

Assessment Schedule – 2008**Biology: Describe trends in human evolution (90719)****Evidence statement**

Q	Achievement	Achievement with Merit	Achievement with Excellence
ONE (a)	<ul style="list-style-type: none"> • <i>Erectus</i>: 	<ul style="list-style-type: none"> • <i>Erectus</i>: overall endocranial / brain shape / structure (or implied) / bulges / size / capacity much closer to that of <i>erectus</i> than to that of the other species shown. 	
(b)	<p>Describes ONE feature of the postcranial skeleton that suggest bipedalism:</p> <ul style="list-style-type: none"> • Broad / cup-shaped / short AND wide pelvis • Valgus angle of femur • Legs are longer than arms (or similar) • Large knee buttresses / larger condyles. 		
(c)	<p>Any one point:</p> <ul style="list-style-type: none"> • Arms used to support weight (or implied), eg. knuckle-walking, quadrupedal, brachiating • Spine not taking full weight / (lesser role for spine than in modern humans) • Recognises contradiction. 	<ul style="list-style-type: none"> • Recognises contradiction (bipedal with quadrupedal features) AND • Provides ONE piece of evidence from data or photo. 	
TWO (a)	<p>Transmission / passing on / evolution of <u>learned</u> behaviour / ideas / beliefs / abstract thought / knowledge between generations (not within a generation).</p>		
(b)	<p>Any ONE point</p> <ul style="list-style-type: none"> • Climatic change / conditions (weren't right for agriculture any earlier.) • Food shortage existed • Regional populations exposed to similar population / selection pressure • Increasing population numbers • Sufficient brain / cultural evolution. (A only) 	<p>ONE idea with reason explained:</p> <ul style="list-style-type: none"> • World had come out of the last glacial period : warmer and moister conditions more suitable for establishing agriculture. • Food shortage / high population numbers – therefore grew more plants to provide more food. 	
(c)	<p>Domestication and milking of cattle / goats / sheep (a named animal).</p>		

(d)	<ul style="list-style-type: none"> Population increased because more food available (NOT just population increased). <p>OR</p> <p>(A only)</p> <ul style="list-style-type: none"> One point from the 'M' column. 	<p>This resulted in: (explanation of TWO)</p> <p><u>Advantages</u></p> <ul style="list-style-type: none"> Development of economic activities (eg: trading surplus goods for other items) Division of labour. (eg. some cultivated plants, others tended animals, others made tools) <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Negative effect: large numbers of people in close proximity → easier / faster spread of infectious disease. City-dwellers had poorer health than hunter-gatherers due to increased reliance on high-carbohydrate diet. Contamination of stored food (fungi / weevils) lead to starvation / disease over winter. Adverse climatic conditions destroy the crop (or similar). 	<p>Discussion includes THREE points with at least ONE advantage and ONE disadvantage</p> <p><u>Advantages</u></p> <ul style="list-style-type: none"> Development of economic activities (eg: trading surplus goods for other items) Division of labour. (eg. some cultivated plants, others tended animals, others made tools). <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Negative effect: large numbers of people in close proximity → easier / faster spread of infectious disease. City-dwellers had poorer health than hunter-gatherers due to increased reliance on high-carbohydrate diet. Contamination of stored food (fungi / weevils) lead to starvation / disease over winter. Adverse climatic conditions destroy the crop (or similar).
THREE (a)	Out-of-Africa hypothesis / Eve hypothesis / Replacement hypothesis.		
(b)	<p><u>Definition</u> (ONE)</p> <p>OOA – Early hominins left Africa and spread to Asia/Europe. All died out. Replaced by H. sapiens leaving Africa (2nd exodus) relatively recently</p> <p>MR – Early hominins (H. erectus) left Africa and spread to Asia/Europe. Gene flow between separate populations. All evolved into H. sapiens.</p> <p>OR</p> <p>ONE <u>example of evidence</u> in support of OOA:</p> <ul style="list-style-type: none"> Oldest H. sapiens fossils only found in Africa Transitional fossils only found in Africa Modern humans appeared in Africa before Neanderthals disappeared mtDNA can be used to trace lineage back to Africa mtDNA very similar in all modern humans Greater variability in DNA/genes in modern African populations compared to other regions Older Upper Paleolithic tools only found in Africa. 	<p>Links definition (or implied) to TWO items of evidence in support of Out of Africa hypothesis.</p>	<p>Discusses why evidence supports Out of Africa hypothesis (ONE reason) AND</p> <ul style="list-style-type: none"> Why evidence does NOT support Multi-regional hypothesis (ONE reason) <p>OR</p> <ul style="list-style-type: none"> Outlines ONE limitation of evidence used to support Out of Africa hypothesis. <p>Examples:</p> <ul style="list-style-type: none"> High levels of gene flow would be needed for Multi-regional hypothesis (very unlikely). Transitional fossil found in China (against OOA). mtDNA data can be interpreted in different ways (not necessarily support of OOA).

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
<p>Total of FIVE opportunities answered at Achievement level or higher.</p> <p>$5 \times A$</p>	<p>Total of at least FIVE opportunities answered with TWO at Merit level or higher.</p> <p>$2 \times M + 3 \times A$</p>	<p>Total of at least FIVE opportunities answered with ONE at Excellence level and TWO at Merit level or higher.</p> <p>$1 \times E + 2 \times M + 2 \times A$</p>