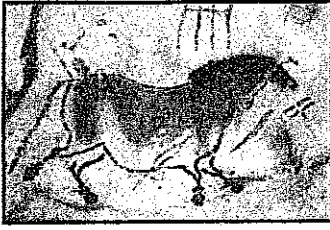


Homo sapiens sapiens



Note: The horse depicted in **Transparency 2.2J** can also be seen in the center of **Transparency 2.3B** in Activity 2.3.

Transparency 2.2J In this transparency we see a cave painting of a horse made by *Homo sapiens sapiens* about 17,000 years ago. It was found high on a wall in the Lascaux cave in France.

What do you see here? On what type of surface has this art been created? What kinds of tools and materials may have been used to create this art? Describe the objects that surround the horse. Why do you think early humans created this artwork?

Overview The scientific name for modern humans is *Homo sapiens sapiens*, sometimes called “man the double wise.” The first *sapiens sapiens* emerged about 100,000 years ago. Many scholars believe *sapiens sapiens* migrated from Africa to Europe around 40,000 years ago. Within 10,000 years of *sapiens sapiens*’s European migration, Neandertals became extinct. Nineteenth-century scientists named these European newcomers the Cro-Magnon people, in honor of the French cave in which three 30,000-year-old skeletons and their sophisticated tools were discovered. Today, however, scholars rarely use the term Cro-Magnon to describe the first anatomically modern humans since the term implies that *sapiens sapiens* originated in Europe. Fossil evidence indicates that modern humans had actually been living in Africa and the Middle East for some 60,000 years before they appeared in Europe. In addition, a group of *sapiens sapiens* crossed over more than 50 miles of open sea to reach Australia at least 50,000 years ago.

Fossil Discoveries *Sapiens sapiens* fossils have been found all over the world, at hundreds of thousands of sites. One of the more well-known discoveries occurred in the mid 1860s. At that time, a paleontologist named Edouard Lartet traveled to the Dordogne region of western France to explore the caves and rock shelters located there. These caves and shelters were a rich source of ancient bones and stone tools. The local people called one of the rock shelters Cro-Magnon, or “big cliff.” Working with an English banker, Lartet began excavating the small rock shelter and found evidence of at least five early modern human burials. The bones belonged to the species *Homo sapiens sapiens*. Over the years, other sites in France, Switzerland, and elsewhere have yielded evidence of *sapiens sapiens*, including fossilized bones, art, and stone tools.

Appearance By approximately 100,000 years ago in the Middle East, *sapiens sapiens* had already developed many features that modern humans possess today. These features include a high, rounded skull, a large brain (almost three times the size of the average *afarensis* brain, or about 1,350 cubic centimeters); small teeth; a prominent chin; and relatively slender bones. Over tens of thousands of years, *sapiens sapiens*’s skull wall thinned, the forehead steepened, the brow ridges receded, and the face flattened. Though they cannot prove their hypothesis, some scientists suggest that the

first European *sapiens sapiens* might have had dark skin and relatively hairless bodies. These scientists believe that since *sapiens sapiens* migrated from Africa, these features would have been common adaptations to the continent's hot climate.



Transparency 2.2K In this transparency we see an artist's rendition of *Homo sapiens sapiens* making the cave paintings found in the Lascaux cave in France.

What do you see here? Describe the setting in which these people are working. Why are the people standing on wooden scaffolds? Why do you think people would paint pictures in caves? Which aspects of this image do you think the artist had to guess about when creating it?

Capabilities and Skills Since early *sapiens sapiens*'s bodies were not well-adapted for cold climates, they relied on major innovations in tools, shelter, clothing, and the control of fire to survive the freezing European winters. Around 35,000 years ago in Europe, they began to manufacture delicate blades made of flint and other materials. They used the point of a soft chisel made of bone or antler to flake off as many as 30 yards of knife edge from a mere 2 pounds of flint. *Sapiens sapiens* attached these blades to bone, antler, and wood to create a variety of tools. *Sapiens sapiens*'s toolkit consisted of more than 100 different items, including tools for engraving and sculpting and needles for sewing hides together.

Early modern humans invented the bow and arrow as well as the spear-thrower. The spear-thrower allowed hunters to hurl a spear with more power and twice as far as they could before. For the first time, people could hunt efficiently at a safe distance from their prey. Early *sapiens sapiens* probably improved on Neandertal's hunting techniques, driving game over cliffs and perhaps killing animals as they passed through narrow valley entrances. *Sapiens sapiens* also used fishhooks and harpoons to catch fish for food. Some scientists believe *sapiens sapiens* traveled in small groups from campsite to campsite on a fixed schedule, hunting game and foraging for vegetation. At their semipermanent campsites, they constructed huts of stone, wood, animal bones, and hides and built much more substantial fireplaces than those of Neandertals.

Along with evidence of impressive tool technologies and hunting techniques, early *sapiens sapiens* left behind an amazing record of their artistic impulses. For about 20,000 years, in Africa, Asia, Europe, and Australia, they created images of the world around them and from their imaginations. They carved and shaped clay, ivory, and bone into works of art and even musical instruments. Perhaps even more impressive are the striking images of animals, humans, mythical figures, handprints, and geometric patterns they painted on the walls of caves and other rock surfaces. Since people first discovered these early cave paintings, they have tried to interpret the meaning of the images. We can never know the reasons these ancient artists

created their works. Scholars have proposed various theories: that *sapiens sapiens* painted to express themselves, used the images to instruct children, created the images to bring about magic spells, or used them in religious rituals. Regardless of their reasons, we know that the artists possessed the ability to imagine, dream, and communicate complex, abstract thoughts through symbols and images. Some paleoanthropologists believe that these abilities, along with *sapiens sapiens*'s well-developed voiceboxes, may have allowed them to develop a fully modern language.