



Humans living 2 million years ago shaped stone and animal bones into simple tools.

## Early Hominids

### 2.1 Introduction

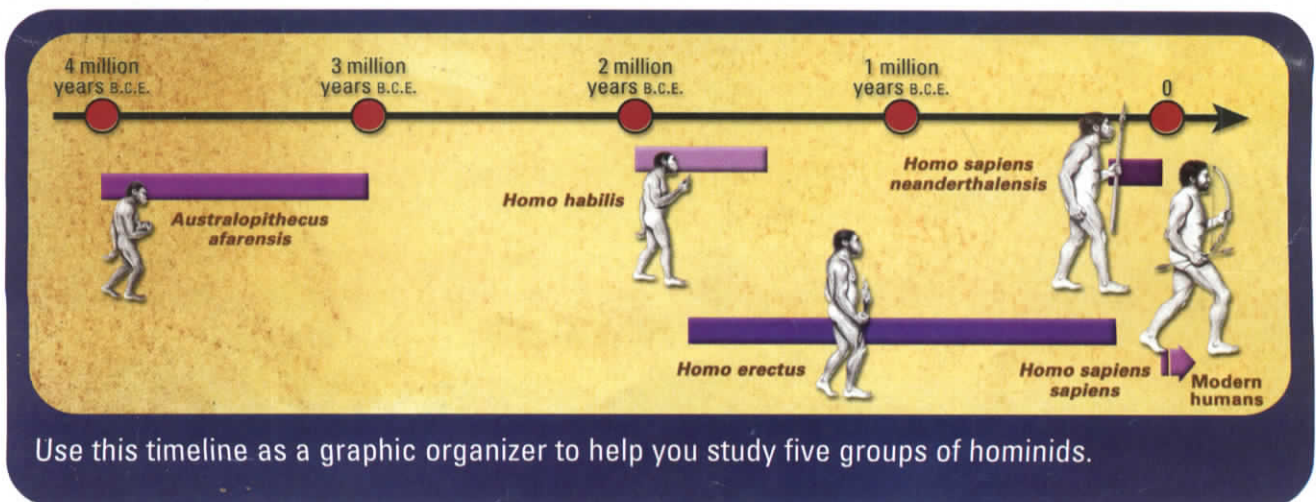
In Chapter 1, you explored cave paintings made by prehistoric humans. Scientists call these prehistoric humans **hominids**. In this chapter, you will learn about five important groups of hominids.

You've already met three kinds of "history detectives"—archeologists, historians, and geographers. The study of hominids involves a fourth type, paleoanthropologists. Anthropologists study human development and culture. Paleoanthropologists specialize in studying the earliest hominids. (*Paleo* means "ancient.")

In 1974, an American paleoanthropologist, Donald Johanson, made an exciting discovery. He was searching for artifacts under a hot African sun when he found a partial skeleton. The bones included a piece of skull, a jawbone, a rib, and leg bones.

After careful study, Johanson decided the bones came from a female hominid who lived more than 3 million years ago. He nicknamed her "Lucy" while he was listening to the song "Lucy in the Sky with Diamonds," by the Beatles. She is one of the earliest hominids ever discovered.

What have scientists found out about Lucy and other hominids? How were these hominids like us? How were they different? What **capabilities**, or skills, did each group have? Let's find out.



**anthropologist** a scientist who studies human development and culture

**remains** a dead body

**biped** a two-footed animal

## 2.2 *Australopithecus Afarensis*: Lucy and Her Relatives

Traditionally, scientists have given Latin names to groups of living things. (Latin was the language of the ancient Romans. You will learn about the Romans in a later unit.) An **anthropologist** in Africa called the earliest known group of hominids *Australopithecus*, or “southern ape.” Donald Johanson decided to call the group Lucy belonged to *Australopithecus afarensis*. The second part of this name refers to the Afar Triangle, the part of Africa where Lucy was found.

Scientists have learned a lot about early hominids by studying Lucy. By assembling her bones, they know something about what she looked like. Lucy was short compared to humans today, about 3 feet tall. She had a mix of ape and human features. Her arms were long, but her hands and feet were similar to a modern human’s. She had a large head, and her forehead and jaw stuck out from her face.

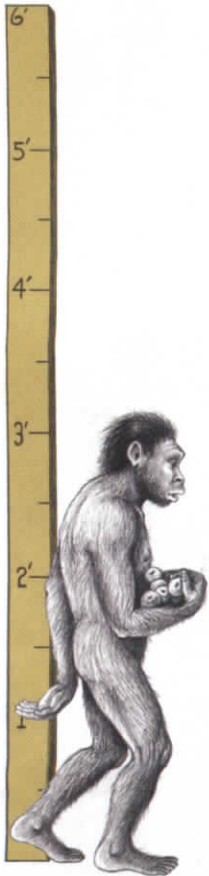
## 2.3 Lucy and Her Relatives: Walking on Two Feet

The **remains** of other hominids like Lucy have been found in the same area. Scientists guess that Lucy’s relatives lived in Africa, about 3 to 4 million years ago.

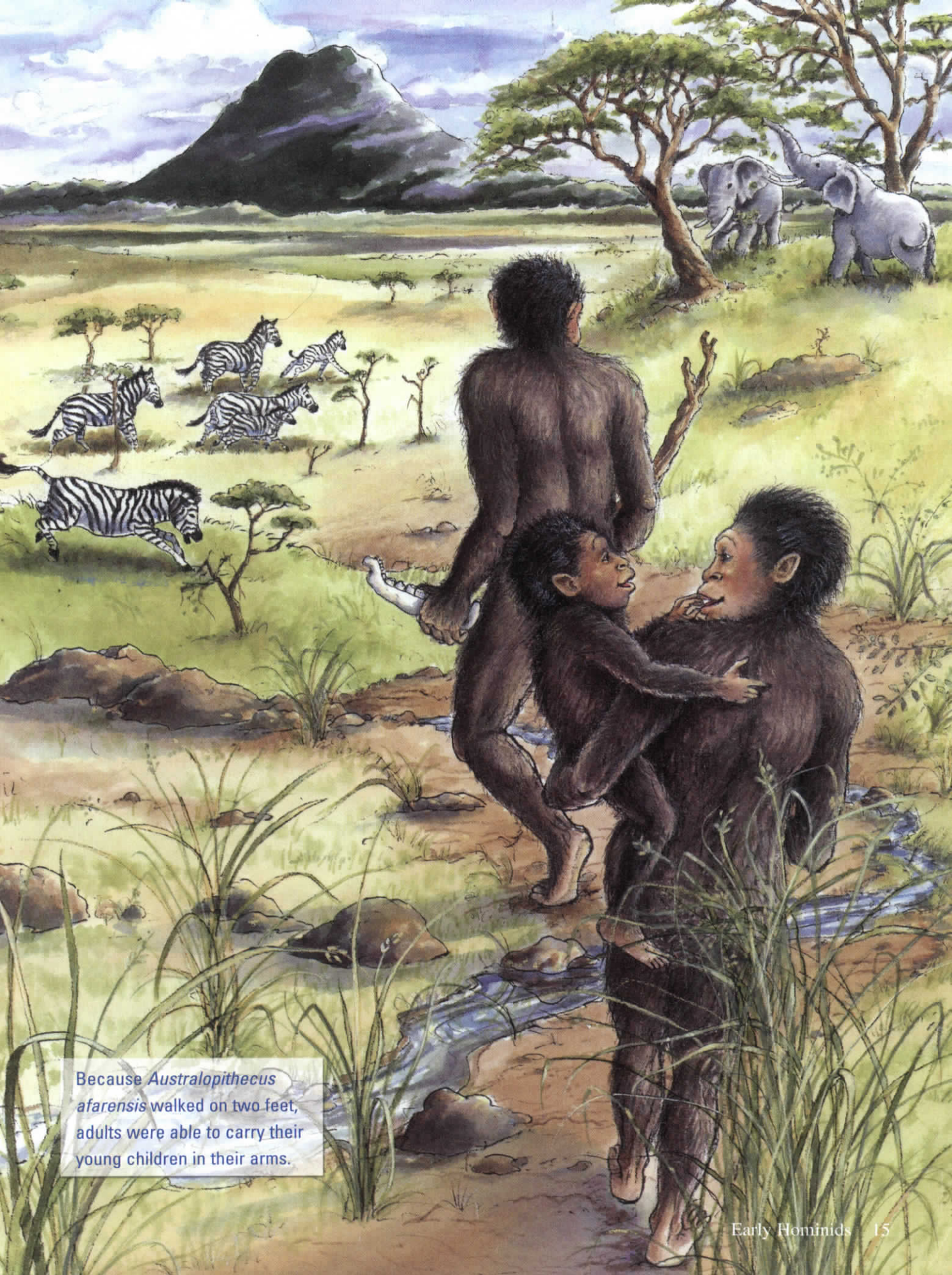
Exactly how are hominids like Lucy related to later hominids and to us? Anthropologists often disagree about questions like this. One reason is that they have so few clues to work with. Bones as old as Lucy’s are very hard to find. Still, most anthropologists agree that Lucy and her relatives were very early forms of humans.

One discovery about Lucy was especially exciting. By studying her skeleton, scientists found out that she was a **biped**. That means she walked on two feet. This gave Lucy and her relatives many advantages compared to such animals as gorillas and chimpanzees. With their hands free, they could gather and carry food more easily. They could also use their hands to defend themselves and their children.

Being a biped is one important way that Lucy resembled us. In other ways, hominids like Lucy were quite different from modern humans. Lucy’s brain was only about one third the size of ours. Scientists have found no tools from Lucy’s time. They also don’t think these early hominids were able to talk.



*Australopithecus afarensis*



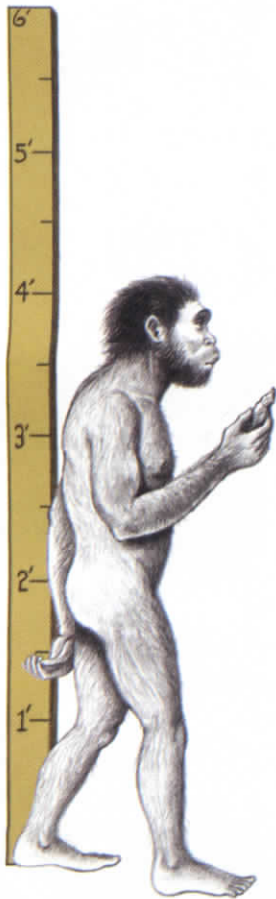
Because *Australopithecus afarensis* walked on two feet, adults were able to carry their young children in their arms.

## 2.4 *Homo Habilis*: Handy Man

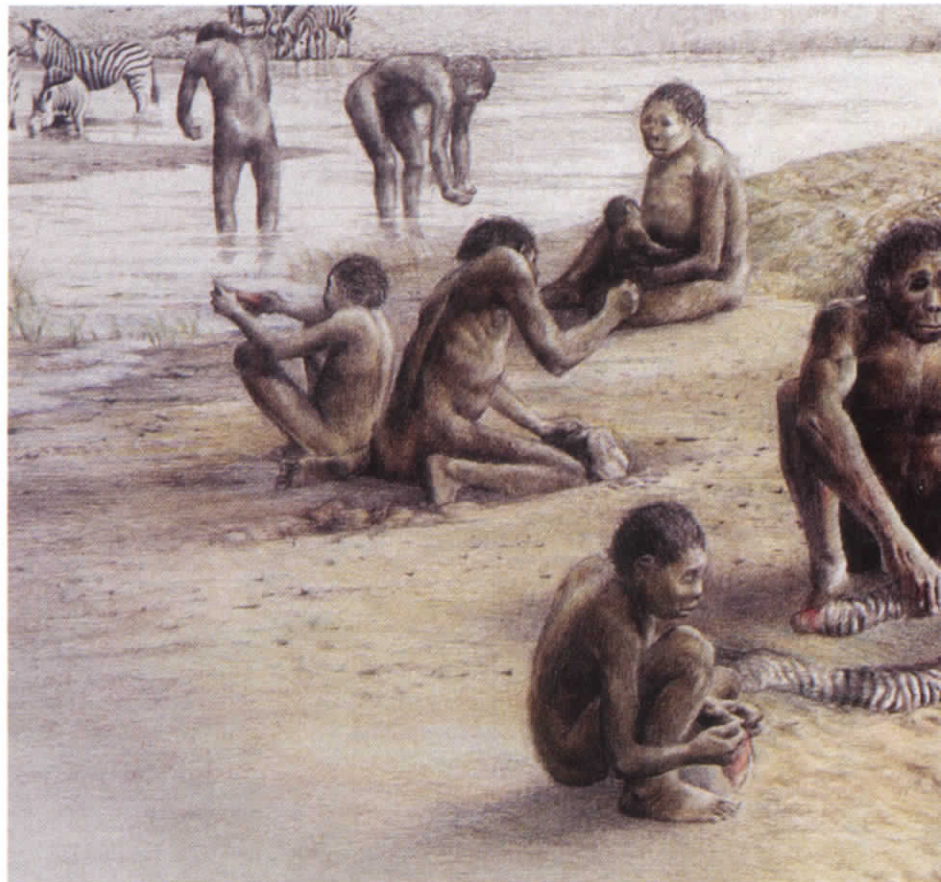
A second group of hominids was discovered by the husband-and-wife team of Louis and Mary Leakey. The Leakeys were searching for evidence of early hominids in Africa when they discovered some hominid bones. The bones were scattered among artifacts that looked like tools. The Leakeys named their discovery *Homo habilis*, or “Handy Man,” in honor of its ability to make tools.

Handy Man lived a little closer to our time than Lucy, about 1.5 to 2 million years ago. Like Lucy, the hominids in this group had a combination of ape and human features. They also walked on two feet. But they were taller than Lucy. Their features were slightly more humanlike, and their brains were twice the size of hers.

Scientists have found Handy Man remains only in Africa. They have also discovered the bones of more than one Handy Man together. This means these hominids probably lived in groups. Living with others would have helped them survive. They could work together to protect themselves against animal attacks. They could also collect food over larger areas of land.



*Homo habilis*



## 2.5 Handy Man: The Toolmaker

The tools found by the Leakeys were a very important clue. Along with a larger brain, the ability to use tools was a key difference between Handy Man and hominids like Lucy. It shows that Handy Man was more advanced and more like modern humans than Lucy was.

Handy Man's tools were very simple. These hominids used rocks as chopping tools. They made sharp pieces of stone for cutting. They used animal bones as digging sticks.

Making a tool, even a simple one, takes some thought. First, the hominids had to imagine what kind of tool to make. Then they had to plan how to make it. Finally, they had to craft what they wanted. They may also have passed on what they learned to others.

The ability to make tools helped Handy Man live better and longer than Lucy and hominids like her. Using cutting tools allowed these hominids to take meat from dead animals. They may have used crushing tools to crack animal bones and then eaten the marrow inside. They may even have dug or made traps for small animals.

*Homo habilis* may have used stone tools to skin animals.



**migrate** to move from one geographic region to another

## 2.6 *Homo Erectus*: Upright Man

A third type of hominid was discovered in 1891 by a Dutchman named Eugene Dubois. He and his team were searching for artifacts on the island of Java, off the southern coast of Asia, when they found a new type of hominid skull.

Eventually, Dubois' team discovered the bones of many more hominids. When they assembled the bones, they could see that these hominids stood up straight. Dubois named this hominid group *Homo erectus*, or "Upright Man." (Lucy and Handy Man had not yet been discovered.)

Upright Man was around longer than any other hominid group, from 1.8 million to 200,000 B.C.E. Scientists believe they were the first hominids to **migrate** out of Africa. Their remains have been found in Asia and Europe.

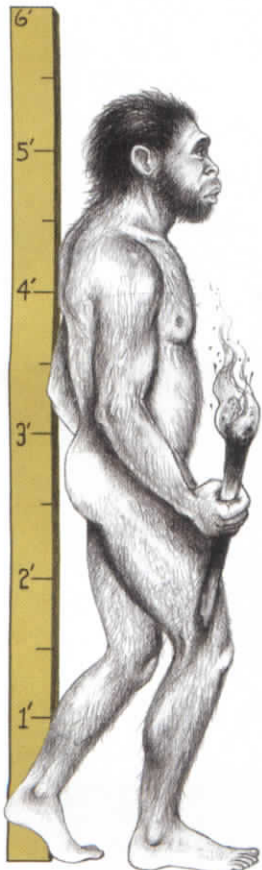
It's no wonder that scientists have found Upright Man bones in many places. This group of hominids was made for traveling. They were taller and thinner than earlier hominids—some even reaching the height of modern humans. Their bones were very strong. And they were good walkers and runners.

The face of Upright Man looked more like a modern human than those of earlier hominids did. Their foreheads were round and smooth. But they still had a large ridge above the eyes, a thicker skull, and a jaw that stuck out.

## 2.7 Upright Man: Traveling with Fire

Like Handy Man, hominids in the Upright Man group were toolmakers. But with their larger brains, they were able to invent more complex tools, including strong hand-axes made of stone.

Upright Man's greatest advantage was the ability to use fire. Anthropologists have found burned animal bones in the same places as Upright



*Homo erectus*



Man remains. This clue means that Upright Man probably used fire to cook animal meat.

Scientists aren't sure whether these hominids were hunters or whether they found dead animals to eat. But studies of their tools and teeth show that they ate more meat than earlier hominids did. They feasted on red deer, elephant, rhinoceros, goat, boar, and oysters.

The remains of an ancient campsite in France have provided additional clues about how Upright Man lived. Scientists guess that they built oval huts by covering posts with tree branches. In the center of the hut, they kept a fire burning. They sat and slept on animal skins. They may have decorated their bodies with yellow-colored mud called *ocher*.

Scientists believe that Upright Man groups moved from place to place, creating shelters with tools and using fire to keep warm. These abilities helped them travel farther and survive longer than earlier hominids. Building shelters allowed them to live in colder climates and in places where there were no caves to provide natural shelter. Being able to control fire helped them survive the cold and protect themselves against animals.

*Homo erectus* was the first hominid to use fire for warmth and cooking. These hominids probably carried a glowing ember when they moved from place to place.





## 2.8 *Homo Sapiens Neanderthalensis*: Neanderthals

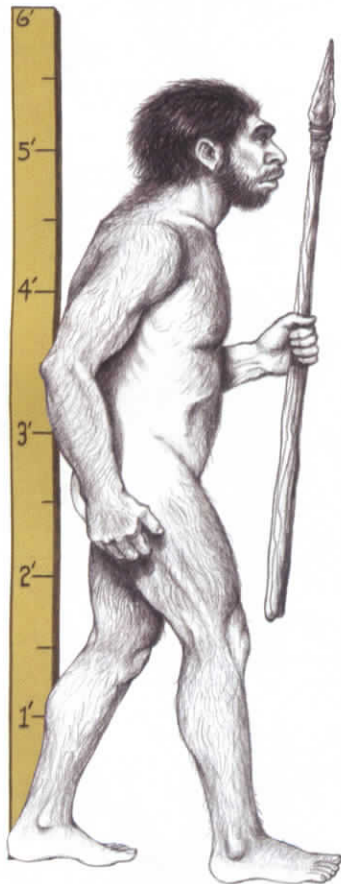
In 1856, some mine workers in Germany's Neander Valley found a skeleton. It had thick bones and a ridge above the eyes, but it was also very humanlike. Today most scientists consider this group of hominids to be a distinct type of *Homo sapiens* ("Wise Man"), the large-brained group that modern humans belong to. Scientists call this group *Homo sapiens neanderthalensis*, or Neanderthal Man.

Neanderthals lived after Upright Man, from 230,000 to 30,000 years ago. They lived in Africa, the Near East, Europe, and parts of Asia.

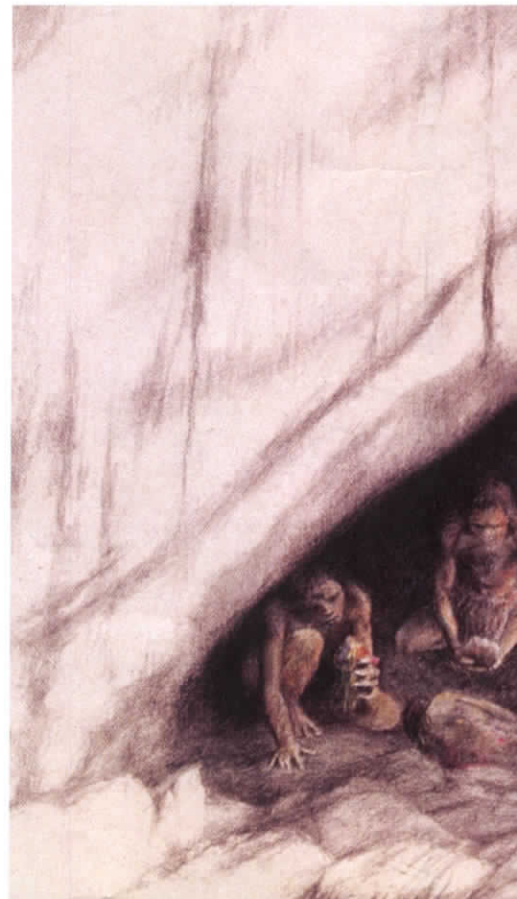
The appearance of the skeleton found in Germany led people to imagine that Neanderthals walked hunched over, with their hands dragging on the ground. As it turned out, the skeleton was of an older man who had a bone disease. In reality, Neanderthals walked upright. They were shorter and stockier than modern humans, but they were also much stronger.

Most important, Neanderthals had large brains. They used their intelligence to become skilled toolmakers. More than 60 types of Neanderthal tools have been found. These tools required much more planning, skill, and knowledge than those of earlier hominids. Neanderthals created knives, scrapers, and spear points. They learned how to make sharp, thin blades by slicing off the top of a rock and then creating two or three sharp flakes from the original piece.

The ability to make better tools certainly helped Neanderthals survive. But they were helped even more by their ability to work together. They lived and traveled in groups. And they were the first early hominids to hunt in an organized group.



*Homo sapiens neanderthalensis*



## 2.9 Neanderthals: A Sense of Community

Scientists believe that Neanderthals had a sense of community. When members of a group died, they were laid in burial mounds along with hunting tools and flowers. This shows that Neanderthals cared about one another and had a sense of ritual.

When they hunted, Neanderthals worked together to surround and trap an animal. They then moved in close to kill it with spears. Sometimes they would be injured. But if they got hurt, it seems that other members of the group would take care of them. Scientists have found Neanderthal bones that were broken and then healed. These clues lead them to think that Neanderthals cared for their injured and sick.

This evidence of caring for each other is another sign of a sense of community. And if Neanderthals lived as a community, they were also able to learn from the experience and wisdom of older members of the group.

Exactly how are Neanderthals related to 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 about 10,000 years. No one knows exactly why they disappeared. All we know for sure is that only one type of *Homo sapiens* survived to become early modern humans.

Evidence suggests that *Homo sapiens neanderthalensis* lived in communities and cared for each other.



**land bridge** a piece of land connecting two continents

## 2.10 *Homo Sapiens Sapiens*: Early Modern Humans

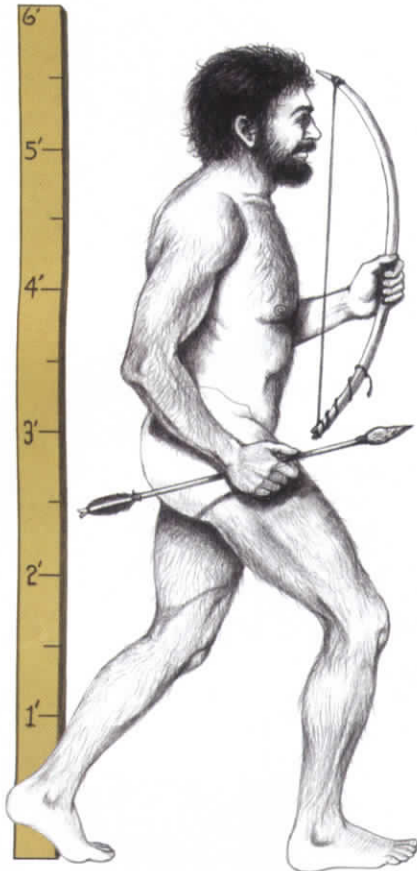
In 1879, an eight-year-old Spanish girl named Maria was exploring a cave with her father when she made an amazing discovery. She found a cave room filled with ancient paintings of deer, bison, wild horses, and boars. They were the first prehistoric cave paintings ever discovered.

The people who created these paintings were the earliest members of our own group, *Homo sapiens sapiens*, or “Doubly Wise Man.” These early modern (or prehistoric) humans lived from 35,000 to 12,000 B.C.E. Most scientists believe they originated in Africa. From there they spread to Europe, Asia, and Australia. Eventually they migrated to North and South America, probably traveling across **land bridges**, which were later covered by water.

The first modern humans looked more like us than 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. They 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 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 hominids. They made hooks and spears to catch fish. Most important, they invented the spear thrower and the bow and arrow. With these weapons, they could hunt from a distance, which meant hunting was much safer.



*Homo sapiens sapiens*

## 2.11 Early Modern Humans: The First Artists

Early modern humans left behind a fascinating record of their lives through their artwork. They painted on the walls of their caves. They carved and shaped images out of clay, bone, flint (a hard mineral), 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 came from their imaginations, such as mythical creatures. As you learned in Chapter 1, these early artists also made patterns using shapes, and they may have signed their work with hand-prints.



Why did early modern humans create art? Many scientists believe they painted to express themselves. Some think they used pictures to teach their children. Others think they created images for religious purposes.

One thing is certain. These early humans didn't just exist in their world. They had feelings about it and created images to express those feelings. They had the ability to imagine, dream, and communicate thoughts to others through pictures and symbols. Some scientists believe these abilities contributed to the development of complex language, one of the capabilities that make us fully human.

Once *Homo sapiens sapiens* had food and shelter, these prehistoric humans had time to create art that expressed their feelings about the world.

## 2.12 Chapter Summary

In this chapter, you learned about five hominid groups and their different capabilities. Each change along the way—from walking upright to creating better tools—was a key step in the development of early modern humans.

The next chapter looks at another dramatic change. Early hominids gathered or hunted their food. Next you'll discover how life changed when people learned to grow their own food.