Tracing Human Origins

Compare African fossil sites and the conclusions drawn from them

AWH.C.1.1 "Identify sites in Africa where archaeologists have found evidence of the origins of modern human beings and summarize their theories and conclusions."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the three site names, circle each site's reported age, and number the sentences that draw conclusions from the fossils. These marks will help you separate evidence from interpretations.

What Can Three Fossil Sites Tell Us?

1. Fossil bones can show where early members of our species lived, but they cannot name a single birthplace. At Jebel Irhoud in Morocco, researchers found skull and jaw fragments with stone tools. Dating the tools and surrounding deposits places the remains at about 315,000 years old. The fossils have faces that look much like those of people today, yet their braincases are longer and lower. Researchers conclude that some features of Homo sapiens appeared earlier than once thought. Because this site lies in northwest Africa, it also challenges a story focused on just one small region of the continent.

2. At Omo Kibish in Ethiopia, archaeologists found the Omo I fossil, whose skull has features typical of modern humans, including a high, rounded braincase. A volcanic ash layer above the fossil has been dated to about 233,000 years ago. Since the bone lay below that layer, Omo I is at least that old; its exact age remains uncertain. Farther north in Ethiopia, fossils from Herto date to about 160,000 years ago. Their skulls also show modern human traits, along with some more robust features. Together, these finds document early Homo sapiens at different times in eastern Africa.

3. One explanation proposes that modern humans developed through changes among populations in several parts of Africa, rather than appearing fully formed at one spot. Jebel Irhoud's early date and mix of features support a gradual history; Omo Kibish and Herto show that people with many modern traits lived in eastern Africa later. Still, three sites cannot trace every movement between populations or prove exactly where our species first arose. Fossils survive unevenly, and new dating can revise their ages. Archaeologists compare fossil traits, locations, and dates to test theories, not to declare a single fossil the first modern person.

2 ANSWER WITH EVIDENCE

Use the passage

1. What evidence was found at Jebel Irhoud, and what conclusion do researchers draw from its age and fossil features?

2. What do Omo I's location, skull, and minimum age show about early modern humans? Why is its age a minimum?

3. What do the Herto fossils add to the evidence from Omo Kibish about early modern humans in eastern Africa?

4. How do the finds from all three sites support a gradual history of modern humans without proving a single birthplace?

3 YOUR TURN

Your own words

Imagine researchers find a fossil at a new site on the Tanzanian coast, dated to about 280,000 years ago, with a modern-looking face and a long braincase. In five or six sentences, compare it with at least two named sites in the passage, then explain one conclusion it might support and one question it could not settle.

ANSWER KEY

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HIGH SCHOOL · AWH.C.1.1

PART 1 · READ AND MARK

Underline the three site names, circle each site's reported age, and number the sentences that draw conclusions from the fossils. These marks will help you separate evidence from interpretations. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What evidence was found at Jebel Irhoud, and what conclusion do researchers draw from its age and fossil features?	**Researchers found skull and jaw fragments with stone tools. The approximately 315,000-year-old remains combine a modern-looking face with a longer, lower braincase, suggesting that some modern human features appeared earlier than once thought.**
2	What do Omo I's location, skull, and minimum age show about early modern humans? Why is its age a minimum?	**Omo I shows that a person with a high, rounded braincase lived in eastern Africa at least about 233,000 years ago. The dated volcanic ash lay above the fossil, so the fossil could be older.**
3	What do the Herto fossils add to the evidence from Omo Kibish about early modern humans in eastern Africa?	**The approximately 160,000-year-old Herto skulls show modern human traits alongside some robust features. With Omo I, they document early Homo sapiens in eastern Africa at different times.**
4	How do the finds from all three sites support a gradual history of modern humans without proving a single birthplace?	**Jebel Irhoud shows an early mix of traits in northwest Africa. Omo Kibish and Herto show many modern traits in eastern Africa at later times. These finds fit gradual change across African populations, but three sites cannot establish exactly where the species began.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

A fossil from the Tanzanian coast dated to about 280,000 years ago would add evidence from another part of Africa. Its modern-looking face and long braincase would resemble the mix of traits at Jebel Irhoud, dated to about 315,000 years ago. Its reported age would be older than Omo I's minimum age of 233,000 years, although Omo I could be older than the new fossil. The find might support the idea that modern human traits developed gradually across Africa. It could not prove where our species first arose, because the fossil record is incomplete.

Accept comparisons that correctly distinguish Omo I's minimum age from an exact age. Students should treat the new fossil as evidence that could inform a theory, not as proof of a birthplace.