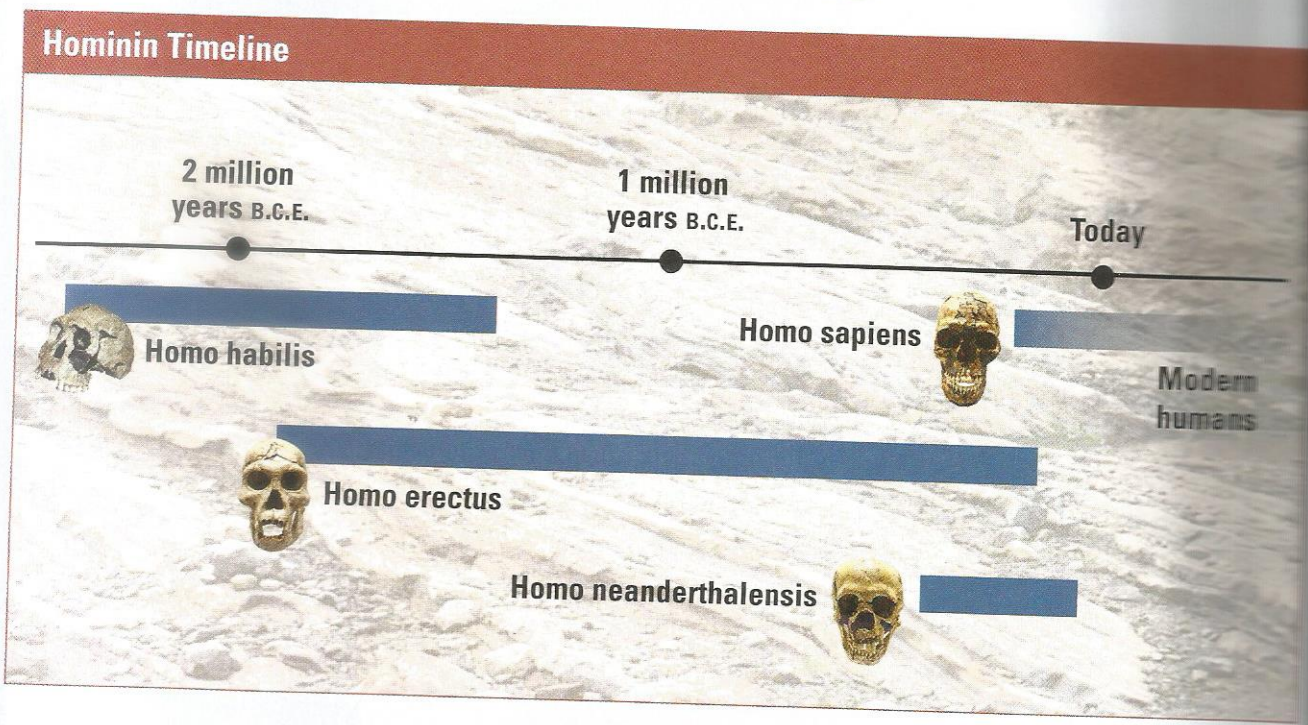


Paleoanthropologists have studied the remains and artifacts of different groups of hominins to learn about them. Dating these remains helps us understand where modern humans came from.

hominin an early ancestor of humans

anthropologist a scientist who studies human development

capability ability or skill

1. *Homo Habilis:* Handy Man

How are **hominins** like Handy Man related to later hominins and to us? **Anthropologists** often disagree about the answer to this question because they have so few clues to analyze. Bones as old as those the Leakeys found in 1960 are very hard to find.

However, most anthropologists agree that Handy Man, or *Homo habilis* (HA-buh-lis) in Latin, was a very early form of humans. Scientists usually give Latin names to groups of living things. (Latin was the language of the ancient Romans who ruled a great empire for hundreds of years.)

Handy Man lived about 2.4 to 1.5 to million years ago, around 2 million years Before the Common Era (B.C.E.). We call the era we are in now the Common Era (C.E.).

Find the *Homo habilis* on the timeline. Notice that its date of existence is 2.4 million B.C.E. Now find *Homo sapiens*, which are related to present-day modern humans. They appeared about 200,000 years ago. As this example shows, larger B.C.E. dates are farther in the past, and smaller numbers are closer to today. This system helps us understand how long ago a historical event occurred.

Handy Man combined ape and human features. Also, this group had the **capability** to walk on two feet, a **trait** that allowed them to gather and carry food more easily. They could also use their hands to shape or chip stones into tools.

Scientists have discovered Handy Man remains only in Africa. Sometimes, the bones of more than one Handy Man were found together. It is likely that these hominins lived in groups. This would have helped them survive. They could have worked together to protect themselves against animal attacks. They also could have collected food over larger areas of land.

The tools that the Leakeys found were an important clue about this hominin group. Many scholars believe that this group may have made tools. This ability to make and use tools suggests some similarities between Handy Man and modern humans.

Making a tool, even a simple one, takes thought and effort. First, the hominins had to think about what kind of tool was needed. Then, they had to plan how to make it. Finally, they had to craft the tool themselves and try using it. Handy Man's tools were very simple. These hominins used animal bones as digging sticks and rocks as cutting tools. Handy Man may even have passed these early skills on to others.

The ability to make tools helped Handy Man thrive. The use of cutting tools allowed them to tear the meat from dead animals. Crushing tools may have helped them crack animal bones to eat the marrow inside.

Notice the backwards slant of the forehead on this reconstructed *Homo habilis* skull.

Evidence suggests that *Homo habilis* may have used simple stone tools to skin animals. Scientists believe that this group ate meat as well as fruits and vegetables.

migrate to move from one geographic region to another

2. *Homo Erectus:* Upright Man

Another type of hominin was discovered in 1891 by a Dutchman named Eugene Dubois (doo-BWAH). While he and his team were searching for artifacts on the island of Java, off the southern coast of Asia, they found a new type of hominin skull.

In time, Dubois's team, and scientists who followed him, discovered the bones of many more hominins. As scientists assembled the bones, they observed that these hominins stood up straight. Paleoanthropologists named this hominin group *Homo erectus* (UH-rek-tuhs), or "Upright Man." (At this time, Handy Man had not yet been discovered.)

Upright Man lived on Earth longer than any other hominin group from 1.9 million to about 140,000 B.C.E. Scientists believe that they were the first hominins to **migrate** out of Africa. Their remains have been found in both Asia and Europe.

It is no wonder that scientists have found the bones of Upright Man in many places. This group of hominins was well-suited for traveling. They were taller and thinner than earlier hominins—some even reaching the height of modern humans. Their bones were very strong. And they were good walkers and runners.

This reconstructed *Homo erectus* skull shows some physical differences between Upright Man and modern humans. The large ridge above the eye sockets is one key characteristic.

The facial features of Upright Man looked more like those of modern humans than the faces of earlier hominins. Upright Man hominins had foreheads that sloped backwards. But they still had a large ridge above the eyes, a thicker skull, and a jaw that stuck out.

Like Handy Man, hominins in the Upright Man group were toolmakers. But their larger brains enabled them to invent more complex tools, including strong hand axes made of stone.

One of Upright Man's greatest advantages was the ability to use fire. Anthropologists have found burned animal bones in the same places as Upright Man remains. This is a clue that Upright Man may have used fire to cook animal meat.

Scientists aren't sure whether these hominins were hunters or merely gatherers, finding dead animals to eat. But studies of their tools and teeth show that they ate more meat than earlier hominins did.

Homo erectus was the first hominin to use fire for warmth and cooking. Evidence suggests that these hominins may have tried to carry a glowing ember with them, as they moved from place to place.

The remains of an ancient campsite found in Japan have offered additional clues about how Upright Man lived. Some scientists guess that this group built oval huts by covering posts with tree branches. The group kept a fire burning in the center of the hut, and members likely sat and slept on animal skins. They may have decorated their bodies with red-colored mud called ocher.

Scientists believe that Upright Man groups moved from place to place, building shelters with tools and using fire to keep warm. These capabilities helped them travel farther and survive for longer periods than earlier hominins could. The ability to construct shelters allowed Upright Man to adapt to colder climates and live in areas without caves or other natural shelters. The ability to control fire helped them survive the cold, cook animal meat, and protect themselves from predators.

3. *Homo Neanderthalensis:* Neanderthal Man

In 1856, some mine workers in Germany's Neander Valley found a skeleton. It had thick bones and a ridge above the eyes, but was also very humanlike. Today, most scientists consider this group of hominins to be a distinct kind of people closely related to early modern humans. They call this kind of people *Homo neanderthalensis*, or Neanderthal (nee-AN-der-tahl) Man.

Neanderthals lived after Upright Man, from 400,000 to 40,000 years ago. The appearance of a Neanderthal skeleton found in France led scientists to believe that Neanderthals walked hunched over, with their hands dragging on the ground. As it turned out, the skeleton was of an older man who had a bone disease. In reality, Neanderthals walked upright. They were shorter and stockier than modern humans, but they were also more heavily built.

Most important, Neanderthals had large brains. They used their **intelligence** to become skilled toolmakers. Many types of Neanderthal tools have been found. These tools needed much more planning, skill, and knowledge than the tools made by earlier hominins. Neanderthals created knives, scrapers, and spear points. They learned how to make sharp, thin blades by breaking off the top of a rock and then chipping two or three sharp flakes from the original piece.

The ability to make better tools improved Neanderthals' chances for survival. But their ability to work together helped even more. Neanderthals lived and traveled in groups. And they were the first early hominins that we know hunted in an organized group.

Scientists believe that Neanderthals may have had a sense of **community**. When members of a group died, their bodies were laid in burial mounds, along with hunting tools and flowers. This is a clue that Neanderthals cared about one another and had a sense of ritual.

When on a hunt, Neanderthals worked together to surround and trap an animal. Then they would close in and kill it with spears. Evidence suggests that if some hunters were injured, other group members would help them.

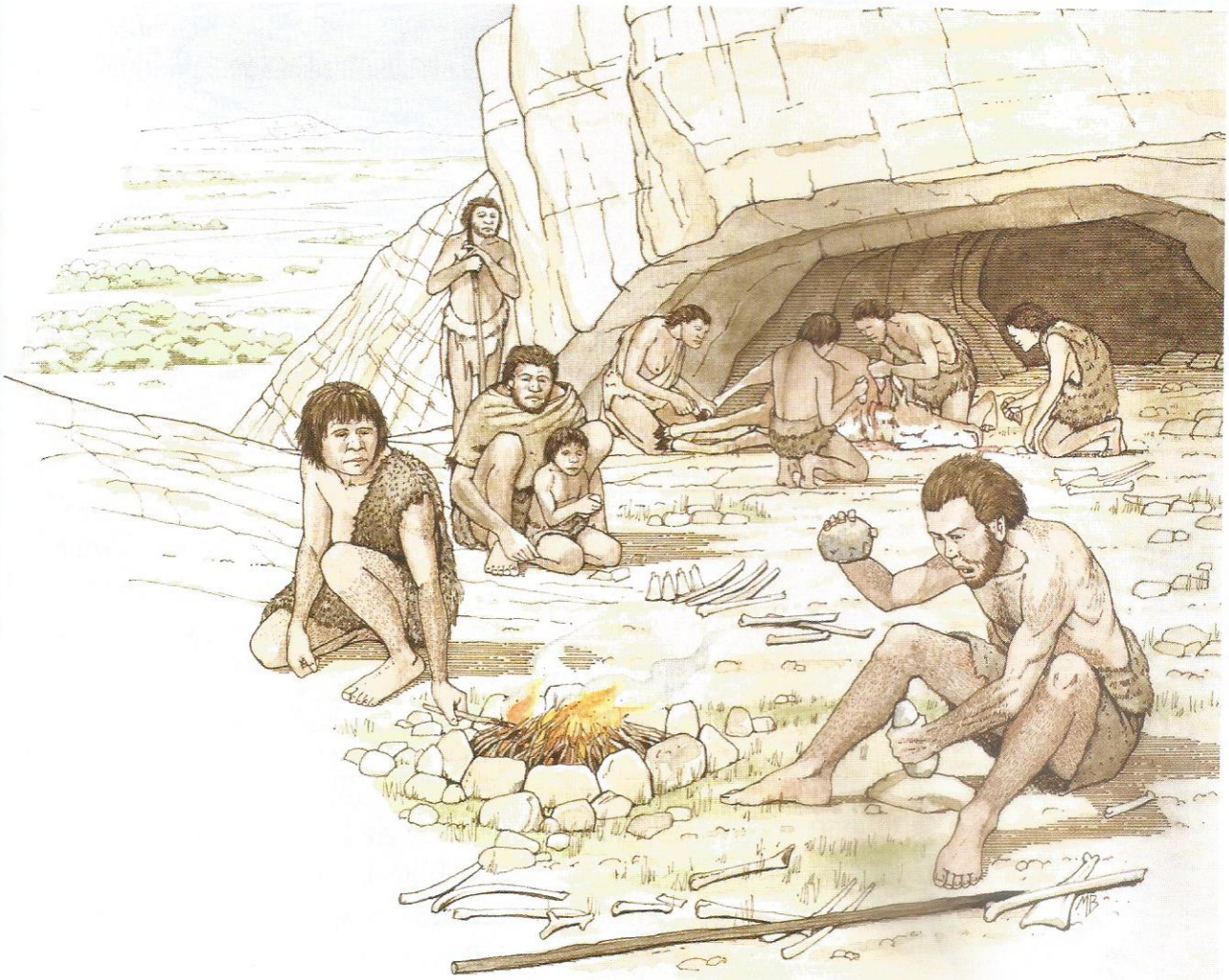
Homo Neanderthalensis had a much larger brain than Upright Man and Handy Man. Notice the differences from modern human skulls, including the double arch of protruding bone over the eyes and the large opening for the nose.

Paleoanthropologists have found some Neanderthal bones showing signs of serious breaks that had healed. These clues lead them to think that Neanderthals helped members of their group who were hurt or sick.

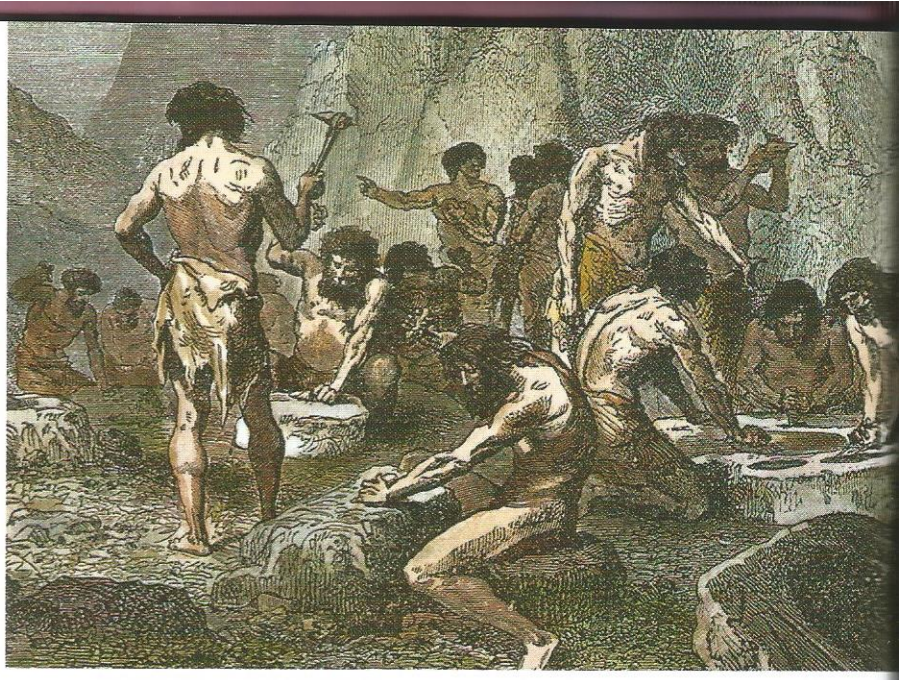
Scientists interpret these indications that Neanderthals cared for each other to mean that they lived as a community. This capability would have given them benefits in surviving. For example, they would have been able to learn from the experience and the wisdom of older members of the group.

How exactly are Neanderthals related to the early modern humans? Scientists aren't sure. Judging from the remains that have been found of both groups, Neanderthals existed side by side with early modern humans for thousands of years. No one knows the reason why Neanderthal populations disappeared. All we know for certain is that only *Homo sapiens* survived to become early modern humans.

Evidence suggests that *Homo neanderthalensis* lived in communities and cared for each other. Their sense of community increased their chances of survival.



Homo sapiens were very skilled toolmakers. One of their most useful inventions was the bow and arrow for hunting from safe distances.



4. *Homo Sapiens:* Wise Man

In 1879, an eight-year-old Spanish girl named Maria was exploring a cave with her father when she made an amazing discovery. She found a cave room filled with ancient paintings of deer, bison, wild horses, and boars. They were the first prehistoric cave paintings ever discovered.

The people who created these ancient cave paintings were the earliest members of our own group, *Homo sapiens* (SAY-pee-enz), or "Wise Man." Homo sapiens first appeared about 200,000 years ago. Most scientists believe that they originated in Africa. From there, they spread to Europe, Asia, and Australia. Eventually, they migrated to North and South America.

The first modern humans looked more like us than the Neanderthals did. They had high, rounded skulls, large brains, small teeth, and slender bones. But their bodies were not as well adapted to the cold as those of Neanderthals. Early modern humans may have survived because of their ability to create better tools, shelter, and clothing.

As toolmakers, early modern humans were even more skilled than Neanderthals. They attached thin blades to bone, antler, and stone to create a wide variety of tools. They made tools used for engraving and sculpting. They fashioned needles for sewing animal skins together. They also built shelters of earth and stone.

These prehistoric humans were also better hunters than earlier hominins. They made hooks and spears to catch fish. Most important, they invented the spear thrower and the bow and arrow. Armed with these weapons, they could hunt from a distance, making hunting much safer.

This reconstructed *Homo sapiens* skull is most similar to a modern human's skull. They are called the "Wise Man" because of their large brains.

Through their artwork, early modern humans left behind a fascinating record of their lives. They left paintings on the walls of their caves. Artists also carved and shaped images out of clay, bone, and ivory. They even created musical instruments.

Prehistoric artists created a variety of images. Some images came from the world around them, like the animals they hunted. Some images came from their imaginations, such as mythical creatures. These early artists also made patterns using shapes. Paleoanthropologists think the artists may have signed their work with handprints.

Why did early modern humans create art? Many scientists believe that they painted to express themselves. Some think that pictures had religious purposes.

One thing is certain. These early humans did not merely exist in their world. They had many feelings about it and created images to communicate those feelings. They had the ability to express thoughts to others through pictures and symbols. Some scientists believe that these abilities were able to **contribute** to the development of complex language, one of the capabilities that makes us fully human.

Once *Homo sapiens* had food and shelter, they had time to create art that expressed their feelings about the world. They may have been trying to record their lives.

Lesson Summary

In this lesson, you learned about the capabilities of four hominin groups.

Handy Man Two scientists found the bones of a hominin who lived between 1.5 to 2.4 million years ago in Africa. It belonged to the group *Homo habilis*, and had the capability to walk on two feet.

Upright Man The group *Homo erectus*, or Upright Man, were the first hominins to migrate out of Africa into Asia and Europe. They stood up straight and could make tools, fire, and shelters to protect them from the cold.

Neanderthal Man The group scientists called *Homo neanderthalensis*, or Neanderthal Man, had large brains, made complex tools, and lived in communities.

Wise Man *Homo sapiens*, or Wise Man, made more complex tools, were skilled hunters, and created artwork. This is the group modern humans are in.