

READING PASSAGE 2

Questions 14 – 26

Answer **Questions 14 - 26**, which are based on the text below.

Beachcombing for early humans in Africa

From the earliest modern humans to the present day, our species has evolved dramatically in both biological and behavioural terms. What forces prompted these momentous changes?

- A** Kenya has long been known as the ‘cradle of mankind’ following the discovery of fossils thought to be of the first members of the human family, which arose in Africa around 6-7 million years ago. Various distinct species evolved from these ancestors over millions of years, including our own – *Homo sapiens* – around 250,000 years ago. ‘A lot of the research on the origins of modern humans has focused on defining their point of origin, then understanding why humans left Africa about 60,000 years ago to colonise the rest of the world,’ says anthropologist Dr Marta Mirazón Lahr of Cambridge University. ‘But we have no idea what happened between 200,000 years and 60,000 years ago. We also have very little information on what occurred inside Africa after 60,000 years, when the different population groups and languages we see today evolved. The genetics suggest that the expansion out of Africa is just the tip of a massive population expansion inside the continent.’
- B** Along with fellow Cambridge anthropologist Professor Robert Foley, Mirazón Lahr is investigating the evolutionary history of modern human populations. ‘The challenge is to find the sites where evidence of these early people can be recovered – their stone tools, the animals they hunted, their ornaments and, ultimately, the fossils of the people themselves,’ she says. She has chosen to focus on East Africa based on the theory that its past environment was suitable for sustained occupation over time. But the region is huge, and finding the right place to look is absolutely crucial. ‘In the past there were periods of enormous rainfall in the tropics,’ she says. ‘The lakes were much higher and their margins were wider. We are looking at where the ancient lake margins would have been when the lakes were last high, and that’s where we look.’

- C** Some of their most spectacular finds have been on the ancient Turkana beaches in Kenya's Rift Valley. 'Ten thousand years ago, this area was wetter, with animals such as gazelles, hippos and lions, and the beaches are still there, even though the lake is long gone. We've found a great many shells on the surface, and a small number of harpoons the people fished with. A lot has already been exposed by the wind, and occasionally we find sites where things are buried, and then we dig,' she says. 'We're looking at the stone tools and how these relate to times of particularly high water levels. Then we're looking at the fauna and, if we're lucky, we find actual human fossils. The oldest fossil ever found that looks like a modern human is 200,000 years old, and comes from the Turkana Basin. We're trying to find the fossils that mark the origin of *Homo sapiens*.'
- D** The primitive technologies that our early ancestors left behind gradually evolve, and comparing finds dated to different times can advance understanding of our own evolutionary trajectory. 'We think the evolution to modern humans is associated with changes in behaviour and in technology, for example in their tool use. We've already found evidence that they started using animal bones to make tools, which was rare in earlier populations,' says Mirazón Lahr. 'The people who lived around here 10,000 years ago used microliths – a form of miniaturised stone tool technology,' adds her colleague Foley. 'Instead of producing one or two big flakes like the earliest modern humans, they produced lots of very small flakes to make composite tools. We've also found a beach in the Turkana Basin from about 200,000 years ago and that has its own very different fossilised fauna, and very different stone tools. The technology and the people changed a lot during the past 200,000 years.'
- E** Mirazón Lahr emphasises that geography and climate played a critical role in the origins and diversification of modern humans. 'The times when the lakes were high were periods of plenty in East Africa,' she says. 'When it was very wet there were lots of animals to hunt, the vegetation could grow, and you can imagine that the people would have thrived.' East Africa had a unique mosaic environment with lake basins, highlands and plains that provided alternative niches for foraging populations over

this period. ‘We think that early modern humans could live in the region throughout these long periods, even if they had to move between basins.’ With a network of habitable zones, human populations survived by expanding, contracting and shifting ranges according to the state of the environment at any given time.

F By comparing the fossil records from different basins over time, Mirazón Lahr is trying to establish a spatial and temporal image of human occupation over the past 200,000 years. She believes that the way to find novel insights is to consider each problem from various angles. Drawing on her wide-ranging interests from molecular genetics to prehistory, and combining genetic, fossil, archaeological and palaeoclimatic information, she hopes to form an accurate and complete picture of our early ancestors’ lives and the external forces that shaped their evolution, both biological and behavioural.

Questions 14 – 19

The text has six paragraphs, A - F.

Choose the correct heading for each paragraph from the list of headings below.

Write the correct number, i - vii, in boxes 14 - 19 below.

List of Headings

- i How weather affected human evolution
- ii A disappointing find
- iii Two gaps in our knowledge
- iv A multi-disciplinary approach
- v Evidence of an earlier landscape
- vi Developments in artefacts over time
- vii Difficulties identifying where to focus research

- 14 Paragraph A
- 15 Paragraph B
- 16 Paragraph C
- 17 Paragraph D
- 18 Paragraph E
- 19 Paragraph F

Questions 20 – 24

Complete the summary below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 20 - 24 below.

The ancient Turkana beaches

Ten thousand years ago, a wide range of **20** lived in this area. The **21** which was in the basin disappeared a long time ago, but its beaches remain. A lot of **22** have been discovered on the ground, along with a few **23** which ancient humans used for fishing. The wind has uncovered many interesting objects, and others have been found by digging. Sometimes human remains are found in the form of **24**

Questions 25 – 26

Choose **TWO** letters, **A - E**.

Which **TWO** aspects of early humans does Mirazon Lahr and Foley's research focus on?

- A - the type of artefacts they created
- B - the way they interacted with other populations
- C - the kind of societies they lived in
- D - the regions they inhabited
- E - the form of language they used