

Our Ancestors

Homo erectus were the first ancestors of modern humans to live outside of Africa, control fire, and make tools. *Homo erectus* lived from approximately 1.7 million years ago up until about 200,000 years ago. Fossils of these early humans (hominins) have been found in Africa, Europe, and Asia—even as far as the Indonesian island of Java. Researchers believe the earliest humans originated in Africa and that *Homo erectus* spread out to the other continents by land and boat.

Homo erectus were early humans, not apes. They walked upright and grew much like we do. They may, however, have been shorter than later humans. Scientists estimate that an average *Homo erectus* man was 5 feet tall, whereas an average modern human (a *Homo sapien*) is 5'10".

The height estimates of *Homo erectus* came into question in 1984 when the “Turkana Boy” skeleton was found by a team of scientists led by Richard Leakey in Northern Kenya. This eight- to twelve-year-old *Homo erectus* boy was 5'3" and expected to grow to 6 feet tall. Was “Turkana Boy” extra tall or average height for *Homo erectus*? Nobody knows for sure.

The physical features that clearly distinguished *Homo erectus* (on the left) from archaic *Homo sapiens* (Cro-Magnon, on the right) were above the neck:

- smaller brain cavities
- bonier skulls, such as thick brow ridges
- smaller chins
- larger teeth



The reconstructed skulls (top) and artist-constructed faces (bottom) of three prehistoric humans.

On the left (top and bottom), *Homo erectus*
In the middle (top and bottom), Neanderthal
On the right (top and bottom), Cro-Magnon



Have you ever considered how our lives compare with a day in the life of a *Homo erectus*?

Fire

Having a fire to start the day was critical to *Homo erectus*. *Homo erectus* were the first hominins to successfully control fire, a milestone in their ability to control nature. During the night, they often slept in caves for shelter. Someone in the clan would tend a hearth fire throughout the night.

How are these details known? In South Africa, *Homo erectus* remains were found in a large cave with microscopic plant ash and charred animal bones. Similarly in Israel, burnt seeds and wood ashes were found. When a *Homo erectus* clan traveled, they brought the fire with them.

During the day and through the nights, *Homo erectus* used fire for warmth and protection. This helped shield them from freezing temperatures and would-be predators. Controlled fire allowed *Homo erectus* to travel into chillier climates. At meal times, food could be cooked over fire. *Homo erectus* could now live longer than earlier hominins because cooking killed germs and parasites in their food. Richard Wrangham, a Harvard University anthropologist, even suggests that cooked foods aided human brain evolution. Cooked meat led to larger brains in *Homo erectus*.

Part of the daily routine for *Homo erectus* was to socialize around the fire. Have you ever gathered around a campfire with friends or family? *Homo erectus* probably did, too. The campfire was more than just a place to socialize. It also gave hominins a way to cook meat and to see things long after the sun set. In fact, some archaeologists suggest that controlling fire was an important turning point in human evolution.

A daily task for *Homo erectus* was to make tools. To fashion a sharp tool, *Homo erectus* buried a stone under a fire until the stone became brittle. Then, they chipped away at the hardened stone to make a sharp edge or point. Their regular tools included stone handaxes and cleavers. Creation of early stone tools is known as the Acheulean Industry. Evidence of the Acheulean Industry was found in northern Tanzania where stone tools were discovered. *Homo erectus* probably created tools in bone and wood, but no evidence of those tools remains.



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Families or clans of *Homo erectus* were organized with many daily assigned tasks. In addition to tending fire and tool making, other responsibilities would likely include scouting, hunting, food preparation, and cooking. The longer the lifespan of *Homo erectus*, the more training the adults could give the young people.

Diet

Before *Homo erectus*, the daily diet of hominins consisted of plants, trees, and seeds. Lee Berger, Professor at the University of the Witwatersrand, South Africa, published in 2012 that *Australopithecus*—the ancestor to *Homo erectus*—definitely ate bark, leaves, and other tree parts. Some archaeologists are surprised that hominins ate bark, but these early humans were likely eating anything they could find.

Homo erectus became more omnivorous, or more inclined to eat both plants and animals, due to their use of tools and fire. They no longer resorted to eating bark and leaves. Instead, they hunted and ate meat, including fish, shellfish, small game, and large animals. Scientists believe that eating softer foods, through cooking, gradually led to smaller teeth sizes found in *Homo sapiens*.

In spite of all that we don't know about early humans and their daily lives, it is still amazing that scientists can find evidence of their daily diet almost two million years later.

Neighbors

Contrary to earlier understanding of human evolution, *Homo erectus* shared the planet with other humans. According to research published in 2012, *Homo erectus* lived beside two distinct *Homo* species in one community in Kenya, Africa.

Who were these neighbors? *Homo erectus* lived at the same time as *Homo habilis*—the predecessor of *Homo erectus*—approximately 1.5 to 1.7 million years ago. The *Homo habilis* brain sizes were smaller and the facial bones were flatter than *Homo erectus*. Although it is not known how the different human species interacted or communicated, it is confirmed that they co-existed. It is hard for us today to imagine what daily life was like almost two million



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years ago. But thanks to the fossil record and the archaeologists who are studying these fossils, we know many facts about how *Homo erectus* lived. True, our lives today are different, but do you think there are some ways that our lives are similar to *Homo erectus*?

After reading the passage, answer the following questions:

1. All of the following distinguish *Homo sapiens* from *Homo erectus* EXCEPT
 - A. how they walked
 - B. size of their brain
 - C. how tall they were
 - D. shape of jaw
2. Why did *Homo erectus* become more omnivorous?
 - A. There was a decline in available plants, trees, and seeds.
 - B. There were more small game animals available than before.
 - C. Their stone tools and controlled fire allowed them to eat meat.
 - D. Their large teeth caused them to eat fewer plants and more meat.
3. What human species lived at the same time as *Homo erectus* 1.5 to 1.7 million years ago?
 - A. Cro-Magnon
 - B. *Australopithecus*
 - C. *Homo sapiens*
 - D. *Homo habilis*
4. How was the daily life of a *Homo erectus* youth probably different from your daily life? Provide details and evidence to support your answer.