Level 3 Biology: practice paper 2026

AS 91606 Demonstrate understanding of trends in human evolution · Vertex Academy practice paper, not an NZQA paper

Attempt ALL the questions. Show ALL working. Write your answers on lined paper, or in the space under each question.

QUESTION ONE

(a) Describe three skeletal features that show an animal was bipedal (walked upright on two legs), comparing a human with a chimpanzee.

(b) Explain how the shape of the human pelvis and femur help balance and efficient walking on two legs.

(c) The Laetoli footprints in Tanzania, about 3.66 million years old, show an arched foot with the big toe in line with the other toes. The 'Lucy' skeleton (Australopithecus afarensis, about 3.2 million years old) has a broad pelvis and angled femur but long arms, curved finger bones and a small brain (about 400 to 500 cm^3).
Discuss what this evidence shows about the evolution of bipedalism, and the selection pressures that could have favoured it.

QUESTION TWO

(a) Describe Oldowan and Acheulean stone tools, and the hominin species associated with each.

(b) Homo erectus had a larger brain and smaller teeth than earlier hominins, made Acheulean tools and probably controlled fire.
Explain how tools and fire could be linked to these changes in the brain and teeth.

(c) About 12 000 years ago, in the Neolithic, some people in the Middle East began farming crops and keeping animals, instead of hunting and gathering.
Discuss how the change to agriculture changed human societies, including both benefits and costs.

QUESTION THREE

(a) Describe the 'Out of Africa' (recent African origin) model of where modern humans, Homo sapiens, came from.

(b) Explain how mitochondrial DNA (mtDNA) evidence from living people supports the Out of Africa model.

(c) During the last glacial period, sea levels were up to about 120 m lower than today. Modern humans reached Australia by at least 50 000 years ago and the Americas by about 15 000 years ago. People outside Africa carry about 1 to 2% Neanderthal DNA, and people in Papua New Guinea also carry a few percent of Denisovan DNA.
Discuss how changes in climate and sea level affected the dispersal of modern humans, and what the DNA evidence shows about their contact with other hominins.

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