

# China

## *Ancient Chinese Technology and Trade*



Introduction to Ancient China

Ancient Chinese Beliefs

**Ancient Chinese Technology  
and Trade**

Ancient Chinese Culture

## Thematic Icons



Economics



Geography



Historical concepts



Government

## Icons



Flash activity (these activities are not editable)



Teacher notes included in the Notes page

For more instructions, see the *User Guide*.





The Chinese engaged in warfare from the time civilization first appeared.

This warfare was largely made up of internal struggles between the different Chinese states, as in the **Warring States Period** (475–221 BC). However, it was also important to hold off threats from external forces.

Early armies fought using **chariots** and **bronze** weapons. Chariot crews were made up of a driver, an archer and a warrior responsible for close defense.



Why did Chinese states fight each other?



# The Warring States



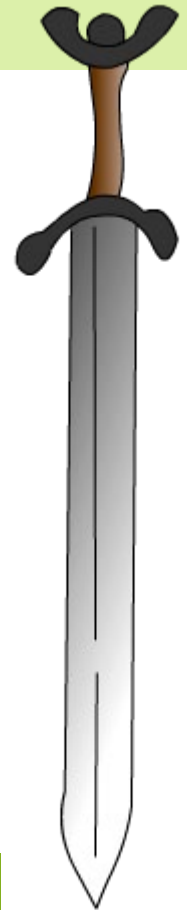


The development of **iron** production from around 500 BC led to advances in **weaponry**. Iron is easier to find and more durable (long-lasting) than bronze.

Weapons could therefore be made more quickly as there were plentiful sources of iron. The ability to produce individual weapons also meant that more warriors could be armed.

Iron weapons, such as swords, became much more common during the Warring States period.

This led to a shift away from small scale chariot warfare to mass warfare between armies made up of both **infantry** and **cavalry**.



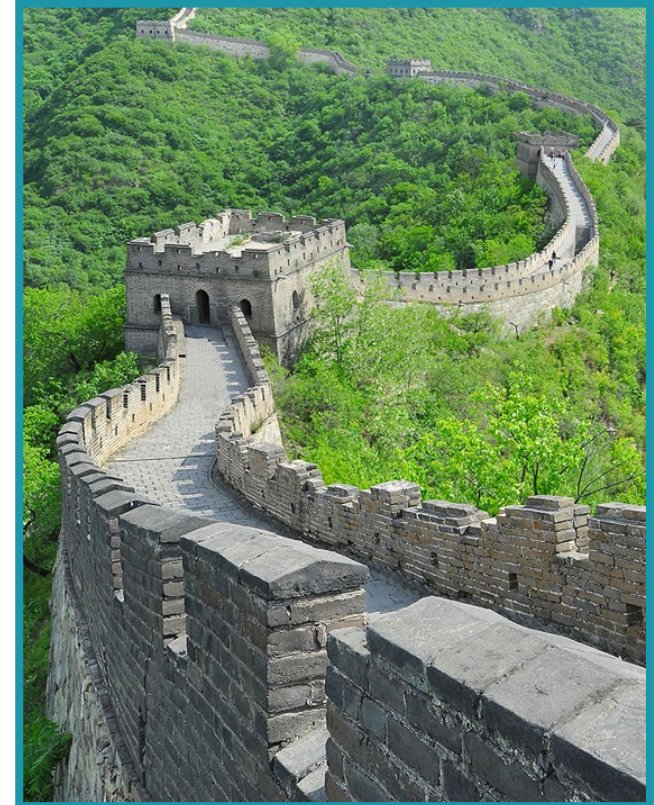
What were the advantages of this new type of warfare?





To secure his rule and territory following his victory in 221 BC, Qin Shi Huangdi:

- built the **Great Wall of China** for external defense
- extended the Chinese empire
- destroyed the defenses of potential opponents
- connected the empire through a series of roads and canals
- standardized laws, language and the **coinage**.



How did these policies help secure his position?



Shi Huangdi's policies to unite China had a very positive impact on Chinese trade. These policies included:

- standardizing written language
- standardizing the currency and weights and measures
- improving roads and standardizing cart axle width
- improving river and canal systems.



These measures improved travel, transport and communication across the empire.



**Why was this important for Ancient Chinese trade?**



Early Chinese trade was quite **localized**. Goods would mostly be exchanged between different cities and regions.

The coinage developed during the Zhou and Qin dynasties. The Shang used cowrie shells as a form of currency to trade with coastal areas.



**Internal trade** improved greatly throughout this period, partly due to the growth of cities and improvements in transport systems.

The **Silk Road** between China and other countries did not officially develop until the **Han dynasty** (206 BC–220 AD). This development improved international trade links.







Trade helped the Chinese economy by bringing in income from the sale of goods and creating jobs for merchants.



A variety of goods were exchanged both within and beyond China throughout this period. These included:

- jade
- silk
- food
- ceramics
- horses
- military equipment.

Which of these do you think was the most important for the Chinese economy?



Legend says that silk was first discovered around 2700 BC by **Empress Hsi Ling Shi**, wife of the **Yellow Emperor**.

While sitting under a mulberry tree having tea, a cocoon fell into her cup and unraveled. She realized that the thread could be used and developed silkworm farming and the silk loom.



Silk was used for clothing, musical instruments and paper. It came to be a mark of social status in Ancient China and there were restrictions on who was allowed to wear it.





Silk was an important trading good. The Chinese trading routes became known as the Silk Road due to the large amount of silk traveling along them.

The process of making silk was kept secret by the Chinese for thousands of years.



Silk production began in Korea in 200 BC as Chinese immigrants moved there. It reached India around 300 AD, but did not arrive in Europe for another 200 years!

**Why do you think silk production was kept a secret?**



**Jade** is a precious stone valued in China as a symbol of beauty, grace and purity. There is evidence of jade carving dating back thousands of years.

Despite its toughness, artisans were able to carve a variety of intricate objects out of jade. These included weapons, jewelry and ornaments.



Common designs included dragons and the **bi** (a flat, circular disk that has a hole in the middle).

Jade came to be seen as a symbol of social status. It was worn by the Chinese elite and buried with the wealthy to protect them against evil spirits.



**Ceramic** production has a long and varied history throughout the world. In China, high quality ceramics were being produced from at least as early as the Shang dynasty. This was largely due to the heat that could be reached and maintained by Chinese **kilns**.

The Chinese created a variety of objects using clay, from pots and bowls to the famous **Terracotta Army**.



There is also evidence of an early form of glazed pottery dating back to the Shang dynasty. However, **porcelain** as it is recognized today came later.



The development of the **bronze casting** process was a major achievement of the Shang dynasty. Bronze was used to create containers, musical instruments and weapons.

Liquid bronze was poured into a highly decorated clay mold.

Patterns from the mold were transferred onto the bronze vessel as it set and resulted in the creation of ornately decorated products.

This particular method was **unique** to China.



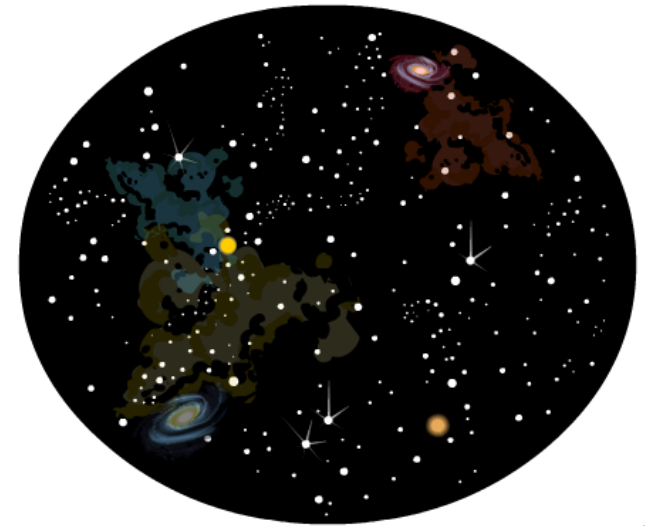
Over time, bronze vessels turn green due to chemical reactions with the air.



The Chinese thought it was important to observe the sky. **Astronomers** were employed to chart the stars and **astrologers** to interpret these observations.

The initial aim of Chinese astronomy was to record time accurately. By the Shang dynasty a **lunisolar** calendar had been developed.

The Chinese accurately recorded a variety of events, including solar eclipses, supernovas and the appearance of Halley's Comet. The first record of an eclipse dates back to 2136 BC!



The Chinese developed math independently from other ancient civilizations. They had systems of decimals, algebra, geometry and trigonometry.

1	2	3	4	5	6	7	8	9
I	II	III	IIII	IIIII	┐	└┐	└└┐	└└└┐

A **counting rod** system was used for calculations. Bamboo rods were arranged in patterns to represent numbers. Each individual unit was placed in a separate column and faced a different way. For instance, 397 was represented as:

III ≡ ┐

The first Chinese **abacus** for calculations was invented around 500 BC.



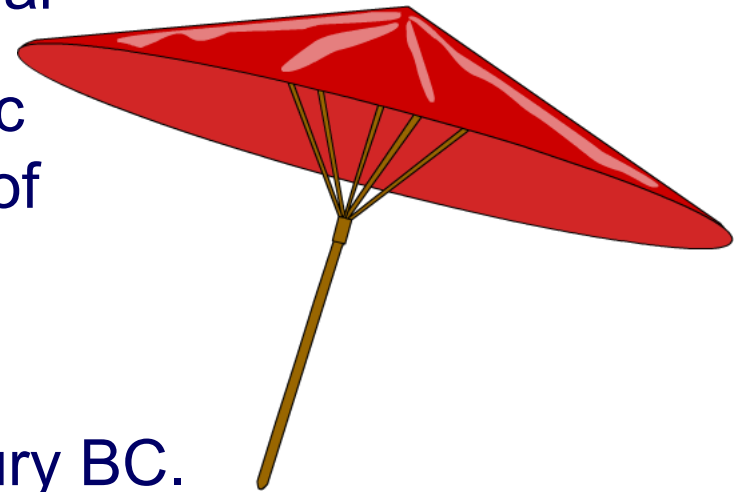




Chinese success is evident in the wide variety of achievements and inventions made during this period.

Achievements from the Shang dynasty include:

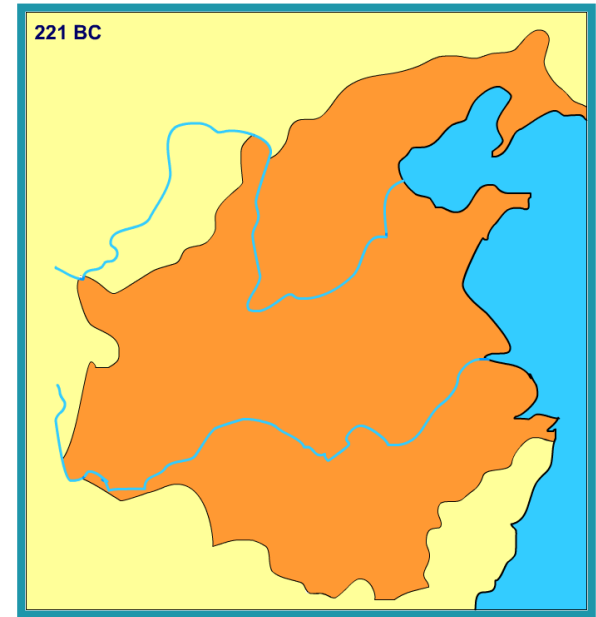
- advances in industrial processes that improved the creation and decoration of bronze and ceramic vessels
- the development of the first calendar
- the development of the ideographic writing system, which is the basis of Chinese writing today
- the creation of the first waterproof umbrella during the eleventh century BC.





Achievements from the Zhou and Qin dynasties include:

- the development of the first wooden kites for military purposes
- the development of iron production, which improved weaponry
- the unification of China under Qin Shi Huangdi after more than 200 years of warfare
- the improvement of trade due to the standardization of currency, weights and measures and the development of transportation routes.





Although the Qin dynasty ended in a period of civil war, the Ancient Chinese successfully developed industry and made important discoveries.

This success extended into the Han dynasty, which saw the invention of paper, the sundial, acupuncture and the first **seismograph** to record the location and size of earthquakes.

Many of the inventions developed by the Ancient Chinese are still in use in some form today.

