedbaek Finds, Rudersdal Museums, Denmark

LESSONS FROM THE MIDDLE STONE AGE

This resource consists of a set of activities based around lessons for today that we could draw from the Mesolithic.

Lesson 1. Change is inevitable [link to heading below]

Lesson 2. The living environment [link to heading below]

Lesson 3. Healthy eating [link to heading below]

Lesson 4. What makes us happy [link to heading below]

Lesson 5. The origins of ourselves [link to heading below]

Lesson 6. Human diversity [link to heading below]

Additional activity. The great debate [link to heading below]

A teacher's version of the lessons can be found **here**. [link to Lessons_teacher.pdf]

The great debate can be found **here**. [link to The_Great_Debate.pdf]

A pupils' version of the lessons can be found **here**. [link to Lessons_pupils.pdf]

For each lesson there is:

- a fact file;
- suggested classroom activities;
- the outline of a possible story to write.

Change is inevitable

This looks at the inevitability of climate change and how people have to respond and cope with it. The wider lesson is that the world and human culture never stays the same.

The living environment

Hunter-gatherers saw the environment as a living thing with its own spirits and that people were part of nature, not separate from it. A sustainable life is one that respects the environment and lives with it not against it.

Healthy eating

The Mesolithic diet was very varied, and was based on local, seasonal and fresh foods. It contrasts greatly with our modern diet and offers lessons in how to eat more healthily.

This lesson is supported by a separate information sheet:

- Seasonal foods [[link to Seasonal_foods.pdf](#)]

What makes us happy

Mesolithic people had far fewer possessions that we do today, but would have had rich social lives centred around their family and clan. This lesson makes us think about what is really important and makes us happy in the modern consumerist world.

The origins of ourselves

The people of the Mesolithic were the founding settlers of today's Britain. This initial stock of people has been added to over the last 6,000 years by repeated waves of immigrants bringing new ways of life and new cultures to enrich our island people and our story.

Human diversity

The Mesolithic way of life was very different to our own and yet was very successful, lasting for more than 5,000 years. To study it shows that other ways of life and culture than ours should be respected. There is more than one way of being human and all should be cherished.

The Great Debate

This is an activity based on a debate about whether prehistoric people were noble savages or nasty and brutish. The aim is to get pupils to think about how we value the past and different ways of life.

This is supported by information sheets:

- Possessions in the Mesolithic [[link to Using_deer.pdf](#)]
- Men, women and children [[link to Raven_camp.pdf](#)]
- Mesolithic foods [[link to Foods.pdf](#)]
- Nutrition [[link to Nutrition.pdf](#)]
- Violence in the Mesolithic [[link to Vedbaek.pdf](#)]

LESSONS FROM THE MIDDLE STONE AGE (TEACHER'S VERSION)

The Mesolithic is a strange and remote period of human history. It doesn't have any impressive monuments. Its people left us no writing. But, it was an important phase in the human story. When we study it, we can learn useful lessons to help us both live better lives today and understand the world we live in.

Here we will explore six of these lessons:

1. Change is inevitable;
2. The living environment;
3. Healthy eating;
4. What makes us happy;
5. The origins of ourselves;
6. Humans can be different.

Each of these can be the subject of a classroom project. The children could develop a museum display, or create a website, write a newspaper, or make a TV programme. This would involve research, discussion and writing.

Museum display

This would involve finding images that illustrate the theme and writing captions that explain the theme to visitors. Images should be of both Mesolithic and modern finds, sites or illustrations.

Website

This is similar to creating a museum display except that the images and text would be designed for a webpage. You could copy the layout of a favourite webpage.

Newspaper article

This is an exercise in writing skills. The way journalists write is to use a headline, state the main point of the article then give the details. They like strong motifs, such as oldest, best, most important, rarest etc. They also like controversy, so quoting someone who disagrees with the theme.

TV programme

This could involve creating storyboards, a bit like cartoons. They would show the presenters and what they would say with the images they are talking about.

How to write like a journalist or museum curator.

Ask a set of questions and use the answers as the basis for the story or display. You will need a headline for the article or a title for the website, programme or display.

The headline or title

Example

Who are they?	A girl called Neska
What did they do?	Fell in the lake

The story

Who are they?	Neska
What are they?	A 9 year-old girl
When were they?	11,000 years ago in the Mesolithic Age
What did they do?	She fell from a boat into the lake
How did they do it?	She was rocking the boat from side to side
Why did they do it?	She thought it would be fun and scare her father
What was the result?	She is now afraid of the spirit of the lake

CHANGE IS INEVITABLE

Key lesson

That people lived in a changing world and had to adapt and change to it over time. Ways of life and culture never stay the same. The Star Carr families will eventually have to move elsewhere.

Key question

How would the lives of Neska and Lagun's descendants been different to theirs?

FACTFILE

Climate change

The last ice Age was at its height from around 22,000 to 16,000 years ago when thick ice sheets covered northern Britain and the south was too cold for plants or animals to survive. The climate began to warm up slowly from 16,000 years ago. Summer temperatures averaged 7° C. As the ice melted, plants and animals returned to Britain: grass, dwarf birch and dwarf willow, with horse and reindeer, and later also mammoths and bison.

There was a sharp increase in temperature around 14,700 years ago. Average summer temperature increased to 19° C and winter averages to -1° C. This was when people returned to Britain. The earliest evidence is from Gough's Cave in Cheddar Gorge at 14,800 years ago. The people at this time had an Upper Palaeolithic culture.

Then, suddenly, at 12,900 years ago, the climate got much colder again. Summer temperatures remained high at an average of 10° C, but the winter average fell to -20° C. Ice sheets began to grow in the mountains. We are not sure whether people still lived in Britain at this time. Perhaps they came only in summer, hunting the horse and reindeer.

Again, very suddenly, the temperature got warmer, at 11,640 years ago. It probably rose during one person's lifetime to a summer average of 12.5° C and a winter average of -5° C. The Ice Age was now definitely over. Birch forest began to spread again, and red deer, wild cattle, wild boar and elk came back to Britain, followed by people who developed a new Mesolithic culture. The melting ice had left behind a lot of lakes, by which people could live.

By 10,500 years ago, there was a thick woodland of birch, pine and hazel trees. Hazel slowly took over and average temperatures rose to 17° C in summer and 4° C in winter. The lakes slowly filled in and dried out to become marsh. People had to find others places to live.

Around 8,200 years ago, a huge North American lake lost much its water into the north Atlantic and the climate began to get much wetter. Temperatures still rose, to a summer average of 17.5° C

and 5°C in winter (around 2° C warmer than today). The forest changed into the dense woodland of elm, oak, alder, hazel and lime trees.

This warm and wet climate lasted until around 6,300 years ago when temperatures began to cool and the climate became drier. Shortly after this, farming was introduced into Britain and a new Neolithic culture replaced the Mesolithic.

Sea level

At the height of the Ice Age, there was so much water locked up in the ice that the level of the ocean was 120 metres lower than today. The sea level rose as the ice melted and by the end of the Ice Age it was only 60 metres lower than now. This was still low enough that Britain was connected to the rest of Europe by a large land mass across the southern half of the North Sea. Archaeologists call this lost land Doggerland. A person could have walked from modern Scarborough all the way across to Copenhagen in Denmark.

Sea level continued to rise, and at some point Doggerland was submerged under the new North Sea and Britain became an island. We are not sure exactly when this was. Contact across Doggerland may have been lost by 8,400 years ago. Then at 8,100 years ago there was a massive underwater landslide off the coast of Norway (the Storegga Slide) which caused a very large tsunami (tidal wave) which hit the coast of the North Sea and probably submerged whatever islands were still left in it at the time. The tsunami was between 3 and 5 metres high.

Sea level after the tsunami were probably less than 5 metres below the modern level and Britain's current coastline was established by a slow rise in the levels by around 4,000 years ago.

How do we know

The ice sheets left behind some tell-tale signs in the landscape when they melted. These include large areas of hummocky gravels and sands, some of which form long ridges. Some of these ridges have been identified in the Vale of York. Ice also carves the sides of valleys in the upland to create wide U-shaped valleys, such as those in the Lake District or Snowdonia.

The ice sheets that still exist preserve a record of snow fall since the Ice Age onwards. The ice sheet in Greenland has been cored and analysed. Each layer of ice that fell as snow can be counted to go back year by year. Snow and ice are forms of water. Water consists of hydrogen and oxygen. The oxygen has different forms. Most of it is O16, but some of it is O18. The amount of O18 in the snow that becomes ice depends on the temperature. So we can measure the amount of O18 in old ice and tell what the temperature was in the year the ice formed.

We can find ancient animal bones as well as the remains of plants which can tell us about what was living in the landscape in the past. The pollen of plants, especially of trees, can be studied in ancient soils under the microscope so that we can tell how thick the forest was and what trees were growing in it. The plants and animals on archaeological sites can tell us which ones people were

using for food or to make tools.

Differences between the Early and Late Mesolithic

The Mesolithic lasted a long time; from around 11,200 to 5,800 years ago (a total of 5,400 years). During this time, the climate and the landscape changed a great deal. The Mesolithic way of life also changed as it adapted to the newer climate and environment. Some of the key changes were:

- loss of contact between Britain and the continent as Doggerland was submerged under the sea
- people spread north into the whole of Britain, reaching modern Edinburgh by 10,500 years ago and the Highlands of Scotland by 9,700 years ago;
- different foods being eaten, such as hazelnuts which became plentiful in the Later Mesolithic;
- changes in the size and shapes of flint tools, with microliths becoming much smaller and with a wider range of geometric shapes in the Late Mesolithic;
- there may have been more people living in Britain over time and the territories they inhabited may have become smaller, so that they may have moved over smaller areas;
- people might have begun managing the landscape more intensively, to get more food from a smaller area, for example, by gathering fodder to feed animals or by managing the growth of woodland through the use of fire to burn off vegetation and create clearings to attract animals and plants.

People had created a viable way of life in the Mesolithic that lasted a long time, but the climate was always changing and the plants in the landscape changed. Early Mesolithic people had to change too to adapt to it. Their new Late Mesolithic way of life was just as good.

ACTIVITY

What changes have you seen?

Make a note of the weather you have seen over the last year. Does it seem hotter or colder, drier or wetter than you remember it being the year before? What things would you have to do differently (or how would you dress differently) if you had a cold and wet summer or a warm and dry winter?

Find out how many of the class have always lived where they live now, and how many have moved to the area from elsewhere. Here are some questions that can be used to think about changes in our lives.

Why did they move, was it by choice, or did they have to move?

What did it feel like having to get used to a new place to live?

Was the food any different between your new place and your old one?

What did they like about the place they left, and what do they like about where they live now?

THE STORY

The headline or title

Example

Who are they?

The descendants of Neska and Lagun

What did they do?

Moved away from Star Carr to find a new home

The story

Who are they?

The descendants of Neska and Lagun

What are they?

A Mesolithic family

When were they?

During the Mesolithic, around 10,500 years ago

What did they do?

Moved away from Star Carr to find a new place to live

How did they do it?

They knew their land and could see better places with more food

Why did they do it?

The lake had shrunk and disappeared and the forest around them changed

What was the result?

Star Carr was abandoned, and the family changed their way of life to include the harvesting of large amounts of hazelnuts

How do we know this?

Archaeologists find no-one living at Star Carr after 10,500 years ago

THE LIVING ENVIRONMENT

Key lesson

Mesolithic people had a close relationship with their environment, based on a deep knowledge of plants, animals and weather. They saw it is alive, animated by spirits and gave it respect in return for taking what they needed from it.

Key question

How could Neska and Mutil's family show respect to the spirits of nature?

FACTFILE

Elements of nature

The world that Mesolithic people lived within was one that gave them everything they needed for living: water, food, materials to build houses and make tools, materials for clothing etc. They had to look after their world and only take what they needed from it.

Plants

- food from leaves roots, seeds, nuts and berries
- wood from trees for buildings and tools, and firewood
- birch bark for containers, tar and lighting
- stems for weaving into baskets or fish traps, making string and roofing houses

Animals

- food from meat
- skins for clothing and bags
- bone and antler for tools and handles
- sinew for string
- teeth for decoration, necklaces and pendants

Stone

- flint for making tools
- ochre for colouring
- amber and shale for beads and pendants

- pyrite for sparks to make fire

Water from lakes or rivers

- for drinking
- for washing
- for softening antler to make it easier to shape into tools

Alive or not?

It's obvious that people and animals are alive. But what about the rest of nature? What makes something alive? Some hunter-gatherers believe the following shows something to be living:

- moving by itself;
- changing from one state into another;
- having breath;
- having an effect on something else.

People and animals move, they grow and change, and they breath and so are obviously alive. Plants are alive because they change from a seed to plant and grow leaves, fruits etc. and then die away changing colour. Water is alive because it moves from place to place and can change to ice or snow. Fire is alive as it moves and dances as flame and changes into smoke. Weather is alive because it breathes as the wind and moves through the trees, and affects the world through sun, rain, snow and lightning.

If nature is alive then it makes sense to believe it is made alive by spirits and that we can talk to these spirits to make them be nice to us. They will then continue to give people everything they need. Most hunter-gatherers have a very spiritual relationship with the environment.

What can go wrong

Nature is not always good. It is often unpredictable and there are many ways that nature can harm people:

- bad weather can make it hard to hunt and gather;
- sudden catastrophe can strike at any time like the tsunami that hit northern Britain in the Late Mesolithic;
- animals can be very fierce and may turn on and injure a hunter;
- it may be a poor year for the plants or animals, not being abundant or not being where they were last year;
- lightning can cause a forest fire which burns everything in its track;

- water can drown those who fall into it.

Also, people can catch diseases. No one knew where these came from and many people in the past used to think they were caused by bad spirits or by bad people using the spirits against someone.

ACTIVITY

What in the modern world might you think had spirits? And how might they be dangerous?

Add your own objects to the list.

Object	Move	Change	Breathe	Effect	Spirit?	Dangers
motor car	yes		yes		yes	knock you down
computer		yes			yes	lose your work
microwave				yes	yes	burn your food
escalator	yes				yes	trip you up
electricity	yes			yes	yes	electric shock

What parts of nature can be dangerous to you today?

Add your own ideas to the list.

Nature	How it can be dangerous	How you can calm its spirits
weather	<i>a very hot summer causing sunburn and skin cancer</i>	<i>show it respect by wearing good clothes and a hat</i>
animals	<i>eating processed meat that makes you ill</i>	<i>respect the animal by eating it properly</i>
plants	<i>their pollen causing hay fever</i>	<i>don't crowd the plants to make them jealous of each other</i>
water	<i>flooding after heavy rain</i>	<i>allow the water to go where it wants to go, into the earth</i>
earth	<i>an earthquake toppling buildings</i>	<i>stay away from the bad spirits!</i>

THE STORY

The headline or title

Example

Who are they?

Ama and Aita

What did they do?

Treat their red deer with respect

The story

Who are they?

Ama and Aita

What are they?

Mother and father of Neska and Mutil

When were they?

During the Mesolithic, around 10,500 years ago

What did they do?

Showed respect to the deer they killed, ate and used

How did they do it?

Thanked the deer after hunting it, carefully placed the parts they did not use in the lake to return them to the spirit world

Why did they do it?

So that the deer would let themselves be hunted again

What was the result?

The spirits were pleased with them

How do we know this?

This is the kind of thing that modern hunter-gatherers do

HEALTHY EATING

Key lesson

That the hunter-gatherer diet was well-balanced and nutritious, and avoided many of the foods that can cause health problems for modern people. The principle of eating local, seasonal and fresh foods is one we could follow ourselves.

Key question

Did Neska and Mutil eat better than us?

FACTFILE

What foods give us

The foods we eat give us various things that our body needs:

- proteins for making the body's tissues like muscle and skin;
- fats as a way of storing energy and protecting the body's organs;
- carbohydrates (starches and sugars) that the body burns for energy;
- fibre which is essential for a healthy digestive system;
- minerals which are essential in small amounts for how the body functions;
- vitamins which help the chemical processes of the body.

The government recommends a balance of different types of food, called the eat-well plate (Public Health England 2016 *The Eatwell Guide*, <https://www.gov.uk/government/publications/the-eatwell-guide>). This divides foods according to the type of nutrients the foods contain.

Food type	Nutrients
Starches	carbohydrate fibre vitamins (B) minerals (Fe, Ca)
Dairy	protein fat vitamins (A, B) minerals (Ca, Zn)
Fats and sugars	fat sugar
Meats, seeds and nuts	protein vitamins (A, B, D) minerals (Fe, Zn)
Fruit and vegetables	fibre vitamins (A, C) minerals

The food we eat today depends heavily on farming and on factories to turn farmed foods into processed foods like burgers, pies, fish fingers, puddings, ice cream etc.

The types of modern food that belong to each category on the Eatwell plate are given in the table below.

Food type	Examples
Starches	roots: carrots, parsnips, potatoes, swedes other: bread, rice, pasta
Dairy	milk, cheese, yoghurt
Fats and sugars	butter, cream, oil (fried foods) honey, sugar, chocolate, jam, sweets cakes, pastries, puddings
Meats, seeds and nuts	eggs fish: cod, haddock, salmon fowl: chicken, turkey mammal: beef, lamb, pork shellfish: clam, cockle, mussel, oyster, scallop, whelk other meats: crab, crayfish, lobster, prawn nuts: chestnuts, hazel, peanuts seeds: beans, peas, lentils
Fruit and vegetables	berries: blackberry, blackcurrant, gooseberry, raspberry, strawberry fruit: apple, grapefruit, orange, pear leaves and salads: broccoli, cabbage, lettuce, spinach fungi: field mushroom

Most people eat too little starch, too many fats and sugars and not enough fruit and vegetables (Defra 2015 *Food statistics pocket book 2015*, London: National Statistics).

Food type	Recommended	Actually eaten
starches	33%	19%
dairy	15%	21%
fats and sugars	8%	22%
meat, seeds and nuts	12%	13%
fruit and vegetables	33%	24%

Mesolithic foods

The range of foods available to Mesolithic people was very different to ours. They did not farm animals or plants and so had no dairy foods, no cereals and no foods like potatoes, chocolate or

tomatoes. The only milk they had was their mother's milk when they were a baby.

Mesolithic people lived on the wild foods found in nature. Many wild foods can still be collected today, although there are strict laws about which plants and animals can be taken, and when. Good guides to wild foods are:

Richard Maby 2007 *Food for Free*, Collins Publishers (first published in 1972 and a classic of the wild food movement)

Ray Mears and Gordon Hillman 2007 *Wild Food*, Hodder & Stoughton

The River Cottage Handbooks, published since 2007 by Bloomsbury Publishing

The TV series, *Wild Food*, presented by Ray Mears and Gordon Hillman (BBC 2007) is still available on Amazon.

Examples of the different Eatwell food types that they could have had (important possible staple foods in **bold**) are:

Food type	Examples
Starches	roots: bog bean, bulrush, burdock, cattail , celandine, dandelion, parsnip, sea beet, sea kale
Dairy	none
Fats and sugars	honey
Meat, seeds, nuts	fish: cod, eel, haddock, pike, saithe, salmon, stickleback, sturgeon, turbot fowl: crows, ducks, geese, grouse, pheasant, swans, wood pigeon mammal: badger, beaver, elk, hare, hedgehog, red deer , red squirrel, roe deer, wild cattle, wild boar sea mammal: dolphins, whales shellfish: clam, cockle, limpet , mussel, oyster, razorshell, scallop, whelk other meats: crab, crayfish, lobster, prawn, snail nuts/seeds: acorn , hazel , yellow water lily
Fruit and vegetables	berries: bilberry, blackberry, crowberry, elderberry, gooseberry, juniper, raspberry, strawberry fruit: crab apple, sloe, wild pear leaves and flowers: chickweed, dandelion, dock, fat hen, mint, nettle, sea kale, sorrel, wild garlic seaweed: bladder wrack, carrageen, dulse, kelp, laver, sea lettuce fungi: beefsteak fungus, blewits, boletes, brittlegills, cep, field mushroom, morel, puffball

The nutritional value of these foods varies a lot. The rough amount that they have of each nutrient (CHO = carbohydrate) is given in the table below (adapted from Public Health England 2015). The scale used is:

4 = highest

3 = high

2 = moderate

1 = low

0 = none or minimal

Eatwell plate	Foods	Protein	Fat	CHO	Fibre	Vitamins	Minerals
starch	roots	1	1	3	2	0	0
fats & sugars	honey	1	1	4	0	1	0
meat, seeds, nuts	eggs	2	2	0	0	3	0
meat, seeds, nuts	fish	3	1	0	0	1	3
meat, seeds, nuts	fowl	3	2	0	0	0	1
meat, seeds, nuts	mammal	4	2	0	1	1	1
meat, seeds, nuts	shellfish	2	1	1	0	0	4
meat, seeds, nuts	nuts	2	3	3	3	3	3
meat, seeds, nuts	seeds	3	4	1	0	1	0
fruit & vegetables	fruit	1	1	3	2	3	1
fruit & vegetables	fungi	1	1	2	1	1	1
fruit & vegetables	leaves	1	1	1	1	3	1
fruit & vegetables	seaweed	1	1	1	4	4	0

We measure the energy that foods give us in calories (strictly speaking kilocalories, Kcals). The calories recommended by the NHS for the average person are:

- men 2,500
- women 2,000
- boys aged 7 1,700
- girls aged 7 1,600

(Defra 2015 *Family food 2014*, London: National Statistics).

How many foods would they have to eat for their daily calories? We don't know how many calories Mesolithic Europeans needed but we can use the modern recommended amounts as a minimum.

Food	Man	Woman	Boy	Girl
honey	900 gms	700 gms	600 gms	600 gms
crab apple	139	111	94	89
mushroom	625	500	425	400
nettles	6 kgs	5 kgs	4 kgs	4 kgs
kelp	6 kgs	5 kgs	4 kgs	4 kgs
duck egg	17	14	11	11
haddock	12 fish	10 fish	8 fish	8 fish
mallard	1300 gms	1000 gms	900 gms	800 gms
deer	1560 gms	1200 gms	1080 gms	960 gms
limpets	417	333	283	267
hazelnuts	385	308	262	246
yellow water lily	700 gms	600 gm	500 gms	400 gms
Cattail roots	500	400	340	320

Today we can buy almost any food at any time of the year. Mesolithic people could only get what was available locally in the right season. See the separate information sheet Seasonal_foods.pdf.

Mesolithic people collected their food from the animals and plants that lived and grew in their local landscape. Different places had different foods. Most of Britain was covered in woodland, but there were also lakes, rivers and coasts. Star Carr was by Lake Flixton and surrounded by woodland, so they had two landscapes with food they could collect.

Food type	Lakes/rivers	Woodland	Coast
starch	bog bean, bulrush, cattail	burdock, celandine, dandelion, parsnip	sea beet, sea kale
sugars		honey	
meat, seeds, nuts	eggs pike, salmon ducks, geese, swans beaver, elk water lily seeds	eggs pigeons badger, hare, deer, wild boar, wild cattle snails nuts	eggs fish sea birds dolphins, whales shellfish crab, crayfish, lobster, prawn
fruit and vegetables		berries fruits leaves fungi	sea kale seaweeds

Comparing Mesolithic and modern

The Mesolithic diet was low in sugars and fats, and they had a wide variety of food they could eat: fruit, vegetables, seafood, nuts and meat. It was fresh, local and seasonal.

But, it was also unpredictable. Bad weather – too cold, too hot, too wet, too dry – could mean that some plants or animals would be scarce. Being hungry was not something that could be solved by reaching for a packet of biscuits.

According to anthropologists who study modern hunter-gatherers, our basic biology conflicts with our modern lifestyle. This leads to the development of the chronic modern illnesses of cancer, diabetes and heart disease. The healthy diet and exercise that doctors now recommend resembles that of hunter-gatherers.

We are now told to eat less fat, less dairy foods and eat leaner cuts of meat. We should get our carbohydrates from fruit and vegetables not cereals or sugar, and we should eat more fibre. Our diet should have more vitamins and minerals but far less salt.

Hunter-gatherers tend to be more active during the day and are often fitter and stronger than modern city dwellers. The popularity of running and exercise at the gym is an attempt to return to a more active lifestyle.

ACTIVITY

What you eat

Keep a diary for one week of everything you eat. Add up the totals for each food and place them in a table under each food type on the Eatwell plate.

Do you think you have eaten healthily?

Look at the Mesolithic foods in the Eatwell plate and compare them with yours. Many of your foods will not have been there in the Mesolithic.

What would you eat instead of your modern foods?

Which foods would you miss most?

THE STORY

The headline or title

Example

Who are they?

Neska and Mutil

What did they do?

Found a new patch of crab apple trees for their family

The story

Who are they?

Neska and Mutil

What are they?

A Mesolithic boy and girl

When were they?

During the Mesolithic, around 11,000 years ago

What did they do?	Found a new patch of crab apple trees for their family
How did they do it?	They searched new parts of the woodland they had never been to before
Why did they do it?	They were hungry as it had been a very dry summer and plants had withered
What was the result?	Their family had more food to eat and would be less hungry
How do we know this?	We know they would wander in search of food and try new areas if the old ones were no longer good

WHAT MAKES US HAPPY

Key lesson

That having a lot of material things is not essential for making us happy. Instead, what is important is to be valued by family and friends and know that you are contributing to their happiness in return.

Key question

What makes Neska and Mutil really happy?

FACTFILE

Contrast the lives of Mesolithic people with ours today. Look at the possessions they had and their social life.

Possessions

Their houses were simple compared to ours: around 5 metres by 4 metres in size, no separate rooms, only a fire for heat and light, no windows, little furniture other than beds. They had no television, no computers, no kitchen gadgets or washing machines and no water supply through taps. They also had no bathrooms!

To travel anywhere, they either walked or went by boat. They had no bicycles or cars.

Neska and Mutil wear leather clothes. We are not sure what, but probably a tunic of some kind (a bit like a dress), a cloak for warmth, leather shoes. They might have had trousers or leggings of some kind. A hat could be made of leather, fur or birch bark. They probably only had one set of clothes. Each of them might have worn a necklace of shale beads, or a pendant made of shale, amber or an animal tooth. To carry things, each would have had a leather bag worn on a long shoulder strap.

The most prized possessions of their family would have been their essential tools for hunting, gathering, fishing, wood-working, hide-working, cooking and eating.

- hunting: bow and arrows, spears, knives, nets, traps;
- gathering: digging stick, bags, baskets;
- fishing: hook, lines, nets, fish traps;
- wood-working: axes, adzes and others tools for scraping, cutting and boring;
- hide-working: pegs for stretching skins on the ground, flint scrapers;

- cooking and eating: birch bark or wooden bowls, containers, sticks as skewers, flint knives (they would have mostly eaten with their fingers).

Social life

We can only guess how many people lived in one settlement and how they were related. The study of modern hunter-gatherers give us clues. They probably lived in small family groups. Each house being for two parents and their children. The families of siblings and cousins might have lived together in smalls groups of a few houses. Relationships with wider family would be important. It would be your relations who would help you when life was hard because of illness or hunger.

They would have links with other people who spoke the same language or lived in the same region. People might belong to different clans depending on that of their father or mother, and there might be strict rules about which clans could intermarry. Meeting with strangers outside the group could be dangerous. There is evidence for fighting and violence on Mesolithic skeletons in Europe. People who were related to you, or who belonged to the same clan were people you could trust. Anyone else would be strangers and would be treated very carefully.

Members of the family and the settlement would all help each other. Different people would go off and do the hunting of large animals, or the fishing from boats, while others would gather the plant foods or check the traps for small animals. Each would have a lot of knowledge about how best to do their task. Among modern hunter-gatherers, men commonly did the big game hunting and women tended to be the experts in gathering plant foods. However, this division of work by gender might not have been absolutely rigid. Women would often hunt much of the small game and men would often help in plant collection. In any case, the contribution of men and women to the health of the family was equal. Everyone depended on the skills of the others.

Everyone would probably help in looking after the babies and the elderly. There would be those who need more help than others. Anyone with poor eyesight would find it hard to carry out tasks like the others. There were no opticians or glasses to be worn.

Most Mesolithic people probably never met or knew more than a few people in their whole lives. Their camp might have from one family up to 4 or 5 families at any one time. They might get together for wider group meetings and celebrations from time to time and meet up 20 or so families (less than 100 people). Their wider group of clan members and relations might number up to 200 to 500 people, many of whom they might never meet.

Mesolithic people only had stone tools, and everything they had was taken from the plants and animals around them. They depended on each other to live, but, they led rich social lives. They sang, danced and told stories. They lived close together and their families meant everything to them. Meeting their relations or clan member at times during the year would be a time for celebration and partying!

ACTIVITY

Things or people

Make a list of all the things that belong to you: your clothes, any tools or equipment you have and your toys.

Then make a note about which you think Neska or Mutil might also have had (or had an equivalent of). Have you got more or less than them?

Which of your belongings makes you really happy, and how many of your belongings could you live without?

Now, make a list of all the people you know: at home and in school.

Which of these people makes you happiest? Why do they make you happy?

Think hard, which is more important to you: your belongings or the people you know?

Would Neska and Mutil be any happier than you or not?

Happy days

Describe what makes a happy day for you.

Make a list of all the things and events involved.

Now imagine what makes a happy day for Neska and Mutil.

How does their day compare with yours?

THE STORY

The headline or title

Example

Who are they?

Neska and Mutil

What did they do?

Help with harvesting plants and berries

The story

Who are they?

Neska and Mutil

What are they?

A Mesolithic boy and girl

When were they?

During the Mesolithic, around 11,000 years ago

What did they do?

Help with harvesting plants and berries

How did they do it?

Go out gathering with the adults, searching in places they know

Why did they do it?

The whole family has to eat, and food needs to be gathered every day

What was the result?

They found a new place with berries and leaves. Their parents were very happy them, and they were happy they had contributed to the family's meal.

How do we know this?

We assume they did this because we see how modern hunter-gatherer children help in food collecting.

THE ORIGINS OF OURSELVES

Key lesson

That Mesolithic people are the earliest ancestors in Britain of people living here today, but they are not our only ancestors. The British people are the result of various migrations of people mixing together ever since.

Key question

Are Neanderthals and Cro-Magnons the ancestors of us?

FACTFILE

Changing climate and settlement

A thick sheet of ice covered all of northern Britain at the height of the last Ice Age. The south of Britain was too cold for humans and no one lived there.

Around 16,000 years ago the climate began to warm and the ice to melt. This took a long time. The earliest evidence for people coming back to live in Britain is at 14,800 years ago.

But, the climate suddenly got colder again at 12,900 years ago. Small ice sheets began to grow again in the high parts of Britain. We are not sure if people still lived in Britain then, but we think probably not.

The Ice Age finally ended at 11,600 years ago when the temperature got suddenly a lot warmer. Human settlement has been found at a site called Three Ways Wharf at Uxbridge in London at 11,580 years ago.

The early settlers slowly had to get used to a new landscape as trees began to grow again. Britain was covered with birch forest by 11,200 years ago and people had changed their way of life to cope with the new plants and animals within it. These early settlers had become Mesolithic.

Britain has been permanently settled ever since by the descendants of these early settlers.

Tracing our ancestors

All humans contain in their body tiny chemicals which tell the body how to grow. They tell the body its colour, shape and other things. These chemicals are called 'genes' and the material they are made of is called 'DNA'.

We inherit our genes from both our parents. Our father's and mother's genes exist side by side. For example, we might have the same colour hair as our father but the same colour eyes as our mother. Genes are very complicated and contain patterns which are unique to particular ancestors. All of

use have genes from more than one ancestor.

One very rare Mesolithic human burial is Cheddar Man from Gough's Cave in Cheddar Gorge in Somerset. He was buried 10,250 years ago. Archaeologists have analysed the DNA that he inherited from his mother. His genetic group is called U5. The scientists also looked at the DNA of people living today in the village of Cheddar and found the local school history teacher was also a member of group U5. This teacher in 1997 and Cheddar Man 10250 years ago both share the same ancestral mother!

Migrations to Britain

The settlement of Britain after the Ice Age was not the only time that people have come to settle in Britain. These did not replace the original settlers but added to them and mixed with them. Here are some of the other migrations to Britain that there have been since then.

Neolithic farmers

Archaeologists argue about this but it is likely that farming was brought to the south-east of Britain 6,000 years ago by people from the other side of the Channel. Some of these may have moved into the north and west of Britain, while farming was also copied by the Mesolithic people already living here.

Bronze Age warriors

Archaeologists have not really explored this, but at some point a new people came to Britain bringing a new language, the Celtic language which the Romans found the natives speaking when they conquered Britain. This language may have been brought in the early or late Bronze Age by people who used bronze swords and spears, and may have been warriors.

Roman conquerors

The Roman Empire conquered southern Britain in 43 AD and had taken it all up to the line of Hadrian's Wall by 79 AD (over 1,900 years ago). The Romans brought many people from all over their empire as governors, soldiers, merchants and servants. They would be a small number of people but some of them would stay, and some would marry local people.

Anglo-Saxon and Scottish kings and settlers

Roman rule ended in 410 AD. The local Celtic speech had evolved into Welsh and Cornish and the British people were ruled by their own kings. Some of these invited German speaking Anglo-Saxons from northern Germany and Denmark to settle and be soldiers for them. Many came with their families and settled in eastern Britain. Irish speaking Scots came over from Ireland and settled in parts of western Britain. These Anglo-Saxons and Scots rebelled and conquered most of southern and northern Britain between around 550 and 650 AD, leaving the Welsh and Cornish in parts of the west.

Viking raiders

The Vikings came from Denmark and Norway. They attacked Britain and elsewhere looking for gold, silver and slaves. Some of them chose to try and conquer and settle instead of going back home. Vikings took over parts of England between 865 and 954 AD. They also settled in Orkney and Shetland in Scotland, which remained part of Norway until 1472.

Norman conquerors

The Normans from northern France conquered England in 1066 and replaced the main landowners with French speakers. They also began to conquer Wales. Norman barons remained a small minority and they slowly became English speaking and married into English and Welsh families.

Huguenot refugees

The Huguenots were French Protestant Christians. In 1685, the French government was Catholic and began to persecute the Huguenots. Many fled France, and 50,000 came to live in England. They settled mostly in Canterbury, London and Norwich.

Peoples from the Empire

The British Empire was created in the 1600s and lasted until the 1960s. It covered large parts of Africa and most of India as well as parts of Asia. Many Africans, Indians and Chinese ended up moving to Britain. A lot of Africans had been taken and sold into slavery in America. Slavery was declared to be illegal in England in 1772, the trade in slaves was abolished in 1807 and the owning of slaves was abolished in the Empire in 1833. Many former slaves worked in the Royal Navy in the 1700s, and many settled in Britain. Most people from the former Empire settled in Britain after 1945.

ACTIVITY

Who are you?

All these migrations have added to the people who now live in Britain. Look at your class and make a record of where each of you was born, and where each of your parents was born. Then look at all your surnames and research where they come from. Your class will be a mix of people with different ancestors. This is just like at any time in the past.

Now count back how many parents, grandparents and great-grandparents you have. You have gone back three generations and have 8 ancestors from three generations ago. How many ancestors came from the same place? The farther back in time you go the more ancestors you have, and the more places they are from.

Try placing the migrations on a timeline and count back how many generations ago they were. Allow 25 years to each generation.

THE STORY

The headline or title

Example

Who are they?

Neska and Lagun

What did they do?

Had children who are our ancestors

The story

Who are they?

Neska and Lagun

What are they?

A Mesolithic boy and girl

When were they?

During the Mesolithic, around 11,000 years ago

What did they do?

Have children

How did they do it?

Got married and lived together

Why did they do it?

They loved each other

What was the result?

Their children also had children, and so on all the way down to us.
They were our ancestors

How do we know this?

Archaeologists have analysed the DNA of Mesolithic people and found the same DNA in some modern people

HUMANS CAN BE DIFFERENT

Key lesson

That Mesolithic people may have had a different way of life, but are really just like us. People can live with different ways of life and belief, and still live successful and meaningful lives. It is normal for human beings to build different cultures and each is worth treating with respect.

Key question

What would Neska and Mutil think of our way of life?

FACTFILE

Our ancestors led very different lives to ours but were just as clever. Neska and Mutil and their family are just like ourselves, needing food, shelter and companionship. They had no farms, no towns and only stone tools but they created a way of life that lasted for more than 5,000 years.

How Mesolithic people lived

Mesolithic houses were mostly a circular or oval shape and averaged around 5 metres long by 3½ metres wide. They were made with wooden posts set into the ground and the walls of horizontal branches woven or tied onto the poles and then covered with turf, rushes or birch bark. The poles could meet at the top to make a house a bit like a north American wigwam or teepee. Or, they could have been bent over to make a domed roof. Inside would be a central hearth. There were no separate rooms and the whole family would have slept together in beds around the hearth. There would be no windows and only one door. They might have had rules on who slept where in the house, for example, men and women on different sides of the hearth or adults and children separately, or some people farthest away from the entrance.

Their clothes would be made of leather from animal skins. The skins would have been cut and sewn together. People probably owned only one set of clothes. The clothes would have been made by hand by the family themselves. Decoration of the clothes would be by adding things like animal teeth in patterns.

Only by looking at modern hunter-gatherers can we see their life span. There is a lot of variety among them but on average children will become treated as adults at around the age of 13-15. They will get married in their late teens and have children from then into their mid-30s. They may have around 6 children in all, but 1 or 2 of these will die within 12 months of being born. At least 2 will die before they reach adulthood. If they survive to be adults then around a third of them will reach 60 years of age. Very few will live to be as old as 80. Men will be around 5 feet 6 inches tall (1.67 metres) and women will be around 5 feet 3 inches (1.6 metres).

People in the Mesolithic took all the food they needed directly themselves from the landscape in which they lived. They had to catch the animals and fish or go out collecting shellfish and plants, nuts and berries every day. The food they ate was very fresh, local and only available at the right season of the year. They had to eat what was available at that time of year. To preserve food for the future they would have had to dry it (if it was meat or fish) or roast it (if it was hazelnuts). The only way they had to cook things was on or by an open fire. They could not collect milk or make cheese. They had no sugar apart from occasional honey from a beehive, and no chocolate. There were no cereals like wheat, so no bread, and no potatoes, so no chips. There would have been times of year when they might have gone hungry if they could not catch or find enough food.

To move around, Mesolithic people had to walk on foot or use boats. They did not ride horses and had no other means of transport. This would have kept them quite fit and healthy, walking every day. Walking any distances would have taken a long time.

Most hunter-gatherers believe that the whole of nature is animated by spirits of some kind. Humans are part of nature, not separate from it. They have to take care of the spirits to make sure that nature will continue to give them food and materials to live by.

How modern people live

Modern houses are built with brick or stone walls and with slanting roofs covered in tiles or slates. They have separate rooms inside for living, eating, sleeping and washing. Each room has windows and there are usually two doors at the front, back or side. Most houses have central heating for warmth and electric lights for the evening and night. There is a lot of furniture like beds, tables, chairs, cupboards, shelves and a lot of gadgets like a cooker, washer, television and computer. Many houses have their own gardens. Parents and children will sleep in separate rooms.

We buy our clothes from shops rather than make them ourselves. They are made from all kinds of natural and artificial materials, and in many types of colours and patterns. We own a lot of different clothes.

Today, children become adults at 18. Most people get married in their early 30s and have just two children. Very few children now die in childhood. Adults will commonly live to be around 80 and a few may live to around 110. Men will be around 5 feet 10 inches tall (1.78 metres) and women will be around 5 feet 5 inches (1.65 metres).

The food we eat is bought from shops and supermarkets. It comes already prepared for us, and we also buy food already cooked from take-aways and restaurants. We eat a lot of cereals like wheat, mostly as bread. Our diet is high in sugar and sweet foods (including a lot of chocolate). We also eat a lot of dairy foods like milk and cheese. One of the commonest vegetables we eat is the potato. There is enough food in the shops that some people can avoid eating meat and be vegetarian. The food we eat can affect our health. Many people have diabetes from eating too much sugar. Some people have to avoid eating gluten which is common in wheat. Others cannot digest milk. Some

cancers and heart disease are now being linked to particular types of food.

Most families have a motor car, sometimes more than one. We have buses and trains, and can travel easily abroad on aeroplanes and ships. When we walk, it tends to be short distances around our home. We can now travel quickly over long distances.

Many people have religious beliefs in a supreme god, such as Christians, Jews and Moslems. Others, like Hindus, believe in many gods, or in a spiritual world that offers us a better way of living, like Buddhists. Modern religions involve set places to worship and rituals, and ways of behaving. Other people do not believe in any gods or spiritual world, such as atheists, but look to science instead to explain the world.

Contrast the two

To us, the house is our home. To Mesolithic people the home was the family and the whole settlement, of which the house was only one part. A house was where they slept and sheltered.

We now live longer lives and we are much taller. Fewer children die in childhood. However, hunter-gatherers are physically stronger and are not prone to some modern illnesses like diabetes or heart conditions.

Their food had less sugar and less harmful fats than modern foods. It was fresh and local, and well balanced between different types of food. But, it was not always plentiful and there were times when they would have gone hungry or even starved.

Their known world was a small one. Going from York to Leeds (25 miles or 40 kilometres) would have taken around 8 hours to walk. Now we can do the same journey in 25 minutes by train. They would have known their local area in great detail but only have a hazy knowledge of other places or people.

Mesolithic people were part of nature, paying respect to the spirits of the natural world in return for what it gave them in food and materials.

Could we live like our ancestors? The short answer is no. We don't have the skills or knowledge of the plants and animals and would struggle to survive without our modern gadgets and comforts. Mesolithic people did more than survive. They lived a successful lifestyle for more than 5,000 years.

ACTIVITY

How does your life compare to theirs?

Fill in the following grid and see how your life compares to that of the Mesolithic.

Theme	Mesolithic	Modern
Houses	one room sleep together fire for warmth and light no windows	many rooms sleep separately central heating and electric lights many windows
At home	sleep shelter from rain talk	sleep eat cook play talk watch TV use computers
Day time	up at dawn: 3:30 am in summer, 8:30 am in winter to bed after 8:30 pm in summer, 3:30 pm in winter	up at (what time do you usually get up?) to bed at (what do you usually go to bed?)
Clothes	leather only a few made by yourself decorated with animal teeth	many materials lots to wear bought in a shop lots of colours and patterns
Life	have many brothers or sisters grow to 1.6 or 1.7 metres tall die of diseases, accidents or violence no allergies physically strong	have many, few or no brothers and sisters grow up to 1.7 or 1.8 metres tall illnesses like cancer, heart disease, diabetes have allergies
Food	hunted and gathered local seasonal fresh variety of meat, leaves, roots, nuts, berries, fish, shellfish, seaweed, mushrooms cooked by yourself	bought in a shop or take-away from all over the world all times of year precooked or preserved bread, cereals, pasta, cheese, milk, potatoes, chocolate, meat, fish, vegetables cooked by yourself or pre- cooked
Travel	on foot by boat only go short distances in a day	on foot by car, bus, train, aeroplane or ship go long distances
Belief	spirits of nature – animals, plants, water, wind or sky, sun worshipped outdoors in nature	God or gods, organised in religions at churches, synagogues, mosques or temples

Now find three things about the modern world you think are better than the Mesolithic and three things that were better during the Mesolithic than in modern times.

THE STORY

The headline or title

Example

Who are they?

People in the Mesolithic

What did they do?

Had a way of life different to ours

The story

Who are they?

People in the Mesolithic

What are they?

Hunter-gatherers

When were they?

11,000 to 6,000 years ago

What did they do?

Lived close to nature by hunting and gathering all their food and materials

How did they do it?

By knowing the plants, animals and stones where they lived in great detail and being able to make their own tools

Why did they do it?

It was the only way they knew how to live

What was the result?

They created a way of life that lasted for more than 5,000 years

How do we know this?

Through archaeology and ethnography

LESSONS FROM THE MIDDLE STONE AGE (PUPILS' VERSION)

The Mesolithic is a strange and remote period of human history. It doesn't have any impressive monuments. Its people left us no writing. But, it was an important phase in the human story. When we study it, we can learn useful lessons to help us both live better lives today and understand the world we live in.

Here we will explore six of these lessons:

1. Change is inevitable;
2. The living environment;
3. Healthy eating;
4. What makes us happy;
5. The origins of ourselves;
6. Humans can be different.

Each of these can be the subject of a classroom project. The children could develop a museum display, or create a website, write a newspaper, or make a TV programme. This would involve research, discussion and writing.

Museum display

This would involve finding images that illustrate the theme and writing captions that explain the theme to visitors. Images should be of both Mesolithic and modern finds, sites or illustrations.

Website

This is similar to creating a museum display except that the images and text would be designed for a webpage. You could copy the layout of a favourite webpage.

Newspaper article

This is an exercise in writing skills. The way journalists write is to use a headline, state the main point of the article then give the details. They like strong motifs, such as oldest, best, most important, rarest etc. They also like controversy, so quoting someone who disagrees with the theme.

TV programme

This could involve creating storyboards, a bit like cartoons. They would show the presenters and what they would say with the images they are talking about.

How to write like a journalist or museum curator.

Ask a set of questions and use the answers as the basis for the story or display. You will need a headline for the article or a title for the website, programme or display.

The headline or title

Example

Who are they?	A girl called Neska
What did they do?	Fell in the lake

The story

Who are they?	Neska
What are they?	A 9 year-old girl
When were they?	11,000 years ago in the Mesolithic Age
What did they do?	She fell from a boat into the lake
How did they do it?	She was rocking the boat from side to side
Why did they do it?	She thought it would be fun and scare her father
What was the result?	She is now afraid of the spirit of the lake

CHANGE IS INEVITABLE

Key lesson

That people lived in a changing world and had to adapt and change to it over time. Ways of life and culture never stay the same. The Star Carr families will eventually have to move elsewhere.

Key question

How would the lives of Neska and Lagun's descendants been different to theirs?

FACTFILE

Climate change

The last ice Age was at its height from around 22,000 to 16,000 years ago when thick ice sheets covered northern Britain and the south was too cold for plants or animals to survive. The climate began to warm up slowly from 16,000 years ago. Summer temperatures averaged 7° C. As the ice melted, plants and animals returned to Britain: grass, dwarf birch and dwarf willow, with horse and reindeer, and later also mammoths and bison.

There was a sharp increase in temperature around 14,700 years ago. Average summer temperature increased to 19° C and winter averages to -1° C. This was when people returned to Britain. The earliest evidence is from Gough's Cave in Cheddar Gorge at 14,800 years ago. The people at this time had an Upper Palaeolithic culture.

Then, suddenly, at 12,900 years ago, the climate got much colder again. Summer temperatures remained high at an average of 10° C, but the winter average fell to -20° C. Ice sheets began to grow in the mountains. We are not sure whether people still lived in Britain at this time. Perhaps they came only in summer, hunting the horse and reindeer.

Again, very suddenly, the temperature got warmer, at 11,640 years ago. It probably rose during one person's lifetime to a summer average of 12.5° C and a winter average of -5° C. The Ice Age was now definitely over. Birch forest began to spread again, and red deer, wild cattle, wild boar and elk came back to Britain, followed by people who developed a new Mesolithic culture. The melting ice had left behind a lot of lakes, by which people could live.

By 10,500 years ago, there was a thick woodland of birch, pine and hazel trees. Hazel slowly took over and average temperatures rose to 17° C in summer and 4° C in winter. The lakes slowly filled in and dried out to become marsh. People had to find others places to live.

Around 8,200 years ago, a huge North American lake lost much its water into the north Atlantic and the climate began to get much wetter. Temperatures still rose, to a summer average of 17.5° C

and 5°C in winter (around 2° C warmer than today). The forest changed into the dense woodland of elm, oak, alder, hazel and lime trees.

This warm and wet climate lasted until around 6,300 years ago when temperatures began to cool and the climate became drier. Shortly after this, farming was introduced into Britain and a new Neolithic culture replaced the Mesolithic.

Sea level

At the height of the Ice Age, there was so much water locked up in the ice that the level of the ocean was 120 metres lower than today. The sea level rose as the ice melted and by the end of the Ice Age it was only 60 metres lower than now. This was still low enough that Britain was connected to the rest of Europe by a large land mass across the southern half of the North Sea. Archaeologists call this lost land Doggerland. A person could have walked from modern Scarborough all the way across to Copenhagen in Denmark.

Sea level continued to rise, and at some point Doggerland was submerged under the new North Sea and Britain became an island. We are not sure exactly when this was. Contact across Doggerland may have been lost by 8,400 years ago. Then at 8,100 years ago there was a massive underwater landslide off the coast of Norway (the Storegga Slide) which caused a very large tsunami (tidal wave) which hit the coast of the North Sea and probably submerged whatever islands were still left in it at the time. The tsunami was between 3 and 5 metres high.

Sea level after the tsunami were probably less than 5 metres below the modern level and Britain's current coastline was established by a slow rise in the levels by around 4,000 years ago.

How do we know

The ice sheets left behind some tell-tale signs in the landscape when they melted. These include large areas of hummocky gravels and sands, some of which form long ridges. Some of these ridges have been identified in the Vale of York. Ice also carves the sides of valleys in the upland to create wide U-shaped valleys, such as those in the Lake District or Snowdonia.

The ice sheets that still exist preserve a record of snow fall since the Ice Age onwards. The ice sheet in Greenland has been cored and analysed. Each layer of ice that fell as snow can be counted to go back year by year. Snow and ice are forms of water. Water consists of hydrogen and oxygen. The oxygen has different forms. Most of it is O16, but some of it is O18. The amount of O18 in the snow that becomes ice depends on the temperature. So we can measure the amount of O18 in old ice and tell what the temperature was in the year the ice formed.

We can find ancient animal bones as well as the remains of plants which can tell us about what was living in the landscape in the past. The pollen of plants, especially of trees, can be studied in ancient soils under the microscope so that we can tell how thick the forest was and what trees were growing in it. The plants and animals on archaeological sites can tell us which ones people were

using for food or to make tools.

Differences between the Early and Late Mesolithic

The Mesolithic lasted a long time; from around 11,200 to 5,800 years ago (a total of 5,400 years). During this time, the climate and the landscape changed a great deal. The Mesolithic way of life also changed as it adapted to the newer climate and environment. Some of the key changes were:

- loss of contact between Britain and the continent as Doggerland was submerged under the sea
- people spread north into the whole of Britain, reaching modern Edinburgh by 10,500 years ago and the Highlands of Scotland by 9,700 years ago;
- different foods being eaten, such as hazelnuts which became plentiful in the Later Mesolithic;
- changes in the size and shapes of flint tools, with microliths becoming much smaller and with a wider range of geometric shapes in the Late Mesolithic;
- there may have been more people living in Britain over time and the territories they inhabited may have become smaller, so that they may have moved over smaller areas;
- people might have begun managing the landscape more intensively, to get more food from a smaller area, for example, by gathering fodder to feed animals or by managing the growth of woodland through the use of fire to burn off vegetation and create clearings to attract animals and plants.

People had created a viable way of life in the Mesolithic that lasted a long time, but the climate was always changing and the plants in the landscape changed. Early Mesolithic people had to change too to adapt to it. Their new Late Mesolithic way of life was just as good.

ACTIVITY

What changes have you seen?

Make a note of the weather you have seen over the last year. Does it seem hotter or colder, drier or wetter than you remember it being the year before? What things would you have to do differently (or how would you dress differently) if you had a cold and wet summer or a warm and dry winter?

Find out how many of the class have always lived where they live now, and how many have moved to the area from elsewhere. Here are some questions that can be used to think about changes in our lives.

Why did they move, was it by choice, or did they have to move?

What did it feel like having to get used to a new place to live?

Was the food any different between your new place and your old one?

What did they like about the place they left, and what do they like about where they live now?

THE STORY

The headline or title	Example
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Who are they?

What did they do?

The story

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What are they?

When were they?

What did they do?

How did they do it?

Why did they do it?

What was the result?

How do we know this?

THE LIVING ENVIRONMENT

Key lesson

Mesolithic people had a close relationship with their environment, based on a deep knowledge of plants, animals and weather. They saw it is alive, animated by spirits and gave it respect in return for taking what they needed from it.

Key question

How could Neska and Mutil's family show respect to the spirits of nature?

FACTFILE

Elements of nature

The world that Mesolithic people lived within was one that gave them everything they needed for living: water, food, materials to build houses and make tools, materials for clothing etc. They had to look after their world and only take what they needed from it.

Plants

- food from leaves roots, seeds, nuts and berries
- wood from trees for buildings and tools, and firewood
- birch bark for containers, tar and lighting
- stems for weaving into baskets or fish traps, making string and roofing houses

Animals

- food from meat
- skins for clothing and bags
- bone and antler for tools and handles
- sinew for string
- teeth for decoration, necklaces and pendants

Stone

- flint for making tools
- ochre for colouring
- amber and shale for beads and pendants

- pyrite for sparks to make fire

Water from lakes or rivers

- for drinking
- for washing
- for softening antler to make it easier to shape into tools

Alive or not?

It's obvious that people and animals are alive. But what about the rest of nature? What makes something alive? Some hunter-gatherers believe the following shows something to be living:

- moving by itself;
- changing from one state into another;
- having breath;
- having an effect on something else.

People and animals move, they grow and change, and they breath and so are obviously alive. Plants are alive because they change from a seed to plant and grow leaves, fruits etc. and then die away changing colour. Water is alive because it moves from place to place and can change to ice or snow. Fire is alive as it moves and dances as flame and changes into smoke. Weather is alive because it breathes as the wind and moves through the trees, and affects the world through sun, rain, snow and lightning.

If nature is alive then it makes sense to believe it is made alive by spirits and that we can talk to these spirits to make them be nice to us. They will then continue to give people everything they need. Most hunter-gatherers have a very spiritual relationship with the environment.

What can go wrong

Nature is not always good. It is often unpredictable and there are many ways that nature can harm people:

- bad weather can make it hard to hunt and gather;
- sudden catastrophe can strike at any time like the tsunami that hit northern Britain in the Late Mesolithic;
- animals can be very fierce and may turn on and injure a hunter;
- it may be a poor year for the plants or animals, not being abundant or not being where they were last year;
- lightning can cause a forest fire which burns everything in its track;

- water can drown those who fall into it.

Also, people can catch diseases. No one knew where these came from and many people in the past used to think they were caused by bad spirits or by bad people using the spirits against someone.

ACTIVITY

What in the modern world might you think had spirits? And how might they be dangerous?

Add your own objects to the list.

Object	Move	Change	Breathe	Effect	Spirit?	Dangers
motor car						
computer						
microwave						
escalator						
electricity						

What parts of nature can be dangerous to you today?

Add your own ideas to the list.

Nature	How it can be dangerous	How you can calm its spirits
weather		
animals		
plants		
water		
earth		

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HEALTHY EATING

Key lesson

That the hunter-gatherer diet was well-balanced and nutritious, and avoided many of the foods that can cause health problems for modern people. The principle of eating local, seasonal and fresh foods is one we could follow ourselves.

Key question

Did Neska and Mutil eat better than us?

FACTFILE

What foods give us

The foods we eat give us various things that our body needs:

- proteins for making the body's tissues like muscle and skin;
- fats as a way of storing energy and protecting the body's organs;
- carbohydrates (starches and sugars) that the body burns for energy;
- fibre which is essential for a healthy digestive system;
- minerals which are essential in small amounts for how the body functions;
- vitamins which help the chemical processes of the body.

The government recommends a balance of different types of food, called the eat-well plate (Public Health England 2016 *The Eatwell Guide*, <https://www.gov.uk/government/publications/the-eatwell-guide>). This divides foods according to the type of nutrients the foods contain.

Food type	Nutrients
Starches	carbohydrate fibre vitamins (B) minerals (Fe, Ca)
Dairy	protein fat vitamins (A, B) minerals (Ca, Zn)
Fats and sugars	fat sugar
Meats, seeds and nuts	protein vitamins (A, B, D) minerals (Fe, Zn)
Fruit and vegetables	fibre vitamins (A, C)

minerals

The food we eat today depends heavily on farming and on factories to turn farmed foods into processed foods like burgers, pies, fish fingers, puddings, ice cream etc.

The types of modern food that belong to each category on the Eatwell plate are given in the table below.

Food type	Examples
Starches	roots: carrots, parsnips, potatoes, swedes other: bread, rice, pasta
Dairy	milk, cheese, yoghurt
Fats and sugars	butter, cream, oil (fried foods) honey, sugar, chocolate, jam, sweets cakes, pastries, puddings
Meats, seeds and nuts	eggs fish: cod, haddock, salmon fowl: chicken, turkey mammal: beef, lamb, pork shellfish: clam, cockle, mussel, oyster, scallop, whelk other meats: crab, crayfish, lobster, prawn nuts: chestnuts, hazel, peanuts seeds: beans, peas, lentils
Fruit and vegetables	berries: blackberry, blackcurrant, gooseberry, raspberry, strawberry fruit: apple, grapefruit, orange, pear leaves and salads: broccoli, cabbage, lettuce, spinach fungi: field mushroom

Most people eat too little starch, too many fats and sugars and not enough fruit and vegetables (Defra 2015 *Food statistics pocket book 2015*, London: National Statistics).

Food type	Recommended	Actually eaten
starches	33%	19%
dairy	15%	21%
fats and sugars	8%	22%
meat, seeds and nuts	12%	13%
fruit and vegetables	33%	24%

Mesolithic foods

The range of foods available to Mesolithic people was very different to ours. They did not farm animals or plants and so had no dairy foods, no cereals and no foods like potatoes, chocolate or tomatoes. The only milk they had was their mother's milk when they were a baby.

Mesolithic people lived on the wild foods found in nature. Many wild foods can still be collected today, although there are strict laws about which plants and animals can be taken, and when. Good

guides to wild foods are:

Richard Maby 2007 *Food for Free*, Collins Publishers (first published in 1972 and a classic of the wild food movement)

Ray Mears and Gordon Hillman 2007 *Wild Food*, Hodder & Stoughton

The River Cottage Handbooks, published since 2007 by Bloomsbury Publishing

The TV series, *Wild Food*, presented by Ray Mears and Gordon Hillman (BBC 2007) is still available on Amazon.

Examples of the different Eatwell food types that they could have had (important possible staple foods in **bold**) are:

Food type	Examples
Starches	roots: bog bean, bulrush, burdock, cattail , celandine, dandelion, parsnip, sea beet, sea kale
Dairy	none
Fats and sugars	honey
Meat, seeds, nuts	fish: cod, eel, haddock, pike, saithe, salmon, stickleback, sturgeon, turbot fowl: crows, ducks, geese, grouse, pheasant, swans, wood pigeon mammal: badger, beaver, elk, hare, hedgehog, red deer , red squirrel, roe deer, wild cattle, wild boar sea mammal: dolphins, whales shellfish: clam, cockle, limpet , mussel, oyster, razorshell, scallop, whelk other meats: crab, crayfish, lobster, prawn, snail nuts/seeds: acorn , hazel , yellow water lily
Fruit and vegetables	berries: bilberry, blackberry, crowberry, elderberry, gooseberry, juniper, raspberry, strawberry fruit: crab apple, sloe, wild pear leaves and flowers: chickweed, dandelion, dock, fat hen, mint, nettle, sea kale, sorrel, wild garlic seaweed: bladder wrack, carrageen, dulse, kelp, laver, sea lettuce fungi: beefsteak fungus, blewits, boletes, brittlegills, cep, field mushroom, morel, puffball

The nutritional value of these foods varies a lot. The rough amount that they have of each nutrient (CHO = carbohydrate) is given in the table below (adapted from Public Health England 2015). The scale used is:

4 = highest

3 = high

2 = moderate

1 = low

0 = none or minimal

Eatwell plate	Foods	Protein	Fat	CHO	Fibre	Vitamins	Minerals
starch	roots	1	1	3	2	0	0
fats & sugars	honey	1	1	4	0	1	0
meat, seeds, nuts	eggs	2	2	0	0	3	0
meat, seeds, nuts	fish	3	1	0	0	1	3
meat, seeds, nuts	fowl	3	2	0	0	0	1
meat, seeds, nuts	mammal	4	2	0	1	1	1
meat, seeds, nuts	shellfish	2	1	1	0	0	4
meat, seeds, nuts	nuts	2	3	3	3	3	3
meat, seeds, nuts	seeds	3	4	1	0	1	0
fruit & vegetables	fruit	1	1	3	2	3	1
fruit & vegetables	fungi	1	1	2	1	1	1
fruit & vegetables	leaves	1	1	1	1	3	1
fruit & vegetables	seaweed	1	1	1	4	4	0

We measure the energy that foods give us in calories (strictly speaking kilocalories, Kcals). The calories recommended by the NHS for the average person are:

- men 2,500
- women 2,000
- boys aged 7 1,700
- girls aged 7 1,600

(Defra 2015 *Family food 2014*, London: National Statistics).

How many foods would they have to eat for their daily calories? We don't know how many calories Mesolithic Europeans needed but we can use the modern recommended amounts as a minimum.

Food	Man	Woman	Boy	Girl
honey	900 gms	700 gms	600 gms	600 gms
crab apple	139	111	94	89
mushroom	625	500	425	400
nettles	6 kgs	5 kgs	4 kgs	4 kgs
kelp	6 kgs	5 kgs	4 kgs	4 kgs
duck egg	17	14	11	11
haddock	12 fish	10 fish	8 fish	8 fish
mallard	1300 gms	1000 gms	900 gms	800 gms
deer	1560 gms	1200 gms	1080 gms	960 gms
limpets	417	333	283	267
hazelnuts	385	308	262	246

yellow water lily	700 gms	600 gm	500 gms	400 gms
Cattail roots	500	400	340	320

Today we can buy almost any food at any time of the year. Mesolithic people could only get what was available locally in the right season. See the separate information sheet Seasonal_foods.pdf.

Mesolithic people collected their food from the animals and plants that lived and grew in their local landscape. Different places had different foods. Most of Britain was covered in woodland, but there were also lakes, rivers and coasts. Star Carr was by Lake Flixton and surrounded by woodland, so they had two landscapes with food they could collect.

Food type	Lakes/rivers	Woodland	Coast
starch	bog bean, bulrush, cattail	burdock, celandine, dandelion, parsnip	sea beet, sea kale
sugars		honey	
meat, seeds, nuts	eggs pike, salmon ducks, geese, swans beaver, elk water lily seeds	eggs pigeons badger, hare, deer, wild boar, wild cattle snails nuts	eggs fish sea birds dolphins, whales shellfish crab, crayfish, lobster, prawn
fruit and vegetables		berries fruits leaves fungi	sea kale seaweeds

Comparing Mesolithic and modern

The Mesolithic diet was low in sugars and fats, and they had a wide variety of food they could eat: fruit, vegetables, seafood, nuts and meat. It was fresh, local and seasonal.

But, it was also unpredictable. Bad weather – too cold, too hot, too wet, too dry – could mean that some plants or animals would be scarce. Being hungry was not something that could be solved by reaching for a packet of biscuits.

According to anthropologists who study modern hunter-gatherers, our basic biology conflicts with our modern lifestyle. This leads to the development of the chronic modern illnesses of cancer, diabetes and heart disease. The healthy diet and exercise that doctors now recommend resembles that of hunter-gatherers.

We are now told to eat less fat, less dairy foods and eat leaner cuts of meat. We should get our carbohydrates from fruit and vegetables not cereals or sugar, and we should eat more fibre. Our diet should have more vitamins and minerals but far less salt.

Hunter-gatherers tend to be more active during the day and are often fitter and stronger than

modern city dwellers. The popularity of running and exercise at the gym is an attempt to return to a more active lifestyle.

ACTIVITY

What you eat

Keep a diary for one week of everything you eat. Add up the totals for each food and place them in a table under each food type on the Eatwell plate.

Do you think you have eaten healthily?

Look at the Mesolithic foods in the Eatwell plate and compare them with yours. Many of your foods will not have been there in the Mesolithic.

What would you eat instead of your modern foods?

Which foods would you miss most?

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WHAT MAKES US HAPPY

Key lesson

That having a lot of material things is not essential for making us happy. Instead, what is important is to be valued by family and friends and know that you are contributing to their happiness in return.

Key question

What makes Neska and Mutil really happy?

FACTFILE

Contrast the lives of Mesolithic people with ours today. Look at the possessions they had and their social life.

Possessions

Their houses were simple compared to ours: around 5 metres by 4 metres in size, no separate rooms, only a fire for heat and light, no windows, little furniture other than beds. They had no television, no computers, no kitchen gadgets or washing machines and no water supply through taps. They also had no bathrooms!

To travel anywhere, they either walked or went by boat. They had no bicycles or cars.

Neska and Mutil wear leather clothes. We are not sure what, but probably a tunic of some kind (a bit like a dress), a cloak for warmth, leather shoes. They might have had trousers or leggings of some kind. A hat could be made of leather, fur or birch bark. They probably only had one set of clothes. Each of them might have worn a necklace of shale beads, or a pendant made of shale, amber or an animal tooth. To carry things, each would have had a leather bag worn on a long shoulder strap.

The most prized possessions of their family would have been their essential tools for hunting, gathering, fishing, wood-working, hide-working, cooking and eating.

- hunting: bow and arrows, spears, knives, nets, traps;
- gathering: digging stick, bags, baskets;
- fishing: hook, lines, nets, fish traps;
- wood-working: axes, adzes and others tools for scraping, cutting and boring;
- hide-working: pegs for stretching skins on the ground, flint scrapers;

- cooking and eating: birch bark or wooden bowls, containers, sticks as skewers, flint knives (they would have mostly eaten with their fingers).

Social life

We can only guess how many people lived in one settlement and how they were related. The study of modern hunter-gatherers give us clues. They probably lived in small family groups. Each house being for two parents and their children. The families of siblings and cousins might have lived together in small groups of a few houses. Relationships with wider family would be important. It would be your relations who would help you when life was hard because of illness or hunger.

They would have links with other people who spoke the same language or lived in the same region. People might belong to different clans depending on that of their father or mother, and there might be strict rules about which clans could intermarry. Meeting with strangers outside the group could be dangerous. There is evidence for fighting and violence on Mesolithic skeletons in Europe. People who were related to you, or who belonged to the same clan were people you could trust. Anyone else would be strangers and would be treated very carefully.

Members of the family and the settlement would all help each other. Different people would go off and do the hunting of large animals, or the fishing from boats, while others would gather the plant foods or check the traps for small animals. Each would have a lot of knowledge about how best to do their task. Among modern hunter-gatherers, men commonly did the big game hunting and women tended to be the experts in gathering plant foods. However, this division of work by gender might not have been absolutely rigid. Women would often hunt much of the small game and men would often help in plant collection. In any case, the contribution of men and women to the health of the family was equal. Everyone depended on the skills of the others.

Everyone would probably help in looking after the babies and the elderly. There would be those who need more help than others. Anyone with poor eyesight would find it hard to carry out tasks like the others. There were no opticians or glasses to be worn.

Most Mesolithic people probably never met or knew more than a few people in their whole lives. Their camp might have from one family up to 4 or 5 families at any one time. They might get together for wider group meetings and celebrations from time to time and meet up 20 or so families (less than 100 people). Their wider group of clan members and relations might number up to 200 to 500 people, many of whom they might never meet.

Mesolithic people only had stone tools, and everything they had was taken from the plants and animals around them. They depended on each other to live, but, they led rich social lives. They sang, danced and told stories. They lived close together and their families meant everything to them. Meeting their relations or clan member at times during the year would be a time for celebration and partying!

ACTIVITY

Things or people

Make a list of all the things that belong to you: your clothes, any tools or equipment you have and your toys.

Then make a note about which you think Neska or Mutil might also have had (or had an equivalent of). Have you got more or less than them?

Which of your belongings makes you really happy, and how many of your belongings could you live without?

Now, make a list of all the people you know: at home and in school.

Which of these people makes you happiest? Why do they make you happy?

Think hard, which is more important to you: your belongings or the people you know?

Would Neska and Mutil be any happier than you or not?

Happy days

Describe what makes a happy day for you.

Make a list of all the things and events involved.

Now imagine what makes a happy day for Neska and Mutil.

How does their day compare with yours?

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THE ORIGINS OF OURSELVES

Key lesson

That Mesolithic people are the earliest ancestors in Britain of people living here today, but they are not our only ancestors. The British people are the result of various migrations of people mixing together ever since.

Key question

Are Neanderthals and Cro-Magnons the ancestors of us?

FACTFILE

Changing climate and settlement

A thick sheet of ice covered all of northern Britain at the height of the last Ice Age. The south of Britain was too cold for humans and no one lived there.

Around 16,000 years ago the climate began to warm and the ice to melt. This took a long time. The earliest evidence for people coming back to live in Britain is at 14,800 years ago.

But, the climate suddenly got colder again at 12,900 years ago. Small ice sheets began to grow again in the high parts of Britain. We are not sure if people still lived in Britain then, but we think probably not.

The Ice Age finally ended at 11,600 years ago when the temperature got suddenly a lot warmer. Human settlement has been found at a site called Three Ways Wharf at Uxbridge in London at 11,580 years ago.

The early settlers slowly had to get used to a new landscape as trees began to grow again. Britain was covered with birch forest by 11,200 years ago and people had changed their way of life to cope with the new plants and animals within it. These early settlers had become Mesolithic.

Britain has been permanently settled ever since by the descendants of these early settlers.

Tracing our ancestors

All humans contain in their body tiny chemicals which tell the body how to grow. They tell the body its colour, shape and other things. These chemicals are called 'genes' and the material they are made of is called 'DNA'.

We inherit our genes from both our parents. Our father's and mother's genes exist side by side. For example, we might have the same colour hair as our father but the same colour eyes as our mother. Genes are very complicated and contain patterns which are unique to particular ancestors. All of

use have genes from more than one ancestor.

One very rare Mesolithic human burial is Cheddar Man from Gough's Cave in Cheddar Gorge in Somerset. He was buried 10,250 years ago. Archaeologists have analysed the DNA that he inherited from his mother. His genetic group is called U5. The scientists also looked at the DNA of people living today in the village of Cheddar and found the local school history teacher was also a member of group U5. This teacher in 1997 and Cheddar Man 10250 years ago both share the same ancestral mother!

Migrations to Britain

The settlement of Britain after the Ice Age was not the only time that people have come to settle in Britain. These did not replace the original settlers but added to them and mixed with them. Here are some of the other migrations to Britain that there have been since then.

Neolithic farmers

Archaeologists argue about this but it is likely that farming was brought to the south-east of Britain 6,000 years ago by people from the other side of the Channel. Some of these may have moved into the north and west of Britain, while farming was also copied by the Mesolithic people already living here.

Bronze Age warriors

Archaeologists have not really explored this, but at some point a new people came to Britain bringing a new language, the Celtic language which the Romans found the natives speaking when they conquered Britain. This language may have been brought in the early or late Bronze Age by people who used bronze swords and spears, and may have been warriors.

Roman conquerors

The Roman Empire conquered southern Britain in 43 AD and had taken it all up to the line of Hadrian's Wall by 79 AD (over 1,900 years ago). The Romans brought many people from all over their empire as governors, soldiers, merchants and servants. They would be a small number of people but some of them would stay, and some would marry local people.

Anglo-Saxon and Scottish kings and settlers

Roman rule ended in 410 AD. The local Celtic speech had evolved into Welsh and Cornish and the British people were ruled by their own kings. Some of these invited German speaking Anglo-Saxons from northern Germany and Denmark to settle and be soldiers for them. Many came with their families and settled in eastern Britain. Irish speaking Scots came over from Ireland and settled in parts of western Britain. These Anglo-Saxons and Scots rebelled and conquered most of southern and northern Britain between around 550 and 650 AD, leaving the Welsh and Cornish in parts of the west.

Viking raiders

The Vikings came from Denmark and Norway. They attacked Britain and elsewhere looking for gold, silver and slaves. Some of them chose to try and conquer and settle instead of going back home. Vikings took over parts of England between 865 and 954 AD. They also settled in Orkney and Shetland in Scotland, which remained part of Norway until 1472.

Norman conquerors

The Normans from northern France conquered England in 1066 and replaced the main landowners with French speakers. They also began to conquer Wales. Norman barons remained a small minority and they slowly became English speaking and married into English and Welsh families.

Huguenot refugees

The Huguenots were French Protestant Christians. In 1685, the French government was Catholic and began to persecute the Huguenots. Many fled France, and 50,000 came to live in England. They settled mostly in Canterbury, London and Norwich.

Peoples from the Empire

The British Empire was created in the 1600s and lasted until the 1960s. It covered large parts of Africa and most of India as well as parts of Asia. Many Africans, Indians and Chinese ended up moving to Britain. A lot of Africans had been taken and sold into slavery in America. Slavery was declared to be illegal in England in 1772, the trade in slaves was abolished in 1807 and the owning of slaves was abolished in the Empire in 1833. Many former slaves worked in the Royal Navy in the 1700s, and many settled in Britain. Most people from the former Empire settled in Britain after 1945.

ACTIVITY

Who are you?

All these migrations have added to the people who now live in Britain. Look at your class and make a record of where each of you was born, and where each of your parents was born. Then look at all your surnames and research where they come from. Your class will be a mix of people with different ancestors. This is just like at any time in the past.

Now count back how many parents, grandparents and great-grandparents you have. You have gone back three generations and have 8 ancestors from three generations ago. How many ancestors came from the same place? The farther back in time you go the more ancestors you have, and the more places they are from.

Try placing the migrations on a timeline and count back how many generations ago they were. Allow 25 years to each generation.

THE STORY

The headline or title	Example
------------------------------	----------------

Who are they?

What did they do?

The story

Who are they?

What are they?

When were they?

What did they do?

How did they do it?

Why did they do it?

What was the result?

How do we know this?

HUMANS CAN BE DIFFERENT

Key lesson

That Mesolithic people may have had a different way of life, but are really just like us. People can live with different ways of life and belief, and still live successful and meaningful lives. It is normal for human beings to build different cultures and each is worth treating with respect.

Key question

What would Neska and Mutil think of our way of life?

FACTFILE

Our ancestors led very different lives to ours but were just as clever. Neska and Mutil and their family are just like ourselves, needing food, shelter and companionship. They had no farms, no towns and only stone tools but they created a way of life that lasted for more than 5,000 years.

How Mesolithic people lived

Mesolithic houses were mostly a circular or oval shape and averaged around 5 metres long by 3½ metres wide. They were made with wooden posts set into the ground and the walls of horizontal branches woven or tied onto the poles and then covered with turf, rushes or birch bark. The poles could meet at the top to make a house a bit like a north American wigwam or teepee. Or, they could have been bent over to make a domed roof. Inside would be a central hearth. There were no separate rooms and the whole family would have slept together in beds around the hearth. There would be no windows and only one door. They might have had rules on who slept where in the house, for example, men and women on different sides of the hearth or adults and children separately, or some people farthest away from the entrance.

Their clothes would be made of leather from animal skins. The skins would have been cut and sewn together. People probably owned only one set of clothes. The clothes would have been made by hand by the family themselves. Decoration of the clothes would be by adding things like animal teeth in patterns.

Only by looking at modern hunter-gatherers can we see their life span. There is a lot of variety among them but on average children will become treated as adults at around the age of 13-15. They will get married in their late teens and have children from then into their mid-30s. They may have around 6 children in all, but 1 or 2 of these will die within 12 months of being born. At least 2 will die before they reach adulthood. If they survive to be adults then around a third of them will reach 60 years of age. Very few will live to be as old as 80. Men will be around 5 feet 6 inches tall (1.67 metres) and women will be around 5 feet 3 inches (1.6 metres).

People in the Mesolithic took all the food they needed directly themselves from the landscape in which they lived. They had to catch the animals and fish or go out collecting shellfish and plants, nuts and berries every day. The food they ate was very fresh, local and only available at the right season of the year. They had to eat what was available at that time of year. To preserve food for the future they would have had to dry it (if it was meat or fish) or roast it (if it was hazelnuts). The only way they had to cook things was on or by an open fire. They could not collect milk or make cheese. They had no sugar apart from occasional honey from a beehive, and no chocolate. There were no cereals like wheat, so no bread, and no potatoes, so no chips. There would have been times of year when they might have gone hungry if they could not catch or find enough food.

To move around, Mesolithic people had to walk on foot or use boats. They did not ride horses and had no other means of transport. This would have kept them quite fit and healthy, walking every day. Walking any distances would have taken a long time.

Most hunter-gatherers believe that the whole of nature is animated by spirits of some kind. Humans are part of nature, not separate from it. They have to take care of the spirits to make sure that nature will continue to give them food and materials to live by.

How modern people live

Modern houses are built with brick or stone walls and with slanting roofs covered in tiles or slates. They have separate rooms inside for living, eating, sleeping and washing. Each room has windows and there are usually two doors at the front, back or side. Most houses have central heating for warmth and electric lights for the evening and night. There is a lot of furniture like beds, tables, chairs, cupboards, shelves and a lot of gadgets like a cooker, washer, television and computer. Many houses have their own gardens. Parents and children will sleep in separate rooms.

We buy our clothes from shops rather than make them ourselves. They are made from all kinds of natural and artificial materials, and in many types of colours and patterns. We own a lot of different clothes.

Today, children become adults at 18. Most people get married in their early 30s and have just two children. Very few children now die in childhood. Adults will commonly live to be around 80 and a few may live to around 110. Men will be around 5 feet 10 inches tall (1.78 metres) and women will be around 5 feet 5 inches (1.65 metres).

The food we eat is bought from shops and supermarkets. It comes already prepared for us, and we also buy food already cooked from take-aways and restaurants. We eat a lot of cereals like wheat, mostly as bread. Our diet is high in sugar and sweet foods (including a lot of chocolate). We also eat a lot of dairy foods like milk and cheese. One of the commonest vegetables we eat is the potato. There is enough food in the shops that some people can avoid eating meat and be vegetarian. The food we eat can affect our health. Many people have diabetes from eating too much sugar. Some people have to avoid eating gluten which is common in wheat. Others cannot digest milk. Some

cancers and heart disease are now being linked to particular types of food.

Most families have a motor car, sometimes more than one. We have buses and trains, and can travel easily abroad on aeroplanes and ships. When we walk, it tends to be short distances around our home. We can now travel quickly over long distances.

Many people have religious beliefs in a supreme god, such as Christians, Jews and Moslems. Others, like Hindus, believe in many gods, or in a spiritual world that offers us a better way of living, like Buddhists. Modern religions involve set places to worship and rituals, and ways of behaving. Other people do not believe in any gods or spiritual world, such as atheists, but look to science instead to explain the world.

Contrast the two

To us, the house is our home. To Mesolithic people the home was the family and the whole settlement, of which the house was only one part. A house was where they slept and sheltered.

We now live longer lives and we are much taller. Fewer children die in childhood. However, hunter-gatherers are physically stronger and are not prone to some modern illnesses like diabetes or heart conditions.

Their food had less sugar and less harmful fats than modern foods. It was fresh and local, and well balanced between different types of food. But, it was not always plentiful and there were times when they would have gone hungry or even starved.

Their known world was a small one. Going from York to Leeds (25 miles or 40 kilometres) would have taken around 8 hours to walk. Now we can do the same journey in 25 minutes by train. They would have known their local area in great detail but only have a hazy knowledge of other places or people.

Mesolithic people were part of nature, paying respect to the spirits of the natural world in return for what it gave them in food and materials.

Could we live like our ancestors? The short answer is no. We don't have the skills or knowledge of the plants and animals and would struggle to survive without our modern gadgets and comforts. Mesolithic people did more than survive. They lived a successful lifestyle for more than 5,000 years.

ACTIVITY

How does your life compare to theirs?

Fill in the following grid and see how your life compares to that of the Mesolithic.

Theme	Mesolithic	Modern
Houses		
At home		
Day time		
Clothes		
Life		
Food		
Travel		
Belief		

Now find three things about the modern world you think are better than the Mesolithic and three things that were better during the Mesolithic than in modern times.

THE STORY

The headline or title	Example
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Who are they?

What did they do?

The story

Who are they?

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LESSONS FROM THE MIDDLE STONE AGE

THE LIVING ENVIRONMENT

SEASONAL FOODS IN THE MESOLITHIC

Examples	Spring Feb-May	Summer May-Aug	Autumn Aug-Nov	Winter Nov-Feb
roots	bulrush, sea beet	cattail, sea beet	cattail, sea beet, sea kale	sea beet, sea kale
honey	honey	honey		
birds eggs	duck, goose, swan	duck, swan		
fish	eel, salmon	eel, salmon	cod, eel, pike, salmon	cod, eel, pike
fowl	pigeon	pigeon	duck, goose, grouse, pigeon	duck, goose, grouse, pigeon
mammal	boar, deer, hare	boar, hare	boar, deer, hare	boar, deer, hare
shellfish	cockle, limpet, mussel, oyster, scallop, whelk	scallop, whelk	cockle, limpet, mussel, oyster, scallop, whelk	cockle, limpet, mussel, oyster, scallop, whelk
other meats	lobster	crab, lobster, prawns	crab, crayfish, lobster, prawns	crayfish
nuts			acorn, hazel	
seeds		yellow water lily		
berries		bilberry, elderberry, raspberry, strawberry	bilberry, blackberry, elderberry, raspberry, strawberry	
fruit			crab apple, sloe	
leaves and flowers	chickweed, dandelion, nettle, sea kale, sorrel, wild garlic	chickweed, dandelion, nettle, sea kale, wild garlic	chickweed, dandelion, nettle	chickweed, dandelion
seaweed	carrageen, dulse, kelp, laver	carrageen, kelp, laver	kelp, laver	kelp, laver
fungi	morel	bolete, morel, mushroom, puffball	blewit, bolete, cep, mushroom, puffball	blewit

LESSONS FROM THE MIDDLE STONE AGE

THE GREAT DEBATE

Archaeologists have had two very different views about the Mesolithic. These reflect the ideas of two famous philosophers who had very different views of human nature and the prehistoric past. Jean-Jacques Rousseau (1712-1778) in 1754 wrote that people were naturally kind and cooperative and if left alone would live close to nature in a kind of Garden of Eden. Thomas Hobbes (1588-1679) wrote in 1642 that people were naturally vicious and selfish and would have lived like brutish animals. Archaeologists often saw the Mesolithic as either one or the other.

Nasty and brutish

The man who first described the Mesolithic, Hodder Westropp, wrote in 1872 that Mesolithic people were “scarcely less savage than the beasts of the forest”, “living in a wild and uncultivated state”, “stationary and unprogressive”, and that their “intellect was dormant”.

For Harold Peake in 1933, the Mesolithic “was a time of poverty and hunger”, in which “people were becoming poorer and more miserable”, and “degenerated fast in the miserable conditions under which they were compelled to live”.

A Garden of Eden

Christopher Tilley wrote in 1996:

“I am politically old-fashioned enough even to want to describe it as a kind of Garden of Eden before the fall. These were a series of communities in which ownership of land and resources was common or collective, sharing was generalized and no one is likely to have gone hungry.”

Neil Oliver in 2012 wrote that the Mesolithic was a period of “sophistication and complexity”, and that Mesolithic people “had learned to make life rich, comfortable and satisfying”.

Neither and both!

More recent archaeologists have been more balanced. Bill Finlayson in 1998 wrote that we should “not be fooled by ideas of a people living in a hazy dream time at one with nature”, and that though their way of life was a great success, it could not support the levels of population or social complexities of our own civilisation.

Caroline Wickham-Jones wrote in 2010 that it was a dangerous trap to assume hunter-gatherers lived in a Garden of Eden. There was archaeological evidence of violence (both neighbourly and domestic) in the period. Mesolithic people were “not happy hippies living in harmony with their environment”. But she also wrote that we can learn lessons from the period about the intertwining of people and the world they live in, using knowledge of the past to think in different ways and open up new possibilities in the present about our relationship with nature.

How to debate

A debate has two sides, who argue about which is right. Each side must use evidence to persuade the audience that they are right.

1. Decide a question which can have more than one answer.
2. A person or team of people take one answer and find evidence to support it.
3. Presenting the argument:
 - what is the answer you support
 - present three pieces of evidence for why you support it
4. Each side presents its case, then has a right to reply to the points made by the others:
 - say why your opponents three points are wrong
5. Let the audience vote on which side they think is right.

Remember that sometimes the truth lies in the middle and that each side may be partly right and partly wrong.

The question

Here are some possible questions you can debate. You can always come up with your own instead.

- People in the Mesolithic had a good way of life, which was better in many ways than our own.
- People in the Mesolithic were worse off than people living today.
- The Mesolithic was period of poverty and hunger.
- The Mesolithic was an age of equality and cooperation.

The evidence

Divide the class into groups and have them do the following activities and discussion before asking them which side of a debate they want to be on. Then get them to present their case to the others.

Look at this illustration ([Using_deer.pdf](#)) of Mesolithic life. Make a list of everything you can see that is made by the people, including their clothes. Make a list of everything in your classroom. Which has the most things? Mesolithic people had few possessions but does that mean that they were poor? Is there a difference between being poor and being happy?

Look at this illustration ([Raven_camp.pdf](#)) of a Mesolithic camp. Make a note of what the men, the women and the children are doing. Are any of the activities more important than the others? Or, are they all equally as important? Do you think men and women were equal in the Mesolithic?

Look at the list of foods ([Foods.pdf](#)) that were available to Mesolithic people. Now look at the

nutrients in the different kinds of food (Nutrition.pdf). Do you think that Mesolithic people had a healthy diet? Was it a boring diet?

There is some evidence for violence in the Mesolithic as injuries to skulls in burials across Europe, and in a few skeletons with arrows or bone points in them. However, there is no evidence for fortresses or battles. People had to live together and cooperate. They believed in sharing their food with each other and working together. However, they might defend their land against others, and might quarrel between each other. Look at the information about burials from a cemetery in Denmark (Vedbaek.pdf). How many people might have suffered violence when they were alive? Do you think their time was more or less violent than ours?

There is no evidence for wealthy people in the Mesolithic. We find no homes that are bigger or fancier than others. People did not have money (as this was not invented at the time). Look again at Vedbaek.pdf and see whether some people wore jewellery or had fancy clothes. Do you think everyone was equal or were there rich and poor?

Imagine you are hunter-gatherers. Who would make the decisions about whether to move camp to a new area, where to go and hunt today, or calm down people who were quarrelling? Were men and women equal? Were old people more respected because they knew more than the others? Were people with better skills like hunting or tool making given more respect than other people?

**LESSONS FROM THE MIDDLE STONE AGE: THE GREAT DEBATE
USING DEER**



Image supplied courtesy of Forestry Commission Scotland (artist Ian Kirkwood).

LESSONS FROM THE MIDDLE STONE AGE: THE GREAT DEBATE
RAVEN CAMP

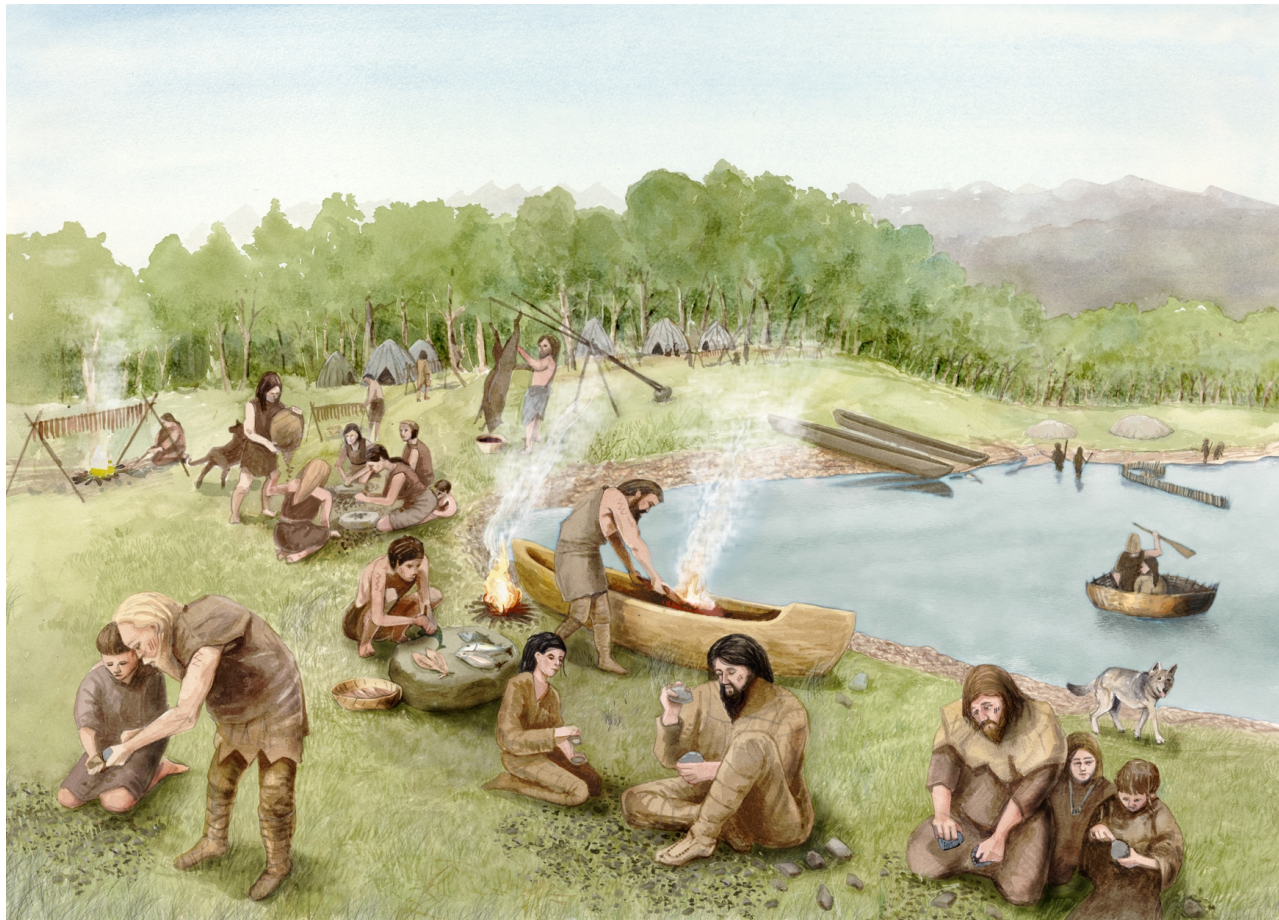


Image supplied courtesy of Forestry Commission Scotland (artist Ian Kirkwood).

LIFE IN THE MIDDLE STONE AGE: THE GREAT DEBATE

FOODS IN THE MESOLITHIC

Food type	Examples
Starches	roots: bog bean, bulrush, burdock, cattail, celandine, dandelion, parsnip, sea beet, sea kale
Dairy	<i>none</i>
Fats and sugars	honey
Meat, seeds, nuts	fish: cod, eel, haddock, pike, saithe, salmon, stickleback, sturgeon, turbot fowl: crows, ducks, geese, grouse, pheasant, swans, wood pigeon mammal: badger, beaver, elk, hare, hedgehog, red deer, red squirrel, roe deer, wild cattle, wild boar sea mammal: dolphins, whales shellfish: clam, cockle, limpet, mussel, oyster, razorshell, scallop, whelk other meats: crab, crayfish, lobster, prawn, snail nuts/seeds: acorn, hazel, yellow water lily
Fruit and vegetables	berries: bilberry, blackberry, crowberry, elderberry, gooseberry, juniper, raspberry, strawberry fruit: crab apple, sloe, wild pear leaves and flowers: chickweed, dandelion, dock, fat hen, mint, nettle, sea kale, sorrel, wild garlic seaweed: bladder wrack, carrageen, dulse, kelp, laver, sea lettuce fungi: beefsteak fungus, blewits, boletes, brittlegills, cep, field mushroom, morel, puffball

Foods they did not have.

Starches	potatoes, bread, rice, pasta
Dairy	milk, cheese
Fats and sugars	butter, cream, sugar, chocolate, jam, cakes
Meat seeds, nuts	turkey, lamb, pork, peanuts, beans, peas
Fruit vegetables	grapefruit, orange, broccoli, cabbage, lettuce, spinach

LESSONS IN THE MIDDLE STONE AGE: THE GREAT DEBATE

THE NUTRITIONAL VALUE OF MESOLITHIC FOODS

The foods we eat give us various things that our body needs:

- proteins for making the body's tissues like muscle and skin;
- fats as a way of storing energy and protecting the body's organs;
- carbohydrates (starches and sugars) that the body burns for energy;
- fibre which is essential for a healthy digestive system;
- minerals which are essential in small amounts for how the body functions;
- vitamins which help the chemical processes of the body.

The nutritional value of Mesolithic food varies a lot. The rough amount that they have of each nutrient (CHO = carbohydrate) is given in the table below. The scale used is:

4 = highest

3 = high

2 = moderate

1 = low

0 = none or minimal

Eatwell plate	Foods	Protein	Fat	CHO	Fibre	Vitamins	Minerals
starch	roots	1	1	3	2	0	0
fats & sugars	honey	1	1	4	0	1	0
meat, seeds, nuts	eggs	2	2	0	0	3	0
meat, seeds, nuts	fish	3	1	0	0	1	3
meat, seeds, nuts	fowl	3	2	0	0	0	1
meat, seeds, nuts	mammal	4	2	0	1	1	1
meat, seeds, nuts	shellfish	2	1	1	0	0	4
meat, seeds, nuts	nuts	2	3	3	3	3	3
meat, seeds, nuts	seeds	3	4	1	0	1	0
fruit & vegetables	fruit	1	1	3	2	3	1
fruit & vegetables	fungi	1	1	2	1	1	1
fruit & vegetables	leaves	1	1	1	1	3	1
fruit & vegetables	seaweed	1	1	1	4	4	0

LESSONS FROM THE MIDDLE STONE AGE: THE GREAT DEBATE

VEDBAEK MESOLITHIC CEMETERY, DENMARK

Grave	Burials	Grave goods
1	young woman	
2	50 year old man	
3	40-50 year old woman (broken spine healed in life)	
4	adult, probably man	flint blade, bone dagger, boar teeth
5	adult man	flint blade
6	40-60 year old man (broken spine healed in life)	antler axe, three flint blades
7	young person	
8	18 year old woman	190 red deer and boar teeth, snail shells on part of a dress folded under her head, 50 teeth of red deer, elk and seal, and shells at base of the dress she was wearing
	new born baby (laid on swan's wing)	long flint blade across the top of the baby
9	adult man	boar tooth pendant
10	50 year old man	two flint blades, laid on two red deer antlers, 5 large stones laid over the legs
11	no body (dug up shortly after burial)	antler, bone awl, axe, red ochre
12	elderly man	two flint blades, bone tool
13	adult man	axe, flint blade
14	adult woman	
	new born baby	
15	new born baby	
16	35-40 year old	ornament of 50+ teeth and pine marten jaw, small flint blade, two roe deer bones
	25-30 year old (killed by bone arrow)	
	1 year old between them	
17	young woman sitting upright	
18	6 month old child	
19	40-50 year old woman (or may be a man)	laid on red deer antlers

Note: bodies in the same grave were all buried and died at the same time.

BACKGROUND INFORMATION

These files provide background information for teachers about the Mesolithic and the site of Star Carr.

Star Carr is an archaeological site, about five miles south-east of Scarborough in the parish of Seamer. It was first excavated by the famous archaeologist, Sir Grahame Clark.

It is a site where a group of Mesolithic people lived at the northern edge of a now filled in lake, the former Lake Flixton. They lived by the lake for around 600 years, from 11,200 to 10,600 years ago.

These were among the earliest people to resettle Britain after the end of the last Ice Age. They lived by hunting and gathering animals and plants in the forest that then covered all of Britain.

At this time, Britain was still linked to the continent across dry land in what is now the North Sea. Archaeologists call this lost land Doggerland, extending from Yorkshire over to Denmark and Germany.

Star Carr is a very special site:

- its excavation pioneered a new approach to archaeology;
- its rare finds of bone, antler and wood revolutionised our view of Mesolithic people in Britain;
- it provided the earliest evidence for domestic dog in Britain;
- it has the earliest carpentry in Europe;
- it has the earliest house yet found in Britain;
- it has more than 30 red deer antler headdresses, unique in Britain and very rare in the rest of Europe.

These documents can be downloaded. [Make each a link to the document, or place the relevant document file on the right of the screen]

Star Carr Background [link to Star_Carr_Background.pdf]

This contains information about Star Carr and the Mesolithic that can be used to support the classroom activities.

The following images and further information can also be downloaded:

- Star Carr flints [link to Star_Carr_flints.png]
- Star Carr finds [link to Star_Carr_finds.pdf]
- Headdress [link to Headdress.pdf]

Map of Mesolithic sites in Britain [link to Map_Britain_green.pdf]

Timeline of Britain since the last Ice Age [[link to Timeline.pdf](#)]

The following Powerpoint slide has images showing the past in 1,000 year steps back in time:

- 1,000 year steps back in time [[link to 1000_years.pdf](#)]

Timeline of Palaeolithic and Mesolithic Britain [[link to Timeline2.pdf](#)]

This can be illustrated with the following images:

- ice sheet [[link to ice_sheet.jpg](#)]
- tundra [[link to tundra.jpg](#)]
- tundra + animals [[link to tundra_animals.png](#)]
- boreal woodland [[link to boreal.jpg](#)]
- boreal woodland + animals [[link to boreal_animals.jpg](#)]
- temperate woodland [[link to temperate.jpg](#)]
- Creswell Crags [[link to Creswell.jpg](#)]
- art at Creswell [[link to Creswell_horse.jpg](#)]
- modern Star Carr [[link to Star_Carr_modern.jpg](#)]
- Pre-boreal Star Carr [[link to Star_Crr-Mesolithic.jpg](#)]
- Howick house [[link to Howick.jpg](#)]
- Doggerland map [[link to Doggerland.png](#)]
- Oronsay midden [[link to Oronsay.png](#)]

Acknowledgements

Images used in the schools resource are acknowledged where appropriate in the resource itself. Some of the resources use multiple images or are intended for free-standing use without text. The sources for these are acknowledged here.

1,000 year steps back in time

The images on the *1,000 years* information sheet are taken from Wikimedia Commons, by courtesy of the following authors:

Bayeux tapestry, King Harold

unattributed

Roman reenactors

Matthias Kabel

Butser Iron Age farm	Midnightblueowl
Bronze Age axheads	Wolfgang Sauber
Late Neolithic, Stonehenge	Grand Parc – Bordeaux
Early Neolithic long barrow, West Kennet	Alan Simkins
Mesolithic house, Irish National Heritage Park	David Hawgood
Greenland ice sheet	Hannes Grobe

Timeline

The separate image files that support the *Palaeolithic and Mesolithic timeline* are taken from Wikimedia Commons, by courtesy of the following authors:

ice sheet (Greenland)	Hannes Grobe
tundra (Sweden)	Ökologix
tundra animals, Przewalski horse	Claudia Feh
tundra animals, mammoth	Flying Puffin
tundra animals, reindeer	Alexandre Buisse
boreal woodland (Twemlows)	Espresso Addict
boreal woodland animals, wild boar	4028mdk09
boreal woodland animals, aurochs	Jaap Rouwenhorst and DFoidl
boreal woodland animals, red deer	Smudge 9000
temperate woodland (Sherwood Forest)	Nilfanion
Creswell Crags horse head engraving	Dave Kav
Howick house reconstruction	Andrew Curtis

The photographs of Creswell Crags, modern Star Carr and the Oronsay excavation were taken by the author.

The image of Mesolithic Star Carr is by Dominic Andrews and is courtesy of the POSTGLACIAL project.

The map of Doggerland is by the author, adapted from one on Wikimedia Commons by Max Naylor.

BACKGROUND INFORMATION

STAR CARR

A GUIDE FOR TEACHERS

Background

Star Carr is an archaeological site, about five miles south-east of Scarborough in the parish of Seamer. It lies today next to the River Hertford. It was first excavated by the famous archaeologist, Sir Grahame Clark.



Adapted from a location map by Prof. Nicky Milner

It is a site where a group of people lived at the northern edge of a now filled in lake, the former Lake Flixton. These were people of the Early Mesolithic and their artefacts at the site have been dated to between 11040 and 10450 BP (before present).

The Early Mesolithic occurs after the end of the last ice age. The ice age was at its height around 20,000 years ago and began to wane after 15,000 years ago. Britain was then occupied by Late Upper Palaeolithic peoples until a sudden cold spell between 12,900 and 11,600 years ago.

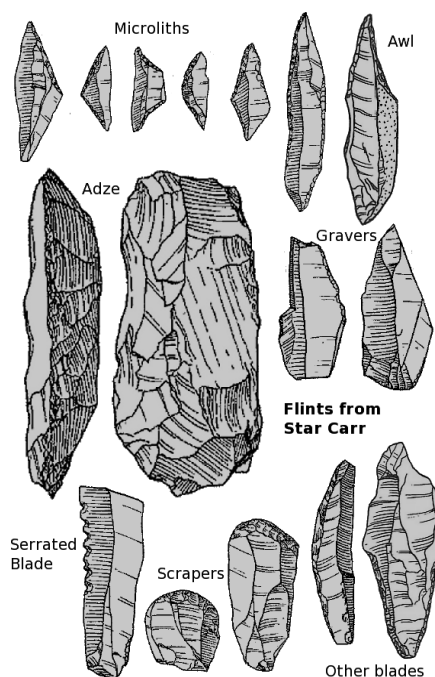
The climate warmed up again from 11600 BP, and eventually Britain was clothed in birch and pine woodland, with woodland animals like red deer, roe deer, wild boar, elk and aurochs (wild cattle). People moved back into Britain and adapted their culture to living in the new woodland. This culture is the Early Mesolithic.

As the ice melted, the sea level of the oceans rose. By 11600 BP, there was still much ice to the

north of Europe and America, and sea levels were lower than today. The southern half of the North Sea was still dry land and connected Britain west to east across to Denmark and Germany. Archaeologists call this connection Doggerland. It would have been rich in wildlife and people would have settled across the whole area between Britain and Denmark. They shared a common Early Mesolithic culture.

Mesolithic people used the bow and arrow to hunt, and were helped by domestic dogs. They also fished from canoes and coracles at sea, on rivers and lakes. They made a range of characteristic flint tools, including:

- scrapers, for scraping hides and other materials;
- graters, for working antler or other hard materials;
- microliths, for inserting into wooden handles as arrowheads or knives or awls;
- awls, for boring or piercing other materials;
- axes or adzes, for wood-working and felling trees;
- saw blades, for cutting.



These are taken from Clark 1954
Excavations at Star Carr, Cambridge
University Press

A larger image of the flint tools is in the file [Star_Carr_flints.png](#).

Antler and bone were also shaped into tools, such as spear and harpoon points with jagged teeth, or wedges and scraping or smoothing tools.

A full list of tools is in the file Star_Carr_finds.pdf.

Drawings of some of the flint tools are in the file Star_Carr_flints.pdf.

Why is Star Carr special?

Star Carr is a very special site. There are various reasons for this:

- it was where a pioneering approach to archaeology was first tried, integrating ecological and archaeological studies;
- it preserved in its peat the finds of bone, antler and wood which revolutionised our view of Mesolithic people in Britain;
- it provided the earliest evidence for domestic dog in Britain;
- it has the earliest carpentry in Europe;
- it has the earliest house yet found in Britain;
- it has more than 30 red deer antler headdresses, unique in Britain and very rare in the rest of Europe.

How was the site discovered?

The site of Star Carr was discovered by a local amateur archaeologist, John Moore. Moore was one of the founders of the Scarborough and District Archaeological Society in 1947, and had begun looking in the fields of the Vale of Pickering for possible sites. He soon found a flint blade in the side of a drainage ditch in Flixton. He then found more sites in the area and began drilling into the ground to look at the soils and map the edges of the lake that used to exist there. By 1951, he had found 9 archaeological sites and defined the edges of the lake (around 2½ miles long by 1 mile wide, it would have been 8 metres deep).

Moore's fourth site was at Star Carr. Scarborough Museum put Moore in touch with Grahame Clark at Cambridge University. Clark was the foremost British expert on the Mesolithic. He had written the first survey of the period in Britain in 1932. Clark knew about the Mesolithic sites in Denmark, which were preserved under peat and had surviving wooden, bone and antler remains, which would normally rot away on most archaeological sites. Clark was keen to find a waterlogged Mesolithic site in Britain to compare with the Danish ones. In 1948, the Council for British Archaeology had published a report which identified finding such a Mesolithic site as a priority for British Archaeology. In that same year, Clark was contacted by Moore about his finds.

It was obvious from Moore's finds that Star Carr was exactly the site that Clark had been hoping for, preserved under the peat of the former Lake Flixton. All previous Mesolithic sites in Britain had only yielded stone tools, everything else having rotted away. Star Carr promised to be very special.

Moore had dug a small trench at Star Carr in 1948, and Clark excavated there from 1949 to 1951, and published the results in 1954. The site was instantly famous. This was for two reasons. The excavation recovered a lot of organic finds (bone, antler and wood) and revolutionised how people saw the Mesolithic. Furthermore, Clark had not just excavated the archaeological remains but also carried out environmental investigations and placed the archaeology into its landscape and climatic context. This was not normally done and Clark began a whole new approach to integrating archaeology and environmental studies.

What did Clark find?

Clark excavated trenches within an area 21 by 24 metres across. Within this, he found archaeological remains spread over an area 15 and 17 metres. He thought he had therefore excavated the whole of the Mesolithic settlement. Later work showed he was wrong about this.

The excavation revealed an area of brushwood laid down on top of the reed swamp at the edge of the lake. Clark thought this was where people had lived. Clark was an innovative archaeologist and made use of the new technique of radiocarbon dating to date the site with one specimen of tree dated to 10830 BP (BP = before present).

Clark found the remains of many plants and animals. He also identified which could have been used for food and other uses by the people at the site. He also found large numbers of stone tools, as well as bone, antler and wooden tools. Bone, antler and wood were only preserved because of the wet peaty soil at the site.

Among the more spectacular finds were:

- a wooden paddle
- 21 red deer antler headdresses made by cutting off the top of the skull with the antlers attached



A larger image of the headdresses is in the file [Headdresses.pdf](#) (images are provided by the POSTLACIAL Project, University of York).

A list of finds is in the file [Star_Carr_finds.pdf](#).

What is Star Carr?

Star Carr was very similar to Mesolithic sites in Denmark and northern Germany. Clark thought that 4 to 5 families lived at Star Carr. He felt that they would have moved around the landscape from season to season. They would have stayed at Star Carr during the winter, from December to April, to live off the red deer in the lowlands. They would have followed the deer into the hills during the summer, on the North York Moors or Cleveland Hills. While at Star Carr, they would have got almost everything they needed from within a 6 miles radius of the site.

Clark thought the famous antler frontlets were either:

- used as a disguise to use in hunting, to allow hunters get closer to the deer
- or
- worn by shamans (a kinds of 'priest') in ceremonies to talk to the nature spirits.

Was Clark right?

Other archaeologists looked at what Clark had found and offered different interpretations of the site.

Seamus Caulfield 1978

Aurochs and elk were more important for food than the red deer, but red deer was very important for its antlers.

Roger Jacobi 1978

Analysis of the roe deer and elk bones showed that Star Carr was occupied in the early summer.

Mike Pitts 1979 and others

Others looked at the finds and thought they showed that people had visited Star Carr during all seasons of the year, not only at one time of the year.

Pitts also suggested that the area Clark had excavated wasn't the whole site, only a specialist area where people were working antler and animal skins within a larger site.

Tony Legge & Peter Rowley-Conwy 1988

A comprehensive study of the finds showed occupation mainly from late May to early July and between September and December. They thought it was mostly a hunting and butchering site used by 5-6 male hunters, and that the excavated area represented where waste had been thrown away rather than where people had lived.

Richard Carter 1998

Two deer at the site had been killed between November and February.

Lynne Bevan 2003

She suggested that the frontlets may have been worn by young men as part of their rite of passage from boyhood into being adults.

More excavations

A team led by Tim Schadla-Hall excavated a new trench at Star Carr in 1985. Along with more flints and bones, they unexpectedly found a well-made wooden platform on the edge of the old lake. They dug more trenches in 1989. The plant remains they found suggested occupation of the site from at least April to August each year.

Results of new research were published by Paul Mellars and Petra Dark in 1998. Star Carr was shown to be one of the earliest fully Mesolithic sites in northern Europe. It was also much bigger than Clark had thought. It could have extended for up to 150 metres along the lake shore. Clark had excavated only 5% of the site.

New radiocarbon dates showed two possible phases of occupation:

- 130 years from 10540 to 10410 BP
a gap of 100 years
- 80 years from 10720 to 10640 BP

The site was occupied from late March to early July or August and in September or October. The people began the spring in March or April by burning off the reeds at the edge of the lake each year.

Microscopic studies of traces of wear on the edges of the stone tools by John Dumont in 1996 showed evidence for a wide range of activities at the site: wood working, working skins, working antler and butchering animal carcasses.

The wooden platform was made of split planks of aspen or willow during the first phase of occupation and was most likely a trackway by the water's edge.

It is possible that the people at Star Carr sent hunting parties of 5-10 hunters on a two day walk to the tops of the North York Moors after the red deer during the summer. During winter the people might have spent time living at the coast. While there, they would have collected the amber found at Star Carr.

There are now known to be 25 Upper Palaeolithic and Mesolithic sites around the edges of Lake Flixton, but none have yielded the same kind of evidence as Star Carr.

The modern excavations

The most recent archaeological study of Star Carr has been led by Nicky Milner of the University of York, along with Chantal Conneller and Barry Taylor of the Universities of Manchester and Chester. Their work took place from 2004 to 2015.

The analysis of the finds is still on-going but some early discoveries have been made.

The site is no longer well preserved. Drainage of the land for farming had dried out the soil, letting in harmful oxygen and bacteria, and promoting chemical reactions. The soils were now very acidic (about the same strength as stomach acid). This is destroying the wood, bone and antler.

We now know that Star Carr is one of the earliest sites of the Mesolithic and marks the beginning of more permanent occupation of Britain after the end of the Ice Age.

The site was likely used at different seasons for different lengths of time over a long period. The people were rooted to the lake edge as their special home, with frequent return and reuse of the site.

The site now extends 80 metres north and 200 metres south-east of Clark's excavation.

Clark's brushwood was later shown to be a combination of roots, natural lakeside accumulation and beaver felling of willow and aspen. Some of the branches have been cut by people and it may be also be a pile of waste from the management of trees around the settlement.

The wooden platform now extends for at least 30 metres, and was a trackway and perhaps a boat landing stage.

A house was found. Burnt stones marked a hearth in the middle of a depression in the ground. This had a dark soil in it which was probably a rush or reed flooring. It was surrounded by 18 post holes in a rough circle, 4 metres across. The wooden posts had been inserted into the ground for the walls and would have been lashed together and covered with hides or reeds as a kind of thatch. The way the posts are arranged points to repair or rebuilding of the house at least once. Burnt flint also points to small fires being lit outside the house.

Bone and antler tools were being deliberately deposited in a part of the lake edge. These had been removed from their handles. Some were broken while others were intact. This seems to reflect a belief that animal remains had to be discarded in an appropriate way. Obeying such rules may helped to ensure that future hunts would be successful.

The lake was slowly shrinking and filling in with peat over time, and had begun to disappear after around 9000 BP.

The radiocarbon dates now show the site to have been occupied for around 600 years. There are three substances that have been dated:

- charcoal from the burning of vegetation, 11040 – 10450 BP;
- antler from making and using antler tools, 11015 – 10825 BP;

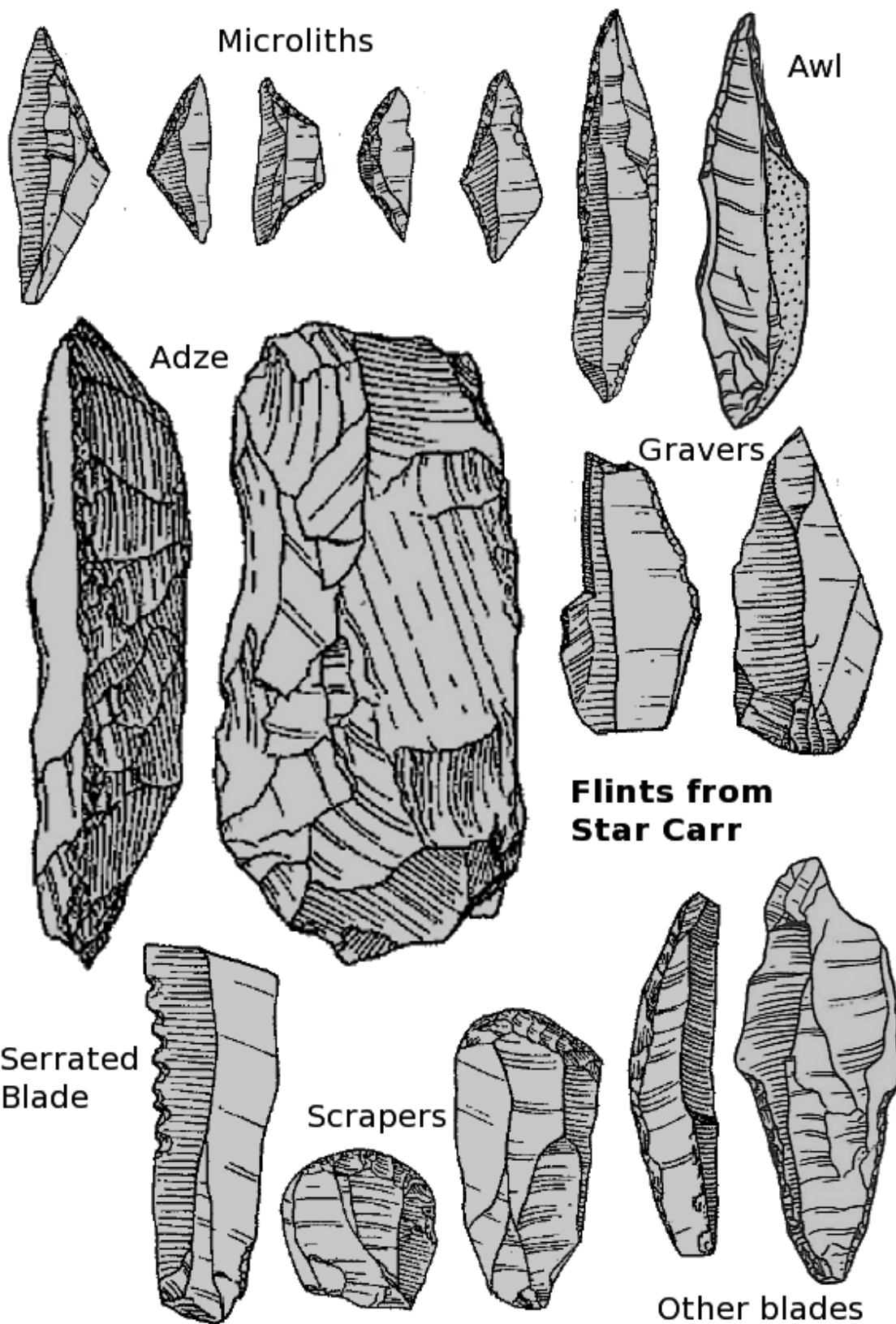
- a cake of birch resin, as a glue for making tools, 10565 BP.

What is missing?

Archaeologists have still only excavated a small part of the site. There are some things we know that people had but have not been found. These include:

- the clothes and shoes people wore;
- the boats or coracles they used on the lake;
- the many wooden, leather and birch bark tools they had, such as bowls, ladles, spoons, arrows, bags and baskets;
- their burials, either buried in the ground, exposed in the forest or cremated;
- items that show how they decorated things with patterns and colours.

BACKGROUND INFORMATION: STAR CARR FLINTS



These are taken from Clark, J G D 1954 *Excavations at Star Carr*, Cambridge: Cambridge University Press

BACKGROUND INFORMATION: FINDS FROM STAR CARR

WHAT CLARK FOUND AT STAR CARR

Sir Grahame Clark excavated Star Carr from 1949 to 1951. He dug trenches that covered an area of around 17 metres long by 15 metres wide. In these, he found:

Plant remains:

- lake water plants – mare's tail, pondweed, stonewort, water lily (white), water lily (yellow);
- lake-side swamp plants & trees – bittersweet, bog bean, club rush, cowbane, deergrass, gipsywort, grey willow, horsetail, marsh willowherb, meadow rue, meadowsweet, reed, sedge, spearwort, spike rush, water dock;
- open ground plants – bistort, black nightshade, chickweed, crowberry, goosefoot, hemp nettle, knotgrass, nettle, ragwort, redshank, sorrel, St. John's wort;
- woodland plants & trees – aspen, birch, hawthorn, hedge woundwort, moss, pine, red campion, rowan.

Animal bones, 1,159 bones or fragments of bones of mammals:

- 532 red deer bones;
- 218 elk bones;
- 171 wild cattle bones;
- 117 roe deer bones;
- 56 beavers (7 animals);
- 31 wild boar;
- 24 pine marten (2 animals);
- 5 wolf or dog (2 animals);
- 2 badger (1 animal);
- 1 hedgehog;
- 1 hare;
- bones from 1 fox.

Also bones of birds: buzzard, crane, great crested grebe, lapwing, little grebe, pintail duck, red-breasted merganser, red-throated diver, white stork.

Antlers from deer:

- 106 red deer antlers;
- 48 roe deer antlers;
- 13 elk antlers and fragments.

Flint tools and the waste from making the tools, 17,000 flints, of which nearly 1,200 were deliberately shaped tools:

- 426 scrapers, for scraping hides and other materials;
- 336 graters, for working antler or other hard materials;
- 248 microliths, for inserting into wooden handles as arrowheads or knives or awls;
- 114 awls, for boring or piercing other materials;
- 7 axes or adzes, for wood-working and felling trees;
- 5 saw blades, for cutting;
- 59 other tools.

Antler and bone tools:

- 191 antler/bone barbed points (187 antler and 4 of bone), for hunting or fishing;
- 9 worked antler tines, to make various types of tool;
- 6 elk antler mattocks, for digging into the ground;
- 8 bone pins;
- 11 aurochs bone scrapers, for scraping hides;
- 21 antler headdresses.

Other tools:

- a wooden paddle, signifying a boat, probably a hide boat like a coracle
- 37 beads and pendants made of amber (1), animal teeth (2), bird bone (1) and shale (33).

Other materials

- many birch bark rolls;
- birch resin, useful as a type of glue;
- 2 lumps of amber, which could be used to make jewellery;
- moss for bedding;
- bracket fungus for tinder in fire-making;

- 4 pieces of pyrites which can be struck to make sparks for fire-lighting;
- lumps of haematite, used as a red pigment.

The most important and exciting of the finds were the 21 antler frontlets, made from the tops of deer skulls to be worn as headdresses. This is the largest number of deer headdresses ever found from one site. Only six have ever been found elsewhere (all in Germany).

The 191 barbed points is also the largest number of these ever found at one site in Britain.

BACKGROUND INFORMATION

One of the Star Carr antler headdresses



The images are provided courtesy of the POSTGLACIAL Project, University of York.

BACKGROUND INFORMATION: MAP OF MESOLITHIC SITES IN BRITAIN



This map was created by the author.

BACKGROUND INFORMATION

A TIMELINE OF BRITAIN SINCE THE LAST ICE AGE

Years ago	Period	Features	Key events
500	Modern	science, industry, cities, Empire	Civil War (1642-1652)
1,600	Medieval	kingdoms, castles, cathedrals, villages	Norman conquest (1066) Viking invasions (865) Anglo-Saxon conquests (560s)
2,000	Roman	towns, villas, Hadrian's Wall	Roman conquest (43)
2,800	Iron Age	hill forts, chiefs and warriors, square fields	
3,500	Bronze Age		Stonehenge abandoned
4,200		henges, stone circles, rich burials	
5,100	Neolithic		Stonehenge built
6,000		ancestral tombs, flint mines, first pottery	first farmers in Britain
8,000	Mesolithic	woodlands, climate warming, sea level rising, hunting, fishing and gathering	Storegga tsunami Britain an island
8,400			
11,100	Star Carr		
11,600		people return hunting horse	end of the Ice Age
12,900	Late Palaeolithic	very cold, Britain possibly abandoned	
14,900		ice retreats, hunting reindeer, cave art, last mammoths	people migrate to Britain

BACKGROUND INFORMATION: 1,000 YEAR STEPS BACK IN TIME



1,000
Medieval



5,000
Late Neolithic



2,000
Roman



6,000
Early Neolithic



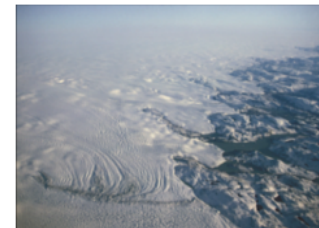
3,000
Iron Age



11,000
Mesolithic



4,000
Bronze Age



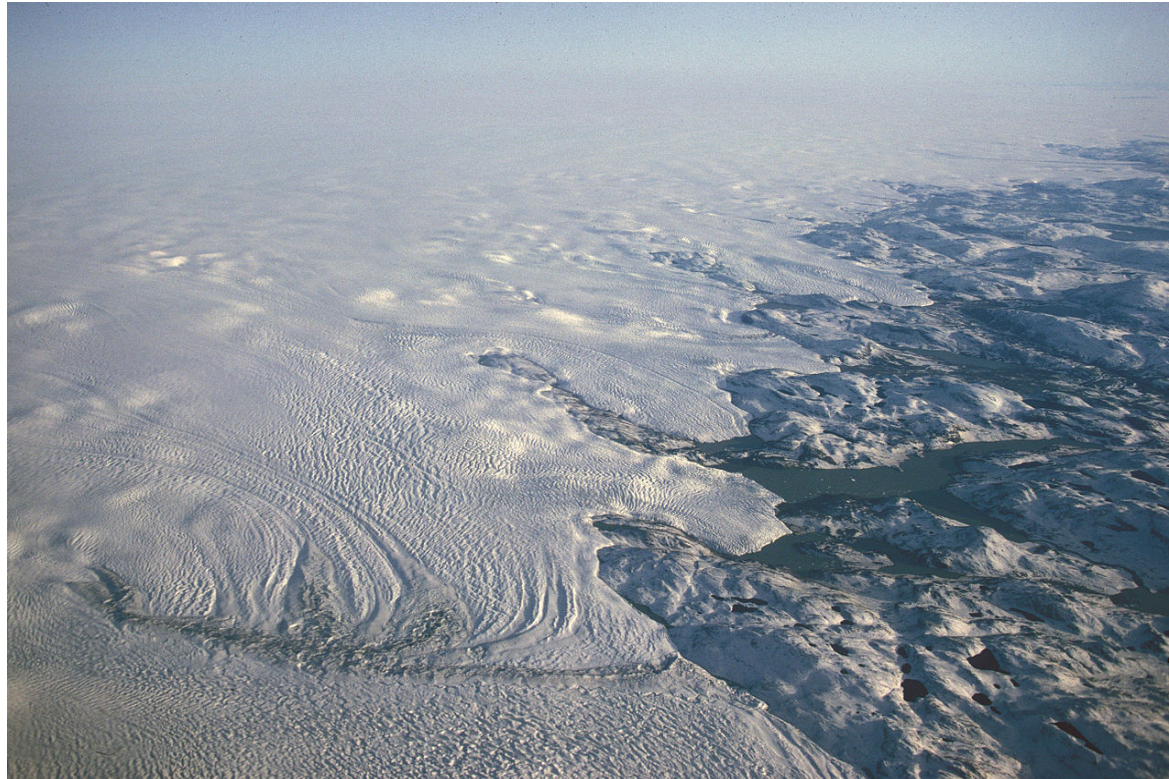
22,000
Ice
Age

BACKGROUND INFORMATION

TIMELINE OF PALAEOLITHIC AND MESOLITHIC BRITAIN

BP	Climate	Plants, animals	Period	Sites/Events			
5750	Sub-Boreal 6300 BP (cooler, dry)	oak, alder, lime wheat, barley cattle, sheep, pig	Early Neolithic	farming begins			
6000							
6250							
6500	Atlantic 8300 BP (warm, wet) summer 17.5 winter 5	oak, elm, alder red deer, roe deer, boar, aurochs	Late Mesolithic	Oronsay 6480-5770			
6750				Blick Mead 6650, Morton 6600-5940			
7000							
7250				Morton 7370-7000			
7500				Goldcliff footprints 7550-6750			
7750							
8000				tsunami 8050 , Bouldnor Cliff 8000			
8250							
8500				Boreal 10530 BP (warming, dry) summer 14 winter -3	hazel, pine, birch red deer, roe deer, boar, aurochs	Late Mesolithic	Britain an island 8400
8750							
9000	Staosnaig 9070-7890						
9250	Seamer Carr arrow 9210						
9500							
9750	Howick 9750, Warren Field 9750						
10000							
10250	Aveline's Hole 10250, Gough's Cave 10250						
10500							
10750	Preboreal 11640 BP (warming) summer 12.5 winter -5	birch, juniper red deer, boar, elk, aurochs, roe deer	Early Mesolithic				Nab Head 10350
11000				Star Carr 11040-10450, Thatcham 11100-10390			
11250							
11500				Ice Age ends , Seamer Carr 11450-11190			
11750	Loch Lomond 12900 BP (glacial) summer 10 winter -17	grass, dwarf birch reindeer, horse	Late Upper Palaeolithic	Uxbridge 12080			
12000				Flixton 12200			
12250				Hengistbury Head 12500			
12500							
12750				Creswell Crags carvings earlier than this			
13000	Windermere 14670 BP (warming) summer 18 winter -5	birch, pine red deer, saiga, elk, horse, aurochs	Late Upper Palaeolithic				
13250							
13500							
13750				Leman & Ower spearpoint 13640			
14000							
14250							
14500							
14750	Gough's Cave skulls 14800						

BACKGROUND INFORMATION
ICE SHEET (GREENLAND)



BACKGROUND INFORMATION
TUNDRA (SWEDEN)



BACKGROUND INFORMATION
TUNDRA WITH ANIMALS (HORSE, MAMMOTH, REINDEER)



BACKGROUND INFORMATION
BOREAL WOODLAND



BACKGROUND INFORMATION
BOREAL WOODLAND WITH ANIMALS (BOAR, AUROCHS, RED DEER)



BACKGROUND INFORMATION
TEMPERATE WOODLAND



BACKGROUND INFORMATION
CRESWELL CRAGS



This photograph is provided by the author.

BACKGROUND INFORMATION
CRESWELL CRAGS HORSE HEAD CARVING



BACKGROUND INFORMATION
STAR CARR TODAY, DURING EXCAVATION



Photograph taken by the author.

BACKGROUND INFORMATION
STAR CARR DURING THE MESOLITHIC



This image is provided courtesy of the POSTGLACIAL Project, University of York (by artist Dominic Andrews).

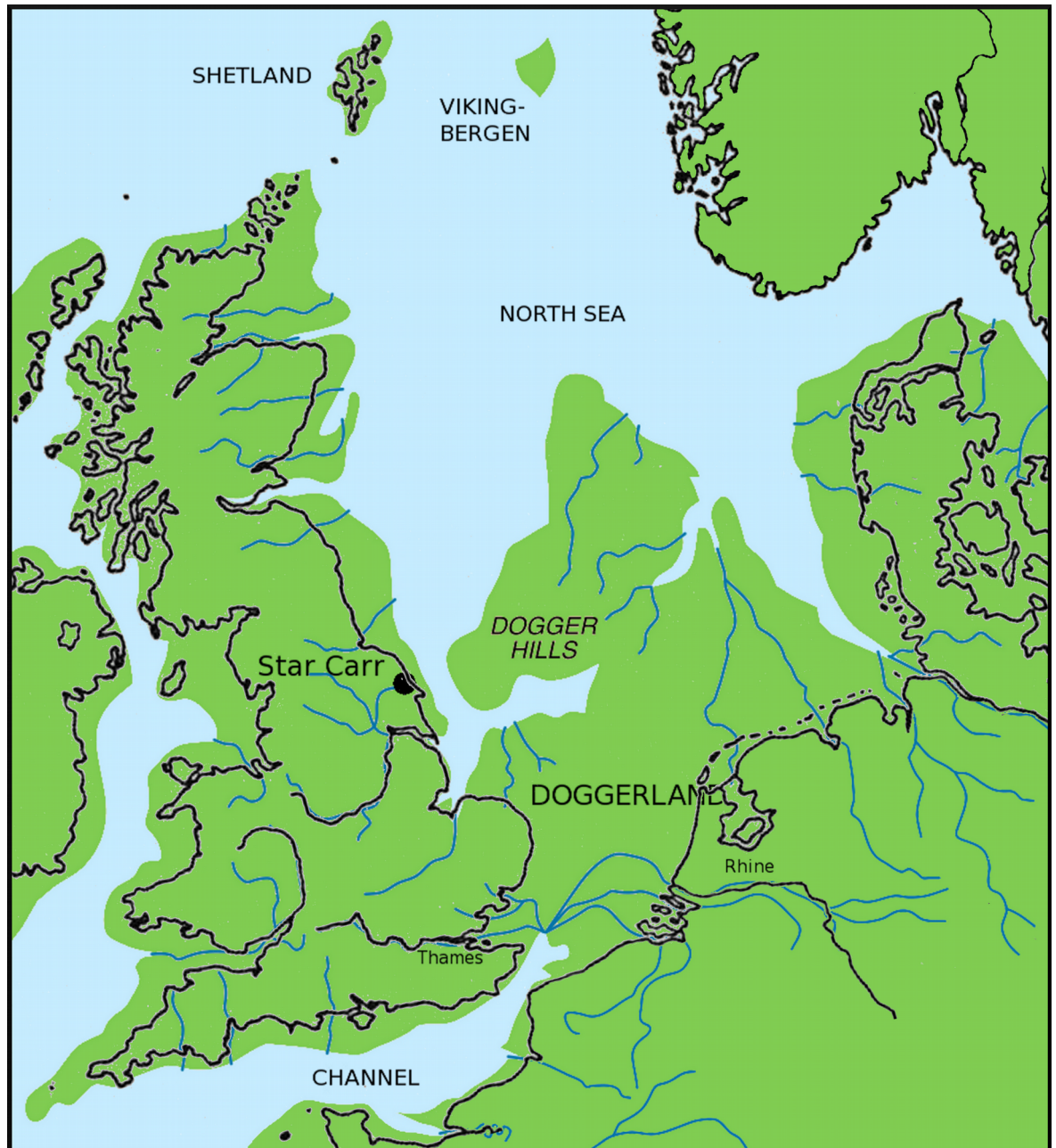
BACKGROUND INFORMATION
HOWICK HOUSE RECONSTRUCTION



This image is from Wikimedia Commons, courtesy of Andrew Curtis.

BACKGROUND INFORMATION

MAP OF DOGGERLAND



This map was created by the author, adapted from one on Wikimedia Commons by Max Naylor.

BACKGROUND INFORMATION
EXCAVATION AT ORONSAY IN 1977 (CNOC COIG SHELL MIDDEN)



Photograph of excavation at Oronsay 1977, taken by the author.

Appendix 56
List of units within the schools resource

ID	Section	Sub-section	Part	Content
SRB01	Background information	Guide to Star Carr	Background	Information
SRB02			Special	Information
SRB03			Discovery	Information
SRB04			Finds	Information
SRB05			What is Star Carr?	Information
SRB06			Was Clark right?	Information
SRB07			More excavations	Information
SRB08			Modern excavations	Information
SRB09			What is missing?	Information
SRB10		Map of sites	Information	
SRB11		Timeline 1	Information	
SRB12		Timeline 2	Information	
SRB13		Slides	Information	
SRS01a	Archaeological Skills Log	Finding out	What we know	Activity
SRS01b			Which sites	Activity
SRS02a		Identifying	Flint tools	Activity
SRS02b			Animal bones	Activity
SRS02c			Trees	Activity
SRS03a		Recording	Draw	Activity
SRS03b			Describe	Activity
SRS04a		Analysing	Plants	Activity
SRS04b			Homes	Activity
SRS04c			Headdress	Activity
SRS04d			Pendant	Activity
SRS04e			Bow	Activity
SRS04f			Being in the Mesolithic	Activity
SRS05a		Reporting	Write report	Activity
SRS05b			Create display	Activity
SRSFCb		Fact check 1	Environment	Information
SRSFCc			Geography	Information
SRSFCd			Tsunami	Information
SRSFCE			Stone tools	Information
SRSFCf			Key sites	Information
SRSFCg			Fact check 2	Hunting gathering
SRSFCh		Making tools		Information
SRSFCi		Evidence		Information
SRSFCj	Fact check 3	Star Carr excavation	Information	
SRSFCk		Star Carr plants, animals	Information	
SRSFCl		Way of life	Information	
SRSFCm		Shamans	Information	
SRSFCn	Frontlets	Information		

SRSDBa	Archaeological Skills Log	Debating points 1	When the Mesolithic began	Information
SRSDBb			How the Mesolithic ended	Information
SRSDBc			Britain became an island	Information
SRSDBd			What microliths were used for	Information
SRSDBe		Debating points 2	Mobile hunter-gatherers	Information
SRSDBf			Gender roles	Information
SRSDBg		Debating points 2	Peaceful or violent?	Information
SRSDBh			Rousseau or Hobbes?	Information
SR1101a	11,000 Years Ago	Moving home	Story	Story
SR1101b			Moving home	Activity
SR1101c			Making camp	Activity
SR1101d			Your experience	Activity
SR1102a		Making things	Story	Story
SR1102b			Day in camp	Activity
SR1102c			Make tools	Activity
SR1102d			Use tools	Activity
SR1103a		Food	Story	Story
SR1103b			Which to eat	Activity
SR1103c			Cf modern	Activity
SR1103d			Picnic	Activity
SR1104a		Friends & strangers	Story	Story
SR1104b			Friends or enemies	Activity
SR1104c			Meeting drama	Activity
SR1104d			Cartoon meet	Activity
SR1105a		Hint of winter	Story	Story
SR1105b			Finish story	Activity
SR1105c			Draw story	Activity
SR1105d			Where to next	Activity
SR1106a		The bad old days	Story	Story
SR1106b			Weather	Activity
SR1106c			Moving home	Activity
SR1106d			Tell tales	Activity
SR1107a		Boys or girls	Story	Story
SR1107b			Gender	Activity
SR1107c			Gender words	Activity
SR1107d			What you like to do	Activity
SR1108a		Coming of age	Story	Story
SR1108b			Becoming adult	Activity
SR1108c			Ume's initiation	Activity
SR1108d			How Lagun felt	Activity
SR1109a	New life	Story	Story	
SR1109b		Experience words	Activity	
SR1109c		Baby names	Activity	
SR1109d		Draw Vedbaek	Activity	
SR11B01a	Background 1	Environment	Information	
SR11B01b		Society	Information	
SR11B01c		Houses	Information	
SR11B01d		How we know	Information	

SR11B02a	11,000 Years Ago	Background 2	Making tools	Information
SR11B02b			How we know	Information
SR11B03a		Background 3	Food	Information
SR11B03b			How we know	Information
SR11B04a		Background 4	Social life	Information
SR11B04b			Language	Information
SR11B04c			How we know	Information
SR11B05a		Background 5	Mobility	Information
SR11B05b			Decisions	Information
SR11B05c		Background 5	Passing of time	Information
SR11B05d			How we know	Information
SR11B06a		Background 6	Climate	Information
SR11B06b			Doggerland	Information
SR11B06c			Shamans	Information
SR11B06d			Reincarnation	Information
SR11B07a		Background 7	Gender	Information
SR11B07b			Gender roles	Information
SR11B07c			More than two genders	Information
SR11B08a		Background 8	Initiation	Information
SR11B08b			Hallucinations	Information
SR11B09a		Background 9	Having children	Information
SR11B09b			Child mortality	Information
SR11B09c			Men's role	Information
SRL01a	Lessons from the Middle Stone Age	Change is inevitable	Factfile	Information
SRL01b			Weather	Activity
SRL01c			Live then, live now	Activity
SRL01d			The story	Activity
SRL02a		The living environment	Factfile	Information
SRL02b			Modern spirits	Activity
SRL02c			Nature danger	Activity
SRL02d			The story	Activity
SRL03a		Healthy eating	Factfile	Information
SRL03b			Eat healthy?	Activity
SRL03c			Mesolithic foods?	Activity
SRL03d			The story	Activity
SRL04a		What makes us happy	Factfile	Information
SRL04b			Things or people	Activity
SRL04c			A happy day	Activity
SRL04d			The story	Activity
SRL05a		The origins of ourselves	Factfile	Information
SRL05b			Own origins	Activity
SRL05c			Migration generations	Activity
SRL05d			The story	Activity
SRL06a		Human diversity	Factfile	Information
SRL06b			Compare now and then	Activity
SRL06c			Three worse and better	Activity
SRL06d			The story	Activity

SRL07a	Lessons from the Middle Stone Age	The Great Debate	Background	Information
SRL07b			Debating	Activity
SRL07c			Possessions	Activity
SRL07d			Activities	Activity
SRL07e			Food	Activity
SRL07f			Violence	Activity
SRL07g			Wealth	Activity
SRL07h			Decisions	Activity

Appendix 57
Narrative elements used in the Star Carr schools resource
A: Background

ID	Characters	Settings	Actions	Happenings
SRB01	group of people	Lake Flixton, woodland, Doggerland, seas, rivers, lakes	hunt, use bow and arrow, help by dogs, fished from boats, made tools, woodworking	waning ice age, melting ice, sea level rise, warming climate, woodland and animals
SRB02	people		carpentry, domestic dog	
SRB03				
SRB04		lake edge reed swamp	laying down brushwood, use of plants and animals, sticking points to hafts, lighting fires, making red colouring, making frontlets, making tools, scraping hides, working antler, woodworking, felling trees, hunting, fishing, digging the ground, making jewellery, making fire, lighting fires, making and wearing	
SRB05	4-5 families, shamans		move seasonally, follow deer into the hills, use frontlets as hunting disguise or in ceremonies to talk with spirits	
SRB06	people, 5-6 male hunters, young men	site	eating aurochs and elk, working antler and skins, hunting, butchering, throwing away waste, killing deer, rite of passage	
SRB07	hunting party of 5-10 hunters	lake edge, coast	made wooden platform, burning reeds each year, wood working, working skins, working antler, butchering carcasses, walk to tops of moors, collecting amber	
SRB08		lake edge	return to site, managing trees, making and repairing a house, lighting fires, depositing tools in the lake, disposing of animal waste according to rules	
SRB09			wearing clothes and shoes, using boats, burying the dead, decorating objects	
SRB10				

SRB11		woodlands	hunting, fishing, gathering	end of ice age, climate warming, sea level rise, tsunami, Britain an island
SRB12				warming climate, Britain an island, tsunami
SRB13		woodland, lake, coast		

Appendix 57
Narrative elements used in the Star Carr schools resource
B: Archaeology Skills Log

ID	Characters	Settings	Actions	Happenings
SRS01a	people	woodlands, Doggerland	make tools	woodlands after the ice age, farming, changing forest over time, rising sea levels flooding Doggerland
SRS01b				
SRS02a	people		leave behind tools, use tools, making holes, scraping skins, smoothing arrows, engraving wood and antler	
SRS02b	people		make bone tools, leaving bones behind, using animals for meat, leather and bones	
SRS02c				growth of trees, change in trees
SRS03a				
SRS03b				
SRS04a	people	lake, swamp, open ground in settlement, woodland	using plants as food, medicine or objects, die from eating poisonous plants, eating plants, make baskets mats and fences, line shoes, use as toothpaste, make paddles, tan leather, make boxes or shoes or rooves etc, make tar for glue, dress wounds, burn wood, make tea, waterproof things, burn a light, wash, light fires	
SRS04b	people, 3 men, 2 women	house	making houses, walking inside the house	
SRS04c	people, criminal (he), shaman, hunters, chiefs, young boys, men, warriors, enemies		making headdresses, hunting a criminal in a headdress, wearing headdress, speak to the spirits, hunting deer in disguise, making tools or skins, deer as food, belief in spirits and myths, have a spirit helper, go into trance and have visions, ceremony to make men, show status, look fierce	

SRS04d			decorating pendant, wearing pendant, making symbols of status or activity, making a representation of the settlement, counting days or hunting trips, boating on lake, fishing	
SRS04e	people, hunters	woodland, lake	made a bow, inventing the bow, hunt, stalking, walking up, using dogs, using decoys, waiting for flights of birds, driving prey towards hunters, fishing with a bow	
SRS04f	people, 4 male hunters			
SRS05a				
SRS05b				
SRSFCb				climate warmed, change in trees, forest, climate change during the Mesolithic
SRSFCc		Doggerland		ice melts, sea level rise, Doggerland lost and Britain an island
SRSFCd				tsunami
SRSFCe	people		made stone tools	
SRSFCf	people, children as young as five	cave, estuary, cliff, island, lake	burial in cave, made log boats, fished for eels, hunted, finding and working flint, sea fishing, collecting shellfish, making shale beads, visiting island at times of the year, eating shellfish or using as bait, collecting and baking hazelnuts, made harpoons, made and used and discarded headdresses, measuring phases of the moon	
SRSFCg	people		hunt animals, gather plants, fish, collect shellfish	
SRSFCh			collect flint, knap, make and use tools tools, cut and shape wood, bone and antler	
SRSFCi		lake, swamp	making organic objects like clothes, boats, bags, traps, fences, houses, making wooden platform	
SRSFCj				
SRSFCk				

SRSFCI	people	open birch forest, lakes, rivers	food, drinking water, made houses, made clothes, made containers	
SRSFCm	shaman		speaking with the spirit world, belief in spirits and myths, have a spirit helper, go into trance and have visions	
SRSFCn	hunters, shamans, people, chiefs, children, adults, warriors, enemies		made headdresses, visit spirit world, use disguise in hunting, show status, ceremony making adults, wearing headdress, look fierce	
SRSDB				growing forests
§RSDB	native inhabitants		copying farming	new settlers bringing farming
hRSDBc				tsunami, loss of Doggerland, Britain an island, meltwater flood increasing sea levels
SRSDBd			making microliths and tools, boring into hard materials, using arrowheads	
SRSDB	groups	woodlands, coasts	move in search of food season by season, live in one place	
§RSDBf	men, women, hunters, tool-makers, hunter-gatherers		gathering plants, scraping hides, cooking, looking after children, hunting game, make tools	
SRSDBg	groups, individuals, women, children, men	cave	killing people, violence, placing decapitated skulls in a cave, burying people	
SRSDBh	people, communities, hunter-gatherers		violence	

Appendix 57
Narrative elements used in the Star Carr schools resource
C: 11,000 Years Ago

ID	Characters	Settings	Actions	Happenings
SR1101a	5 named individuals: 3 adults, 2 children, 3 men, 2 women	house, woods, lake, coast, headland, Neska's family	woke up, sleeping, snoring, going inland, wander into woods, pack away belongings, carry bundles, damp down fire, store flint in a pit, dump waste in the sea, play with dog, walk along path, made coracles, cross lake in coracles, splash lake, playing game naming birds, not disturbing spirits, burning rushes, restart fire, repair houses, cut down branches, trim wood, set hearth, unpack, make and set fish traps, place skull as protector on post, mark a tree where flint stored at base, smoke and dry food, eating	winter snow melt, sun warmer, charged by boar, angry spirits
SR1101b	Mutil, Neska	coast, lake	move from coast to lake	
SR1101c		house	sleep, sit, activities in a house	
SR1101d				
SR1102a	5 named individuals: 3 adults, 2 children, 3 men, 2 women	settlement, wood, Neska's family	flaking flint, made paddle, watching the knapping, picking up a flint flake, search the traps, collect firewood and timber, teach knapping, dressing a wound, making tools, heating resin, play with dog, butchering deer, processing intestines to make bag and hats, sat around heart, tell stories of spirits, making cord, making necklace and pendant and charm, went to	attacked by boar
SR1102b	Mutil, Osaba, Ama		anger spirits, make a knife	
SR1102c			make tools	
SR1102d			prepare, cook, eat food, make tools, use container, dig up roots, make pits	

SR1103a	5 named individuals: 3 adults, 2 children, 3 men, 2 women	lake, woods, camp, Neska's family	eat venison and other food, cooking, collect leaves, tasting leaf, hunting, scare off prey, fishing, falling in the lake, inspect traps, build and make fire, bring deer back to camp, sing thanks to the spirits, butcher the carcass, hug dog, use dog in hunt, giving prize cut away, smoke meat, make black pudding, snap bones for marrow, make porridge, using heating stones, sit together, thank spirits, apologise for the poor food	angry spirits
SR1103b			eat	get poisoned
SR1103c			cooking, eat	
SR1103d			choose foods	
SR1104a	14 named individuals: 8 adults, 6 children, 7 men, 7 women	lake, trees, river, camp, Neska's family	fishing, seeing through the trees, paddling coracle, warning about approaching people, preparing to meet strangers, checking traps, tend hearth, mend arrows, greeting another group, share food, welcome the others, eating, tell a story, return home, meeting strangers, threatening the strangers away, child dying, children being ill, marry, sit talking, swap marriage partners and gifts, celebrate becoming adult, make and share artefacts, taking in a young wild cat, spirit returning in	flooding by sea, catching illness, strangers moving into the land
SR1104b	families, clans,		give and take with others, cooperate, compete	
SR1104c	families, clans,		groups meeting	
SR1104d	person, people		meeting people	
SR1105a	5 named individuals: 3 adults, 2 children, 3 men, 2 women	camp, lake, Neska's family	look out of house, snore, checking traps, making arrows, waking up someone else, dreaming, playing with kitten, teaching names of fish, make tools, walk back to the house, watching the weather, thinking about	weather colder, days shorter
SR1105b	Neska, Mutil		leave camp, go to coast	
SR1105c	family, Mutil, Neska		talking, making arrows, teaching children, cooking and eating, checking traps, picking plants, sharing meat, roasting snails	
SR1105d	families	Wolds, Moors, Vale, coast		snow, winter winds

SR1106a	shamans, grandparents, elders, Mamizlari, spirits of the dead, old ones	plain, rivers, spirit world, Neska's family	put on cloaks, sit round fire, telling story, people die, burying, fishing, grieving, go into trance, speak to wind and sun, share food, using bow and arrow to hunt instead of spears, show respect to the deer, moving south and then back north, rebirth of old spirits, play, behave in the right way, listen to shamans	cold wind, snow, angry spirits, trees leaving and returning
SR1106b				
SR1106c		Doggerland	move, walk, carrying belongings, build shelter	
SR1106d			sit around campfire, telling stories	
SR1107a	Ume, <i>Gorri</i> , Gazte, Emakume, Lagun, Gizon, Osaba, Senar, Mutil, Aita, Ama	woods, camp, Neska's family	gathering berries, hunting animals, teaching about plants, using plants for illnesses and as herbs, prepare food, explore the forest on own, teaching flint knapping, shooting a bow, not touching someone else's bow, tracking animals, sorting plants, preparing medicine and drinking it, returning with a boar, butcher the boar, check traps, playing, talking by the fire, putting thatch on roof, marry, discussing problems, go	
SR1107b	girls, boys			
SR1107c	girls, boys			
SR1107d			hunting, collect plants	
SR1108a	Lagun, Neska, Mutil, Gizon, father, mothers, daughters, Emakume, Aita, hunter, shaman, hare	lake, woodland, spirit world, Neska's family	play, wake up alone, sharing a bed, walk into camp, fetch firewood, walk into the wood, make a fire, sit around fire talking, show respect to animals, sharing the kill, become a deer and be hunted as initiation rite, make headdress, wear headdress, shooting with a bow, kill a boy's childhood, drum and chant, dance, hallucinate, spirit leave the body and travel to the spirit world, speak with a spirit animal, teaching, giving headdress to the lake as thanks, give a gift, wear trousers, tease their brother, look anew at the young	grow older
SR1108b	adult		becoming adult	
SR1108c	Ume, woman		coming of age	
SR1108d	Lagun		initiation	

SR1109a	Neska, Ama, Lagun, Ama, Aita, Mutil, Osaba, Aimana, Chozuri, Emakume, baby girl, daughter, grand-daughter, old	spirit world, camp, wood, Neska's family	mending fish trap, give birth, protect future mothers, die, bury, sleep apart, avoid eating spirit animal or certain plants, showing respect to the spirits, eating other food, collecting food, help with the birth, cut the cord, holding and feeding the baby, naming the baby, old one returning to earth	
SR1109b	Neska, Lagun		sending Lagun away, giving birth	
SR1109c	baby		choosing a name	
SR1109d	Chozuri, baby		burial	
SR11B01a	people, hunter-gatherers	rivers, lakes, seas, coasts, woodland	moved around landscape, walking or by boat, making boats, make houses, make fire, make ochre	
SR11B01b	small family groups, women, clans, shamans, people		marry, have children, weaning, meet others to exchange news or trade, commune with spirit world, treat illnesses	passing seasons
SR11B01c		houses	preparing, cooking food, making tools, sitting chatting, telling stories	
SR11B01d	people, hunter-gatherers			
SR11B02a	people	coast, Wolds, forest	make tools, cutting, shaping, carrying, storing, sew clothes and shoes, digging the ground, cooking, eating, catching animals, using tar as glue, weaving baskets, making string or nets, peeling birch bark, make flooring or boxes or lamps and other things	
SR11B02b				
SR11B03a	hunter-gatherers, people, babies, family, clan	coast, woodland, lake, estuaries, rivers	gather food, eat food, hunting animals, eating food, using dogs, cooking, making containers, using pot boilers, babies die, breast feeding, sharing food, be generous, be humble	changes in weather, drought, flooding, disease making uncertain food supply, starvation or malnutrition,
SR11B03b	people		eating, cooking, throwing away bones, knowing plants	
SR11B04a	hunter-gatherers, small groups, a few families, clan		move with seasons, groups splitting and coming together, celebrate, arrange marriage, exchange goods, come of age, ceremonies for adulthood, marry, have children, children dying, fighting, defend territory	

SR11B04b			speak	
SR11B04c	hunter-gatherers			
SR11B05a	hunter-gatherers,	coast	move with seasons	snow, ice, storms, flooding
SR11B05b	people, hunters, collectors, knappers, elders, families		communicate with spirits, hunting, healing sickness, taking decisions, discussing, talking, telling stories, holding ceremonies, work together hunting or gathering, sitting round fire	
SR11B05c	people		find food, shelter indoors, telling time by the moon, calibrating lunar and solar years	changing seasons, snow, ice, gales, storms, heavy rains
SR11B05d	hunter-gatherers, chiefs, people		move with seasons, make decisions, live in one place, burning reeds, measure the age of the moon and align with the solar year	
SR11B06a		woodland	hunting	climate warming, cold winter, dry summer, cold winter, vegetation change, new
SR11B06b	people	Doggerland		animals, sea level rise, loss of Doggerland
SR11B06c	hunter-gatherers, shamans, the dead	spirit world	drum, sing, dance, go into trance, cure illness, hunting, gathering, control weather, find lost objects, help the dead travel to the spirit world	
SR11B06d	hunter-gatherers, human spirit, shamans	spirit world	spirit leaving body and returning, being reborn	
SR11B07a	hunter-gatherer societies or groups,		taking decisions, treating women harshly	
SR11B07b	men, women, son, daughter, hunter-gatherer		hunting, gathering, driving animals, raising daughter as boy, making tools or canoes, scraping skins, cooking, looking after children	
SR11B07c	men, women, shamans		be transvestite, exist in both material and spirit world, be both male and female, act as a woman, act as a man	
SR11B08a	hunter-gatherers, groups, child, adult, girls		initiating into adulthood – separation, activity and return	

SR11B08b	hunter-gatherer groups		use drugs, use music, chanting, drumming and dancing to go into trance, journey to spirit world	
SR11B09a	hunter-gatherers		marry, have children, breast feed	reach puberty
SR11B09b	hunter-gatherers, babies, children, adults, individuals		die	diseases, starvation, bad weather
SR11B09c	female, father, Lagun			

Appendix 57

Narrative elements used in the Star Carr schools resource

D: Lessons from the Middle Stone Age

ID	Characters	Settings	Actions	Happenings
SRL01a	people	forest, lakes, Doggerland	spreading north into Britain, eating different foods, moving over smaller areas, managing landscape, gather fodder to feed animals, burning off woodland to attract animals and	ice melt, plants and animals return, forest spread, temperature warming, changing forest, sea level rise, Britain becomes an island, tsunami
SRL01b				
SRL01c				
SRL01d	descendants of Neska and Lagun, family		left Star Carr to a new home, know the land, harvest hazelnuts, change way of life	lake disappeared, forest changed
SRL02a	people, hunter-gatherers, spirits	the environment	build houses, make tools, weaving baskets and traps, making string, roofing houses, make fire, drinking, washing, shaping antler, food, clothes, colouring, lighting, make beads or pendants, talk to the spirits, fall into water and drown, use spirits against others	bad weather, tsunami, attack by animals, poor year, lightning causing forest fire, water risk of drowning, catch disease
SRL02b				
SRL02c				
SRL02d	Ama, Aita, mother, father, Neska, Mutil, hunter-gatherers		respect the deer, kill, eat and use deer, hunting, place unused parts in lake, pleasing the spirits	
SRL03a	hunter-gatherers, people	local landscape, woodlands, lakes, rivers, coasts	eating food, finding wild foods	seasonal availability, bad weather
SRL03b				
SRL03c				
SRL03d	Neska, Mutil	woodland	find crab apples, search new areas of woodland, eat food	dry summer, going hungry

SRL04a	people, family, small family groups, two parents, children, siblings, cousins, small groups, relations, father, mother, clans, men, women, 1 to 4 or 5 families	houses, relationships with wider family	walk, go by boat, wear clothes, make a hat, make and wear a necklace or pendant, carry things in bags, hunting, gathering, fishing, work wood, work hide, cook, eat, meeting strangers, fighting, trusting the clan, helping each other, know how to do things, check traps, look after babies and elderly, gather together at times, sang, danced, told stories, celebrate	illness, hunger, rules about marriage
SRL04b	Neska, Mutil			
SRL04c	Neska, Mutil			
SRL04d	Neska, Mutil		harvesting plants and berries, helping adults, find a new place to gather from	
SRL05a	humans, settlers, Cheddar Man, people	forest	bury, migrations to Britain, copy farming	climate warming, ice melt, trees grow
SRL05b				
SRL05c				
SRL05d	Neska, Lagun		have children, get married, live together, love each other	
SRL06a	Neska, Mutil, family, people, hunter-gatherers	landscape, house	made houses, sleep in beds in set places, making and decorating clothes, become adult, marry, have children, die, catch animals, fish, collect shellfish and plants, ate food, preserve food, cook, walk, use boats, believe in and take care of spirits	seasons, go hungry
SRL06b			sleep together, shelter from rain, get up, go to bed, die, hunt, gather, cook, travel on foot or boat, worship outdoors, believe in spirits	
SRL06c				
SRL06d	people, hunter-gatherers		hunting, gathering, know plants and animals, make tools	
SRL07a	people, communities		owning resources together, sharing	
SRL07b	people			

SRL07c	men, women, children		making things including clothes, butchering carcass, scraping skin, smoking meat	
SRL07d	men, women, children		teaching knapping, making tools, making a canoe, cooking fish, preparing food, smoking food, butchering carcass, fishing, boating	
SRL07e	people			
SRL07f	people, woman, man, adult, young person, baby, elderly man, young woman, child, aged 50, 40-50, 40-60, 18, 50, 35-40, 25-30, 1, 6 months, 40-		sharing, work together, defend land, quarrel, do violence to others	
SRL07g	people		wear jewellery	
SRL07h	hunter-gatherers, men, women, old people		make decisions, move camp, hunt, calm down quarrels, tool making	

Appendix 58
Analysis of the Star Carr schools resource
A: characters

ID	Name	Gender	Age	Kin	Funct.	Gp.	Oth.
SRB01						x	
SRB02							
SRB05				x	x		
SRB06		x	x		x	x	
SRB07					x	x	
SRS01a							
SRS02a							
SRS02b							
SRS04a							
SRS04b		x	x				
SRS04c		x	x		x		
SRS04e					x		
SRS04f		x			x	x	
SRSFCe							
SRSFCf			x				
SRSFCg							
SRSFCI							
SRSFCm					x		
SRSFCn			x		x		
SRSDbb							inhabitants
SRSDbe						x	
SRSDbf		x			x		

SRSDBg		x	x			x	
SRSDBh					x	x	
SR1101a	x	x	x	x			
SR1101b	x	x	x				
SR1102a	x	x	x	x			
SR1102b	x	x	x				
SR1103a	x	x	x	x			
SR1104a	x	x	x	x			
SR1104b				x			
SR1104c				x			
SR1104d							
SR1105a	x	x	x	x			
SR1105b	x	x	x				
SR1105c	x	x	x	x			
SR1105d				x			
SR1106a	x	x	x	x	x		spirits of the dead
SR1107a	x	x	x	x			
SR1107b		x	x				
SR1107c		x	x				
SR1108a	x	x	x	x			
SR1108b			x				
SR1108c	x	x					
SR1108d	x	x					
SR1109a	x	x	x	x			
SR1109b	x	x					
SR1109c			x				
SR1109d	x	x	x				

SR11B01a					x		
SR11B01b		x		x	x	x	
SR11B01d					x		
SR11B02a							
SR11B03a			x	x	x		
SR11B03b							
SR11B04a				x	x	x	
SR11B04c					x		
SR11B05a					x		
SR11B05b			x	x	x		
SR11B05c							
SR11B05d					x		
SR11B06b							
SR11B06c					x		the dead
SR11B06d					x		human spirit
SR11B07a		x			x	x	
SR11B07b		x	x	x	x		
SR11B07c		x			x		
SR11B08a		x	x	x	x	x	
SR11B08b					x	x	
SR11B09a					x		
SR11B09b			x	x	x		
SR11B09c	x	x					
SRL01a							
SRL01d	x	x		x			
SRL02a					x		
SRL02d	x	x			x		

SRL03a					x		
SRL03d	x	x					
SRL04a		x		x		x	
SRL04b	x	x					
SRL04c	x	x					
SRL04d	x	x					
SRL05a	x	x					settlers
SRL05d	x	x					
SRL06a	x	x		x	x		
SRL06d					x		
SRL07a						x	
SRL07b							
SRL07c		x	x	x			
SRL07d		x	x	x			
SRL07e							
SRL07f		x		x			
SRL07g							
SRL07h		x	x		x		

Appendix 58
Analysis of the Star Carr schools resource
B: settings

ID	Woodland	Wetland							Dryland					Generic	Social		Spiritual
	forest	sea	coast	estuary	river	lake	marsh	island	upland	cliff	plain	cave	Dogger-land	other	settlement	people	spirits
SRB01	x	x			x	x							x				
SRB04						x	x										
SRB06															x		
SRB07			x			x											
SRB08						x											
SRB11	x																
SRB13	x		x			x											
SRS01a	x												x				
SRS04a	x					x	x								x		
SRS04b															x		
SRS04e	x					x											
SRSFCc													x				
SRSFCf				x		x		x		x		x					
SRSFCi						x	x										
SRSFCl	x				x	x											
SRSDBe	x		x														
SRSDBg												x					
SR1101a	x		x			x									x	x	
SR1101b			x			x											
SR1101c															x		
SR1102a	x														x	x	

SR1103a	x					x										x	x	
SR1104a	x					x	x									x	x	
SR1105a						x										x	x	
SR1105d			x							x			x					
SR1106a						x							x				x	x
SR1106c														x				
SR1107a	x															x	x	
SR1108a	x						x										x	x
SR1109a	x															x	x	x
SR11B01a	x	x	x			x	x											
SR11B01c																x		
SR11B02a	x		x							x								
SR11B03a	x		x	x		x	x											
SR11B05a			x															
SR11B06a	x																	
SR11B06b															x			
SR11B06c																		x
SR11B06d																		x
SRL01a	x						x								x			
SRL02a																x		
SRL03a	x		x			x	x									x		
SRL03d	x																	
SRL04a																	x	x
SRL05a	x																	
SRL06a																x	x	

Appendix 58
Analysis of the Star Carr schools resource
C: actions (1)

ID	Finding food						Food preparation and use				
	hunt	gather	fish	farm	bring food home	discover	butcher	prepare	cook	eat or drink	store
SRB01	x		x								
SRB02											
SRB04	x		x								
SRB05	x										
SRB06	x						x			x	
SRB07							x				
SRB08											
SRB09											
SRB11	x	x	x								
SRS01a											
SRS02a											
SRS02b											
SRS04a								x		x	
SRS04b											
SRS04c	x									x	
SRS04d	x		x								
SRS04e	x		x								
SRSFCe											
SRSFCf	x	x	x						x	x	
SRSFCg	x	x	x								

SRSFCh											
SRSFCi											
SRSFCl										x	
SRSFCm											
SRSFCn	x										
SRSDBb				x							
SRSDBd											
SRSDBe											
SRSDBf	x	x							x		
SRSDBg											
SRSDBh											
SR1101a			x					x		x	
SR1101b											
SR1101c											
SR1102a	x						x				
SR1102b											
SR1102c											
SR1102d		x						x	x	x	
SR1103a	x	x	x		x		x	x	x	x	
SR1103b										x	
SR1103c									x	x	
SR1103d											
SR1104a	x		x							x	
SR1104b											
SR1104c											
SR1104d											
SR1105a	x										

SR1105b											
SR1105c	x	x							x	x	
SR1106a	x		x								
SR1106c											
SR1106d											
SR1107a	x	x			x		x	x			
SR1107d	x	x									
SR1108a											
SR1108b											
SR1108c											
SR1108d											
SR1109a		x								x	
SR1109b											
SR1109c											
SR1109d											
SR11B01a											
SR11B01b											
SR11B01c								x	x		
SR11B02a	x								x	x	
SR11B03a	x	x							x	x	
SR11B03b									x	x	
SR11B04a											
SR11B04b											
SR11B05a											
SR11B05b	x										
SR11B05c											
SR11B05d											

SR11B06a	x										
SR11B06c	x	x									
SR11B06d											
SR11B07a											
SR11B07b	x	x							x		
SR11B07c											
SR11B08a											
SR11B08b											
SR11B09a											
SR11B09b											
SRL01a				x						x	
SRL01d		x									
SRL02a										x	
SRL02d	x									x	
SRL03a	x	x	x							x	
SRL03d		x								x	
SRL04a	x	x	x						x	x	
SRL04d		x				x					
SRL05a				x							
SRL05d											
SRL06a	x	x	x						x	x	x
SRL06b	x	x							x		
SRL06d	x	x									
SRL07a											
SRL07c							x	x			
SRL07d			x				x	x	x		
SRL07f											

SRL07g											
SRL07h	x										

Appendix 58
Analysis of the Star Carr schools resource
C: actions (2)

ID	In settlements										Animals		Making tools							
	make camp, house	build things	make fire	collect resources	sleep	wake up	enter house	close down	leave behind	midden	adopt cat	use dogs	raw material	make tools	invent new	knap flint	work wood	work skins	make canoes	make clothes
SRB01												x		x			x			
SRB02												x					x			
SRB04		x	x											x			x	x		
SRB05														x						
SRB06										x								x		
SRB07		x											x				x	x		
SRB08	x		x																	
SRB09																				
SRB11																				
SRS01a														x						
SRS02a										x				x				x		
SRS02b										x				x						
SRS04a			x											x				x		x
SRS04b	x						x													
SRS04c														x				x		
SRS04d																				
SRS04e												x		x	x					
SRSFCe														x						
SRSFCf													x	x		x			x	
SRSFCg																				

SRSFCh													X	X		X	X			
SRSFCi	x	x												x						
SRSFCI	x													x						x
SRSFCm																				
SRSFCn														x						
SRSDbb																				
SRSDbd														x						
SRSDbe																				
SRSDbf														x				x		
SRSDbg																				
SRSDbh																				
SR1101a	x		x		x	x		x		x	x									x
SR1101b																				
SR1101c					x															
SR1102a				x	x						x		x		x					
SR1102b														x						
SR1102c														x						
SR1102d		x												x						
SR1103a			x								x									
SR1103b																				
SR1103c																				
SR1103d																				
SR1104a			x						x					x						
SR1104b																				
SR1104c																				
SR1104d																				
SR1105a						x								x						

SR1105b																			
SR1105c																			x
SR1106a																			
SR1106c	x																		
SR1106d																			
SR1107a	x					x													
SR1107d																			
SR1108a				x		x													x
SR1108b																			
SR1108c																			
SR1108d																			
SR1109a																			x
SR1109b																			
SR1109c																			
SR1109d																			
SR11B01a	x																		x
SR11B01b																			
SR11B01c																			x
SR11B02a																			x
SR11B02a		x																	
SR11B03a																			
SR11B03a																			
SR11B03b																			
SR11B03b																			
SR11B04a																			
SR11B04b																			
SR11B04b																			
SR11B05a																			
SR11B05b																			
SR11B05c																			
SR11B05c																			
SR11B05c																			
SR11B05d																			
SR11B05d																			
SR11B05d																			

SR11B06a																				
SR11B06c																				
SR11B06d																				
SR11B07a																				
SR11B07b																				
SR11B07c																				
SR11B08a																				
SR11B08b																				
SR11B09a																				
SR11B09b																				
SRL01a																				
SRL01d																				
SRL02a	x																			
SRL02d																				
SRL03a																				
SRL03d																				
SRL04a																				
SRL04d																				
SRL05a																				
SRL05d																				
SRL06a	x																			
SRL06b																				
SRL06d																				
SRL07a																				
SRL07c																				
SRL07d																				
SRL07f																				

SRL07g																				
SRL07h														x						

Appendix 58
Analysis of the Star Carr schools resource
C: actions (3)

ID	Forestry			Movement									
	make clearing	fell trees or coppice	strip bark	mobile	sailing or boating	walk	carry	migrate	explore	stay	leave	return	gather
SRB01													
SRB02													
SRB04		x											
SRB05				x									
SRB06													
SRB07	x					x							
SRB08		x										x	
SRB09					x								
SRB11													
SRS01a													
SRS02a													
SRS02b													
SRS04a													
SRS04b													
SRS04c													
SRS04d					x								
SRS04e													
SRSFCe													
SRSFCf				x									
SRSFCg													

SRSFCh													
SRSFCi													
SRSFCI													
SRSFCm													
SRSFCn													
SRSDbb													
SRSDbd													
SRSDbe				x						x			
SRSDbf													
SRSDbg													
SRSDbh													
SR1101a	x				x	x	x						
SR1101b				x							x	x	
SR1101c													
SR1102a													
SR1102b													
SR1102c													
SR1102d													
SR1103a													
SR1103b													
SR1103c													
SR1103d													
SR1104a					x							x	
SR1104b													
SR1104c													
SR1104d													
SR1105a				x			x					x	

SR1105b				x							x		
SR1105c													
SR1106a									x				
SR1106c				x		x	x						
SR1106d													
SR1107a										x			
SR1107d													
SR1108a						x							
SR1108b													
SR1108c													
SR1108d													
SR1109a													
SR1109b													
SR1109c													
SR1109d													
SR11B01a				x	x	x							
SR11B01b													
SR11B01c													
SR11B02a			x					x					
SR11B03a													
SR11B03b													
SR11B04a				x							x		x
SR11B04b													
SR11B05a				x									
SR11B05b													x
SR11B05c													
SR11B05d	x			x							x		

SR11B06a													
SR11B06c													
SR11B06d													
SR11B07a													
SR11B07b													
SR11B07c													
SR11B08a													
SR11B08b													
SR11B09a													
SR11B09b													
SRL01a	x			x				x					
SRL01d											x		
SRL02a													
SRL02d													
SRL03a													
SRL03d										x			
SRL04a					x	x	x						x
SRL04d													
SRL05a								x					
SRL05d													
SRL06a					x	x							
SRL06b					x	x							
SRL06d													
SRL07a													
SRL07c													
SRL07d					x								
SRL07f													

SRL07g													
SRL07h				x									

Appendix 58
Analysis of the Star Carr schools resource
C: actions (4)

ID	Social (1)																	
	fighting or disputes	compete	marking territory	gender action	show status	initiate	marry	have children	nurse or cuddle	help, look after	teach or learn	sit together	talk	tell stories	share	be humble	networks	meet others
SRB01																		
SRB02																		
SRB04																		
SRB05																		
SRB06						x												
SRB07																		
SRB08																		
SRB09																		
SRB11																		
SRS01a																		
SRS02a																		
SRS02b																		
SRS04a																		
SRS04b																		
SRS04c					x	x												
SRS04d					x													
SRS04e																		
SRSFCe																		
SRSFCf																		
SRSFCg																		

SRSFCh																		
SRSFCi																		
SRSFCl																		
SRSFCm																		
SRSFCn					x	x												
SRSDDb																		
SRSDDbd																		
SRSDBe																		
SRSDBf									x									
SRSDBg	x																	
SRSDBh	x																	
SR1101a			x															
SR1101b																		
SR1101c											x							
SR1102a									x	x		x						
SR1102b																		
SR1102c																		
SR1102d																		
SR1103a											x			x	x			
SR1103b																		
SR1103c																		
SR1103d																		
SR1104a						x	x					x	x	x			x	x
SR1104b		x															x	
SR1104c																		x
SR1104d																		x
SR1105a										x								

SR1105b																		
SR1105c											x		x		x			
SR1106a												x		x	x			
SR1106c																		
SR1106d												x		x				
SR1107a							x				x		x					
SR1107d																		
SR1108a						x					x	x	x		x		x	
SR1108b						x												
SR1108c						x												
SR1108d						x												
SR1109a								x	x									
SR1109b								x										
SR1109c																		
SR1109d																		
SR11B01a																		
SR11B01b							x	x	x								x	x
SR11B01c												x	x	x				
SR11B02a																		
SR11B03a									x						x	x		
SR11B03b																		
SR11B04a	x					x	x	x									x	
SR11B04b													x					
SR11B05a																		
SR11B05b												x	x	x				
SR11B05c																		
SR11B05d																		

SR11B06a																		
SR11B06c																		
SR11B06d																		
SR11B07a																		
SR11B07b				x					x									
SR11B07c				x														
SR11B08a						x												
SR11B08b																		
SR11B09a							x	x	x									
SR11B09b																		
SRL01a																		
SRL01d																		
SRL02a	x																	
SRL02d																		
SRL03a																		
SRL03d																		
SRL04a										x					x			x
SRL04d										x								
SRL05a																		
SRL05d							x	x										
SRL06a						x	x	x										
SRL06b																		
SRL06d																		
SRL07a																	x	
SRL07c																		
SRL07d											x							
SRL07f	x																x	

SRL07g																		
SRL07h	x																	

Appendix 58
Analysis of the Star Carr schools resource
C: actions (5)

ID	Social (2)				Religion									Art	Personal							
	music	play	die	other	calendar	ritual	trance	spirits	taboo	burial	be reborn	votive	dance	decorate	wear clothes	use medicine	wash	know	decide	other		
SRB01																						
SRB02																						
SRB04														x								
SRB05						x		x														
SRB06						x																
SRB07																						
SRB08												x										
SRB09										x				x	x							
SRB11																						
SRS01a																						
SRS02a														x								
SRS02b																						
SRS04a			x													x	x					x
SRS04b																						
SRS04c						x	x	x														
SRS04d														x								x
SRS04e																						
SRSFCe																						
SRSFCf					x					x				x								
SRSFCg																						
SRSFCh																						

SRSFCi																				
SRSFCI							x													
SRSFCm						x	x	x												
SRSFCn								x												
SRSDb																				
SRSDb																				
SRSDBe																				
SRSDb																				
SRSDBg										x										
SRSDbh																				
SR1101a		x				x		x												x
SR1101b																				
SR1101c																				
SR1102a		x				x							x			x				x
SR1102b																				
SR1102c																				
SR1102d																				
SR1103a																				x
SR1103b																				
SR1103c																				
SR1103d																				
SR1104a			x	x								x								x
SR1104b																				
SR1104c																				
SR1104d																				
SR1105a		x																		x
SR1105b																				

SR1105c																				
SR1106a			x	x		x	x	x		x	x				x					x
SR1106c																				
SR1106d																				
SR1107a		x						x							x					
SR1107d																				
SR1108a	x	x		x		x	x	x				x	x		x					x
SR1108b						x														
SR1108c						x														
SR1108d						x														
SR1109a			x	x				x	x	x	x									
SR1109b								x												
SR1109c				x																
SR1109d									x											
SR11B01a														x						
SR11B01b								x								x				
SR11B01c																				
SR11B02a																				
SR11B03a			x																	
SR11B03b																			x	
SR11B04a			x																	
SR11B04b																				
SR11B05a																				
SR11B05b						x		x								x				x
SR11B05c					x															
SR11B05d					x															x
SR11B06a																				

SR11B06c	x						x	x					x						x
SR11B06d								x											
SR11B07a				x															x
SR11B07b																			
SR11B07c								x											
SR11B08a																			
SR11B08b	x						x	x					x						
SR11B09a																			
SR11B09b				x															
SRL01a																			
SRL01d																			x
SRL02a				x				x					x					x	x
SRL02d								x				x							
SRL03a																			
SRL03d																			
SRL04a	x												x	x	x				x
SRL04d																			
SRL05a																			x
SRL05d																			
SRL06a				x				x						x					
SRL06b				x				x											
SRL06d																			x
SRL07a																			
SRL07c																			
SRL07d																			
SRL07f																			x
SRL07g																			x

SRL07h																			x	
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Appendix 58
Analysis of the Star Carr schools resource
D: happenings

ID	Environment								Population			
	Climate change	Melting ice	Sea level	Tsunami	Island	Woodland	New biota	Seasons	Other	Hunger	Disease	Other
SRB01	x	x	x			x	x					
SRB11	x		x	x	x							
SRB12	x			x	x							
SRS01a			x			x	x					farming
SRS02c						x	x					
SRSFCb	x					x	x					
SRSFCc		x	x		x							
SRSFCd				x								
SRSDBa						x						
SRSDBb												farming
SRSDBc			x	x	x							
SR1101a	x							x				boar, angry spirits
SR1102a												boar
SR1103a												angry spirits
SR1103b												poisoned
SR1104a			x								x	strangers
SR1105a	x							x				
SR1105d								x				
SR1106a	x					x			bad weather			angry spirits
SR1108a												grow old
SR11B01b								x				

SR11B03a	x		x						bad weather	x	x	
SR11B05a			x					x				
SR11B05c								x				
SR11B06a	x						x					
SR11B06b		x	x									
SR11B09a												puberty
SR11B09b									bad weather	x	x	
SRL01a	x	x	x	x		x	x					
SRL01d							x		lake disappeared			
SRL02a				x					bad weather, forest fire		x	animal attack
SRL03a								x	bad weather			
SRL03d									bad weather	x		
SRL04a									bad weather	x	x	marriage rules
SRL05a	x	x				x						
SRL06a								x		x		

Appendix 59
Comparison of the Star Carr schools resource with other media
A: overall narrative elements

Media type	Character		Setting		Action		Happening		All narrative		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Academic media	57	98.3	48	82.8	57	98.3	38	65.5	57	98.3	58
Informative media	286	49.6	287	49.7	410	71.1	165	28.6	542	93.9	577
Imaginative media	160	92.0	165	94.8	164	94.3	32	18.4	173	99.4	174
Educational media	51	76.1	51	76.1	62	92.5	54	80.6	66	98.5	67

Background	5	38.5	7	53.8	9	69.2	3	23.1	11	84.6	13
Skills Log	19	52.8	10	27.8	22	61.1	8	22.2	29	80.6	36
11,000 years Ago	48	76.2	22	34.9	53	84.1	17	27.0	60	95.2	63
Lessons	22	68.8	7	21.9	19	59.4	8	25.0	23	71.9	32
Resource total	94	65.3	46	31.9	103	71.5	36	25.0	123	85.4	144

Note

Media % are of total items of media

Resource % are of units within each resource

Appendix 59
Comparison of the Star Carr schools resource with other media
B: characters

Medium	Named		Gender		Age		Kin		Function		Group		Other		Total items	All Items
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Academic	0	0.0	38	79.2	10	20.8	12	25.0	34	70.8	25	52.1	28	58.3	48	58
Informative	11	3.8	36	12.6	31	10.8	20	7.0	210	73.4	82	28.7	42	14.7	286	577
Imaginative	18	11.3	134	83.8	89	55.6	27	16.9	66	41.3	25	15.6	28	17.5	160	174
Educational	8	14.3	26	46.4	12	21.4	19	33.9	31	55.4	19	33.9	15	26.8	56	67
Background	0	0.0	1	20.0	1	20.0	1	20.0	3	60.0	3	60.0	0	0.0	5	13
Skills Log	0	0.0	5	26.3	5	26.3	0	0.0	7	36.8	4	21.1	1	5.3	19	36
11,000 years Ago	18	37.5	25	52.1	23	47.9	20	41.7	19	39.6	5	10.4	3	6.3	48	63
Lessons	9	40.9	14	63.6	3	13.6	6	27.3	6	27.3	2	9.1	1	4.5	22	32
Resource total	27	28.7	45	47.9	32	34.0	27	28.7	35	37.2	14	14.9	5	5.3	94	144

Note

The % is of those items that portray character, not of all items in the study

Appendix 59
Comparison of the Star Carr schools resource with other media
C: settings

Medium	woodland		wetland		dryland		settlement		social		spiritual		Total items	All Items
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Academic	21	43.8	42	87.5	28	58.3	3	6.3	1	2.1	0	0.0	48	58
Informative	105	36.6	171	59.6	100	34.8	99	34.5	27	9.4	1	0.3	287	577
Imaginative	73	44.2	83	50.3	49	29.7	58	35.2	125	75.8	5	3.0	165	174
Educational	41	71.9	35	61.4	22	38.6	7	12.3	6	10.5	1	1.8	57	67

Background	3	42.9	5	71.4	1	14.3	1	14.3	0	0.0	0	0.0	7	13
Skills Log	5	50.0	6	60.0	4	40.0	2	20.0		0.0		0.0	10	36
11,000 years Ago	11	50.0	12	54.5	6	27.3	9	40.9	9	40.9	5	22.7	22	63
Lessons	4	57.1	2	28.6	1	14.3	1	14.3	1	14.3	1	14.3	7	32
Resource total	23	50.0	25	54.3	12	26.1	13	28.3	10	21.7	6	13.0	46	144

Note

The % is of those items that portray setting, not of all items in the study sample

Appendix 59
Comparison of the Star Carr schools resource with other media
D: actions (1)

Medium	Get food		Prepare food		In camp		Animals		Make tools		Forestry		Move		Total items	All Items
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Academic	41	71.9	27	47.4	24	42.1	20	35.1	38	66.7	10	17.5	33	57.9	57	58
Informative	186	45.3	104	25.3	135	32.8	24	5.8	168	40.9	49	11.9	163	39.7	411	577
Imaginative	78	53.4	45	30.8	36	24.7	6	4.1	63	43.2	12	8.2	38	26.0	146	156
Educational	50	74.6	34	50.7	38	56.7	19	28.4	51	76.1	22	32.8	35	52.2	67	67

Background	5	55.6	2	22.2	4	44.4	2	22.2	6	66.7	3	33.3	4	44.4	9	13
Skills Log	8	36.4	5	22.7	6	27.3	1	4.5	14	63.6	0	0.0	3	13.6	22	36
11,000 years Ago	17	32.1	15	28.3	15	28.3	5	9.4	15	28.3	3	5.7	15	28.3	53	63
Lessons	13	68.4	10	52.6	3	15.8	0	0.0	7	36.8	1	5.3	9	47.4	19	32
Resource total	43	41.7	32	31.1	28	27.2	8	7.8	42	40.8	7	6.8	31	30.1	103	144

Note

The % is of those items that portray actions, not of all items in the study sample

Appendix 59
Comparison of the Star Carr schools resource with other media
D: actions (2)

Medium	Social		Religion		Art		Other		Total Items	All Items
	No.	%	No.	%	No.	%	No.	%		
Academic	15	26.3	15	26.3	17	29.8	18	31.6	57	58
Informative	67	16.3	72	17.5	20	4.9	40	9.7	411	577
Imaginative	68	46.6	11	7.5	4	2.7	47	32.2	146	156
Educational	20	29.9	22	32.8	17	25.4	10	14.9	67	67

Background	1	11.1	4	44.4	2	22.2	1	11.1	9	13
Skills Log	7	31.8	6	27.3	3	13.6	2	9.1	22	36
11,000 years Ago	34	64.2	22	41.5	2	3.8	14	26.4	53	63
Lessons	10	52.6	6	31.6	4	21.1	5	26.3	19	32
Resource total	52	50.5	38	36.9	11	10.7	22	21.4	103	144

Note

The % is of those items that portray actions, not of all items in the study sample

Appendix 59
Comparison of the Star Carr schools resource with other media
E: happenings (1)

Medium	Climate change		Melting ice		Sea level change		Tsunami		Becoming an island		Woodland spread		New fauna or flora		Seasonality		Other		Total Items	All Items
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Academic	25	65.8	19	50.0	18	47.4	2	5.3	12	31.6	19	50.0	20	52.6	1	2.6			38	58
Informative	64	41.8	25	16.3	88	57.5	22	14.4	43	28.1	40	26.1	24	15.7	5	3.3			153	577
Imaginative	6	18.8	6	18.8	11	34.4	5	15.6	3	9.4	2	6.3	4	12.5	3	9.4			32	174
Educational	34	57.6	22	37.3	24	40.7	1	1.7	31	52.5	18	30.5	16	27.1	1	1.7			59	67

Background	3	100.0	1	33.3	2	66.7	2	66.7	2	66.7	1	33.3	1	33.3	0	0.0			3	13
Skills Log	1	12.5	1	12.5	3	37.5	2	25.0	2	25.0	4	50.0	3	37.5	0	0.0			8	36
11,000 years Ago	5	29.4	1	5.9	4	23.5	0	0.0	0	0.0	1	5.9	1	5.9	6	35.3	3	17.6	17	63
Lessons	2	25.0	2	25.0	1	12.5	2	25.0	0	0.0	2	25.0	2	25.0	2	25.0	4	50.0	8	32
Resource total	11	30.6	5	13.9	10	27.8	6	16.7	4	11.1	8	22.2	7	19.4	8	22.2	7	19.4	36	144

Note

The % is of those items that portray happenings, not of all items in the study sample

Appendix 59
Comparison of the Star Carr schools resource with other media
E: happenings (2)

Medium	Population rise or fall		Hunger		Disease		Other		Total items	All items
	No.	%	No.	%	No.	%	No.	%		
Academic	2	5.3		0.0		0.0	15	39.5	38	58
Informative	10	6.5	4	2.6	3	2.0	13	8.5	153	577
Imaginative	0	0.0	2	6.3	6	18.8	21	65.6	32	174
Educational	2	3.4	1	1.7	0	0.0	9	15.3	59	67

Background	0	0.0	0	0.0	0	0.0	0	0.0	3	13
Skills Log	0	0.0	0	0.0	0	0.0	2	25.0	8	36
11,000 years Ago	0	0.0	2	11.8	3	17.6	8	47.1	17	63
Lessons	0	0.0	3	37.5	2	25.0	2	25.0	8	32
Resource total	0	0.0	5	13.9	5	13.9	12	33.3	36	144

Note

The % is of those items that portray happenings, not of all items in the study sample

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