

HOMO SAPIENS VERSUS NEANDERTHALS

Video Summary

This video segment, adapted from NOVA, explores the origins of modern humans. Fossil evidence from Middle East caves and elsewhere has revealed some competitive advantages modern humans, known as Homo sapiens, are believed to have held over the more archaic human species, Neanderthals. For example, during the time in which the two species may have coexisted, Homo sapiens lived on high ground, from which they could survey the landscape and plan their hunting expeditions. Some scientists have theorized that the success of this strategy may have contributed to the demise of the valley-dwelling Neanderthals, who became extinct about 30,000 years ago.



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Topics Covered:

- Life Science: [Ecology](#)
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Recommended for Grades 6-12

Media Type: QuickTime Video

Video Length: 4m 54s

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Discussion Questions

- If Neanderthals lived in the valleys and Homo sapiens on the hilltops, what do you think the two species were competing for?
- What do you think gave Homo sapiens “an edge” over the Neanderthals?
- Why do you think that remains of Homo sapien dwellings on hilltops constitute evidence that they out-competed Neanderthals?

Background Essay

About 100,000 years ago, a diverse group of hominids, or humanlike species, occupied Earth. By 30,000 years ago, however, only Homo sapiens—the most modern species—remained. One of the most hotly debated issues in paleoanthropology, the study of human origins, focuses on how Homo sapiens evolved to outlive the other hominids.

The current best explanation for the beginning of modern humans is the Out of Africa model. This holds that Homo sapiens arose in Africa and gradually replaced hominid species in the other parts of the world to which they migrated. To address the question of why our species survived, paleoanthropologists make certain assumptions about lifestyle and behavior based on fossil evidence.

The fossil record shows that early Homo sapiens—who had a body plan more or less like our own—and Neanderthals (Homo neanderthalensis)—a separate species characterized by a large, low-sloping cranial vault and a short, robust skeleton—inhabited the same land at about the same time, between approximately 30,000 and 40,000 years ago. Both species developed hunting tools and used fire. But paleoanthropologists theorize that Homo sapien understanding of geography might have given them a decisive competitive advantage. Artifacts suggest that nearly all known early Homo sapien settlements were situated on hilltops and high ridges. Their ability to survey large areas of land from such vantage points would very likely have helped their hunting strategy. Neanderthals, on the other hand, lived in valleys that did not permit a clear view to the horizon.

Even though the Neanderthals may have arrived first on the scene, the more modern species, Homo sapiens, came out ahead in the competition for resources. Over a period of roughly 5,000 to perhaps 10,000 years, the Neanderthals were gradually displaced to remote areas like the British Isles, northern Germany, and southern Spain. About 30,000 years ago, they became extinct.

While fossil evidence suggest that the Neanderthals may have adopted some of the technologies that made modern humans more effective hunters, recent DNA evidence suggests that Neanderthals and Homo sapiens did not interbreed. Because Neanderthals did not contribute mitochondrial DNA to modern humans, they are most likely not our direct ancestors. This finding provides further support to the Out of Africa model.

To learn more about the evolution of hominids, check out [Origins of Humankind](#).

Curricular Standards Correlations:

NSES, Project 2061, MCREL, and state standards correlations available at www.teachersdomain.org. (Free registration required for your specific state standards correlated to this resource.)

Source: NOVA: “In Search of Human Origins”

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Animation: oldest humans spread all over the world	WGBH

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Neanderthal skull	Jeff Schwartz
Interview: Chris Stringer	WGBH
African lush landscape	WGBH
Animation: homo sapiens spread all over the world	WGBH
Aerial: fly-over African landscape with short bushes and lake ahead	WGBH
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Pan around the dig site	WGBH
Video Footage: table with maps / Interview: Ofer Bar-Yosef	WGBH
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Video Footage: Paul Bahn walking up hill	WGBH
Close up Paul Bahn	WGBH
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Close up Paul Bahn; Wide shot French landscape with river	WGBH
Video Footage: Paul Bahn walking on hill	WGBH
Foggy ominous forest scenes	WGBH

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