

## 07 Technology: Ore Smelting and Casting

**Smelting** is a process by which a metal is obtained, either as the element or as a simple compound, from its ore by heating beyond the melting point, ordinarily in the presence of oxidizing agents, such as air, or reducing agents, such as coke. The first metal to be smelted in the ancient Middle East was probably copper (by 5000 B.C.), followed by tin, lead, and silver.

<http://www.britannica.com/EBchecked/topic/549533/smelting>

In the Old World, humans learned to smelt metals in prehistoric times, more than 8000 years ago. The discovery and use of the "useful" metals — copper and bronze at first, then iron a few millennia later — had an enormous impact on human society. The impact was so widespread that scholars traditionally divide ancient history into Stone Age, Bronze Age, and Iron Age.

Although lead was a common metal, its discovery had relatively little impact in the ancient world. It was too soft to be used for weapons (except possibly as sling projectiles) or structural elements. However, being easy to cast and shape, it came to be extensively used in the classical world of Ancient Greece and Ancient Rome for piping and storage of water. It was also used as a mortar in stone buildings, and as a writing material for commemorative plaques.

<http://en.wikipedia.org/wiki/Smelting>

### Note:

This contains an extensive list of additional Greek technologies.

[http://en.wikipedia.org/wiki/Ancient\\_Greek\\_technology](http://en.wikipedia.org/wiki/Ancient_Greek_technology)

### Content Elaboration:

The Greeks created the **astrolabe**, the **pulley block**, the **wood screw**, **ore smelting** and **casting**, and **built faster ships**.

**Note:** YouTube clips as reenactment of the primitive process.

- <http://www.bing.com/videos/search?q=YouTube+%2b+ore+smelting&mid=733A34BB7772A95F94F3733A34BB7772A95F94F3&view=detail&FORM=VIRE4> (3:00 minutes with dialogue)
- This reenactment of early Celtic ore smelting as a mobile of the early primitive process. The process would have been very similar to that of ancient times. It is very dependent upon human labor and natural resources.  
<http://www.bing.com/videos/search?q=YouTube+%2b+ore+smelting&mid=733A34BB7772A95F94F3733A34BB7772A95F94F3&view=detail&FORM=VIRE4> (9 minutes with no dialogue)