

CONNECTION TO SOCIAL STUDIES**● Human Tools: From Stone to Iron****Tools in the Stone Age**

Humans have been using tools for about 2.5 million years. Most of the first tools were made of stone, which was hard enough to have a strong working edge and brittle enough to be cut into various shapes. Tools made of wood, bone, and antler also appeared during the Stone Age.

Between 5,000 and 10,000 years ago, people began to make tools out of copper. At first, copper tools were made like stone tools—they were beaten into shape with stones. It was later discovered that the copper could be shaped much more easily after it had been melted. The discovery of smelting—melting ores to extract metals—further increased the use of copper.

Bronze and Iron Tools

When people melted copper, they sometimes added other metals to the mixture by accident. People discovered that such mixtures often had better properties than pure copper. This discovery led to the development of bronze—an alloy of copper and tin. Bronze has many advantages over pure copper: it is more durable, is easier to shape, and can be reformed when dented or bent. Also, bronze knives and axes can be resharpened.

The next major change in toolmaking came when people learned how to retrieve iron from ores. Iron is much more abundant than copper or tin. But the smelting process for iron is much more complicated than it is for other metals, so it was not discovered as quickly. Some archaeologists believe that this discovery was made when local supplies of copper and tin were becoming scarce.

Your Turn to Think

1. What properties of stone made it useful for making tools?
2. Why were copper tools replaced by bronze tools?
3. Suppose you are an archaeologist in the year 4005, and you find a buried tool chest. Laboratory tests suggest that the chest dates back to the year 2000. Describe one of the tools you may find in the chest, and explain how its shape and materials relate to its probable use.