Ancient China: Inventions and Technology

The Ancient Chinese were famous for their inventions and technology. Many of their inventions had lasting impact on the entire world. Other inventions led to great feats of engineering like the Grand Canal and the Great Wall of China.

Firing a rocket using gunpowder

Here are some of the notable inventions and discoveries made by the engineers and scientists of Ancient China:

**Silk** - Silk was a soft and light material much desired by the wealthy throughout the world. It became such a valuable export that the trade route running from Europe to China became known as the Silk Road. The Chinese learned how to make silk from the cocoons of silkworms. They managed to keep the process for making silk a secret for hundreds of years.

**Paper** - Paper was invented by the Chinese as well as many interesting uses for paper like paper money and playing cards. The first paper was invented in the 2nd century BC and the manufacture later perfected around 105 AD. (Modern paper, not papyrus paper).

**Printing** - Wood block printing was invented in AD 868 and then moveable type around 200 years later. This was actually hundreds of years before the invention of the printing press by Gutenberg in Europe.

**The Compass** - The Chinese invented the magnetic compass to help determine the correct direction. They used this in city planning at first, but it became very important to map makers and for the navigation of ships.

**Gunpowder** - Gunpowder was invented in the 9th century by chemists trying to find the Elixir of Immortality. Not long after, engineers figured out how to use gunpowder for military uses such as bombs, guns, mines, and even rockets. They also invented fireworks and made great beautiful displays of fireworks for celebrations.

**Boat Rudder** - The rudder was invented as a way to steer large ships. This enabled the Chinese to build huge ships as early as 200 AD, well before they were ever built in Europe.

**Other** - Other inventions include the umbrella, porcelain, the wheelbarrow, iron casting, hot air balloons, seismographs to measure earthquakes, kites, matches, stirrups for riding horses, and acupuncture.

**Fun Facts**

- Gunpowder, paper, printing, and the compass are sometimes called the Four Great Inventions of Ancient China.
- Kites were first used as a way for the army to signal warnings.
- Umbrellas were invented for protection from the sun as well as the rain.
- Chinese doctors knew about certain herbs to help sick people. They also knew that eating good foods was
important to being healthy.

- Compases were often used to make sure that homes were built facing the correct direction so they would be in harmony with nature.
- The Grand Canal in China is the longest manmade canal or river in the world. It is over 1,100 miles long and stretches from Beijing to Hangzhou.
- They invented the abacus in the 2nd century BC. This was a calculator that used sliding beads to help compute math problems quickly.
- A clear coating called lacquer was made to protect and enhance certain works of art and furniture.
- Paper money was first developed and used in China during the Tang dynasty (7th century)

1) What are two of the great feats of civil engineering accomplished by the engineers of Ancient China?
A The Pyramids and the Sphinx
B Aqueducts and the Colosseum
C The Great Wall and the Grand Canal
D The Taj Mahal and the Panama Canal
E The Hagia Sophia and Angkor Wat

2) What important invention did the Ancient Chinese invent before Johannes Gutenberg did in Europe?
A Gunpowder
B Telescope
C Silk material
D Printing Press

3) What are considered the four great inventions of the Ancient Chinese civilization?
A Printing, silk, kites, and fireworks
B Gunpowder, paper, printing, and the compass
C Compass, paper, telescope, and the cotton gin
D Wheelbarrow, boat rudder, matches, and acupuncture
E Printing, kites, seismograph, and gunpowder

4) What did ancient Chinese chemists discover when trying to find the Elixir of Immortality?
A Silk
B A cure for the Black Plague
C How a compass works
D Gunpowder
E Paper

5) What important ingredient was used by the Ancient Chinese to make silk?
A The cocoons of silkworms
B The webs of silk spiders
C The leaves from the silk tree
D A special silk mineral found in mines throughout China
E The roots of the silk plant

6) What was the main use of the compass when it was first invented?
A As a child’s game for the young emperor
B To keep the army straight during battles
C For city planning
D  To help when lost in the woods  
E  For drawing straight lines

7) Which of the following was a use for gunpowder?
A  Fireworks  D   Rockets
B  Guns  E  All of the above
C  Bombs

8) What invention allowed the Ancient Chinese to build huge ships well before the rest of the world?
A  Silk Sails  C  Waterproof  E  Lacquer Iron casting
B  Boat rudder  D  Compass

9) What invention did the Chinese keep secret from the rest of the world for hundreds of years?
A  The process for making silk
B  The process for making gunpowder
C  The process for making paper
D  The process for iron casting
E  How the printing press worked

10) How were kites first used by the Ancient Chinese?
A  As a toy for young children
B  A way to celebrate at festivals
C  A way to move things to the top of the Great Wall
D  As signal warnings for the army
E  As a contest during the emperor’s games
Ancient China: Daily Life

**Life as a Farmer**
The majority of the people in Ancient China were peasant farmers. Although they were respected for the food they provided for the rest of the Chinese, they lived tough and difficult lives. The typical farmer lived in a small village of around 100 families. They worked small family farms. Although they had plows and sometimes used animals like dogs and oxen to do the work, most of the work was done by hand.

**Working for the Government**
Farmers had to work for the government for about one month each year. They served in the military or worked construction projects like building canals, palaces, and city walls. Farmers also had to pay a tax by giving the government a percentage of their crops.

**Food**
The type of food that people ate depended on where they were living. In the north the main crop was a grain called millet and in the south the main crop was rice. Eventually rice became the main staple for much of the country. Farmers also kept animals such as goats, pigs, and chickens. People that lived close to the rivers ate fish as well.

**Life in the City**
Life was much different for those living in the city. People in the cities worked a variety of jobs including merchants, craftsmen, government officials, and scholars. Many cities in Ancient China grew very large with some having populations totaling hundreds of thousands of people. The cities of China were surrounded with formidable walls made from packed dirt. Each night the city gates were locked shut and no one was allowed to enter or leave the city after dark.

**Family Life**
The Chinese family was ruled by the father of the house. His wife and children were required to obey him in all things. Women generally took care of the home and raised the children. Marriage partners were decided by the parents and the preferences of the children getting married often had little impact on the parent's choice. A big part of Chinese family life was the respect of their elders. Children of all ages, even grown ups, were required to respect their parents. This respect continued even after people were dead. The Chinese would often pray to their ancestors and offer sacrifices to them. Respect of the elders was also part of the religion Confucianism.

**School**
Only wealthy boys attended school in Ancient China. They learned how to write using calligraphy. They also learned about the teachings of Confucius and studied poetry. These were important skills for government officials and the nobles.

**Life of Women**
The life of women in Ancient China was especially difficult. They were considered much less valuable than men. Sometimes when a baby girl was born she was put outside to die if the family didn't want it. This was considered okay in their society. Women had no say in who they would marry.

**Interesting Facts about Daily Life in Ancient China**
- Merchants were considered the lowest class of workers. They were not allowed to wear silk or ride in carriages.
- Young girls had their feet painfully bound to prevent their feet from growing because small feet were considered attractive. This often caused their feet to become deformed and made it difficult to walk.
- Three generations (grandparents, parents, and children) usually all lived in the same house.
- Most homes in the city had a courtyard in the middle that was open to the sky.
- Tea became an important part of Chinese culture around the 2nd century. It was called "cha".

1) What job did most of the people in Ancient China have?
2) The life of a farmer in Ancient China was an easy and relaxed life filled with luxury.  
**TRUE OR FALSE**

3) What did the farmers have to do in order to serve the government?  
A Serve in the military  
B Pay taxes  
C Work on construction projects  
D All of the above  
E None of the above

4) What was the main food crop in southern China?  
A Squash  
B Wheat  
C Corn  
D Potatoes  
E Rice

5) What type of jobs did people have in the city?  
A Government officials  
B Craftsmen  
C Merchants  
D All of the above  
E None of the above

6) Who was considered the head of the house in Ancient China?  
A Grandmother  
B Mother  
C Father  
D Son  
E Daughter

7) What kids generally attended school?  
A All kids were well educated  
B Rich boys and girls  
C No one went to school  
D Rich girls  
E Rich boys

8) Women were held in high regard & were respected on the same level as men in Ancient China.  
**TRUE OR FALSE**

9) What class of workers were considered the lowest class?  
A Farmers  
B Craftsmen  
C Soldiers  
D Government officials  
E Merchants

10) Why did women have their feet bound?  
A Because it helped them to run fast  
B Because small feet were considered attractive  
C Because shoes were really expensive  
D Because it helped them to dance better  
E It was a punishment for disobeying their fathers
Ancient China: Religion and Philosophies

Three major religions or philosophies shaped many of the ideas and history of Ancient China. They are called the three ways and include Taoism, Confucianism, and Buddhism.

**Taoism**

Taoism was founded during the Zhou Dynasty in the 6th century by Lao-Tzu. Lao-Tzu wrote down his beliefs and philosophy in a book called the Tao Te Ching.

Taoism believes that people should be one with nature and that all living things have a universal force flowing through them. Taoists didn't believe in a lot of rules or government. In this way they were very different from the followers of Confucius.

The idea of Yin and Yang comes from Taoism. They believed that everything in nature has two balancing forces called Yin and Yang. These forces can be thought of as dark and light, cold and hot, male and female. These opposing forces are always equal and balanced.

**Confucianism**

Not long after Lao-Tzu founded Taoism, Confucius was born in 551 BC. Confucius was a philosopher and thinker. Confucius came up with ways that people should behave and live. He didn't write these down, but his followers did.

Confucius' teachings focus on treating others with respect, politeness, and fairness. He thought that honor and morality were important qualities. He also said that family was important and honoring one's relatives was required. Unlike Taoists, followers of Confucius believed in a strong organized government.

Confucius is famous today for his many sayings. Here are a few of them:

- Forget injuries, never forget kindnesses.
- It does not matter how slowly you go so long as you do not stop.
- Our greatest glory is not in never falling, but in getting up every time we do.
- When anger rises, think of the consequences.
- Everything has its beauty but not everyone sees it.

**Buddhism**

Buddhism was based on the teachings of Buddha. Buddha was born in Nepal, just south of China, in 563 BC. Buddhism spread throughout much of India and China. Buddhists believe in a "rebirth" of the self. They also believe that the cycle of rebirth is complete once a person lives a proper life. At this point the person's soul would enter nirvana.
1) What are the three major religions of Ancient China (Taoism, Buddhism, and Confucianism) sometimes called?
A  The triple threat  C  The three perfections  
B  The three ways  D  The three philosophies  

2) Which religion did Lao-Tzu found?
A  Taoism  C  Hinduism  
B  Buddhism  D  Confucianism  

3) Which of the following is NOT part of the Taoist beliefs?
A  People should be one with nature  
B  Lots of rules and a strong government is good  
C  Everything in nature has two forces: the Yin and the Yang  
D  All living things have a universal force flowing through them  
E  Opposing forces in nature are always balanced  

4) Where did the religion of Buddhism begin?
A  Mongolia  C  Japan  
B  India  D  Nepal  

5) Confucius taught that it is okay to be rude and disrespectful.
TRUE  or FALSE  

6) Which of the Ancient Chinese religions believed that eventually your spirit can enter a place called nirvana?
A  Buddhism  C  Animism  
B  Taoism  D  Confucianism  

7) In the religion of Buddhism, what is the concept that all actions have consequences?
A  Destiny  C  Nirvana  
B  Karma  D  Boomerang Theory  

8) Which of the following statements is part of the philosophy of Confucianism?
A  Everything in the world has a balance of forces called the Yin and Yang  
B  If you live your life right, then eventually you can enter nirvana  
C  Honoring your family and relatives is an important part of life  
D  Laws and rules are not important  
E  All of the above  

9) Which of the following men was not a founder of a major Ancient Chinese religion/philosophy?
A  Muhammad  C  Confucius  
B  Buddha  D  Lao-Tzu  

10) What is something that Confucius is still famous today for?
A  The book he wrote called The Art of War  
B  His many sayings that were written down by his followers  
C  His art including many paintings and drawings  
D  poetry describing the beauty of nature
Ancient China
The Silk Road

The Silk Road was a trade route that went from China to Eastern Europe. It went along the northern borders of China, India, and Persia and ended up in Eastern Europe near today's Turkey and the Mediterranean Sea.

Why was the Silk Road important?
The Silk Road was important because it helped to generate trade and commerce between a number of different kingdoms and empires. This helped for ideas, culture, inventions, and unique products to spread across much of the settled world.

Why is it called the Silk Road?
It was called the Silk Road because one of the major products traded was silk cloth from China. People throughout Asia and Europe prized Chinese silk for its softness and luxury. The Chinese sold silk for thousands of years and even the Romans called China the "land of silk".

What goods did the Chinese trade?
Besides silk, the Chinese also exported (sold) teas, salt, sugar, porcelain, and spices. Most of what was traded was expensive luxury goods. This was because it was a long trip and merchants didn't have a lot of room for goods. They imported, or bought, goods like cotton, ivory, wool, gold, and silver.

How did they travel?
Merchants and tradesmen traveled in large caravans. They would have many guards with them. Traveling in a big group like a caravan helped in defending from bandits. Camels were popular animals for transport because much of the road was through dry and harsh land.

History
Although there was some trade between China and the rest of the world for some time,
silk trade was significantly expanded and promoted by the Han Dynasty which ruled from 206 BC to 220 AD.
Later, under the rule of the Yuan Dynasty set up by Kublai Khan of the Mongols, trade from China along the Silk Road would reach its peak. During this time the Mongols controlled a significant portion of the trade route, enabling Chinese merchants to travel safely. Also, merchants were granted more social status during the Mongol rule.

**Fun facts about the Silk Road**
- It was over 4,000 miles long.
- Marco Polo traveled to China along the Silk Road.
- Not all that was traded along the Silk Road was good. It is thought that the bubonic plague, or Black Death, traveled to Europe from the Silk Road.
- Very few merchants traveled along the entire route. Goods were traded at many cities and trade posts along the way.
- There wasn't just one route, but many routes. Some were shorter, but more dangerous. Others took longer, but were safer.

Review Questions: Answer on a separate sheet of paper.

1) Which of the following statements best describes the Silk Road?
   A. A paved highway through central China used by the Ancient Chinese emperors
   B. A number of trade routes that went between China and Eastern Europe
   C. A short road covered with silk between the emperor’s house and his palace
   D. An established trade route between India and Europe
   E. The road between the silk factories and the capital of Ancient China where you could buy the silk

2) During what Ancient Chinese dynasty did the Silk Road reach its peak?
   A. Song Dynasty
   B. Ming Dynasty
   C. Han Dynasty
   D. Yuan Dynasty
   E. Shang Dynasty

3) About how long was the Silk Road?
   A. Almost 1 mile long
   B. 150 miles long
   C. 1000 miles long
   D. 2000 miles long
   E. Over 4000 miles long

4) True or False: Most merchants traveled the entire distance of the Silk Road, carrying their goods from one end to the other.
   TRUE or FALSE
5) What was the most popular way to travel along the route?
A. By train
B. In a caravan of camels
C. By foot
D. Alone on a horse
E. On specially made chariots from Egypt

6) What sorts of things were traded along the Silk Road?
A. Silk
B. Spices
C. Porcelain
D. Salt
E. All of the above

7) Where did the Silk Road get its name?
A. From the silk that the Romans sold to the East
B. From the smoothness
C. From the silk that China sold to the rest of the world
D. From the silk worms that infested much of the route
E. From the silk clothing that people wore along the route to keep cool

8) What deadly disease is thought to have traveled to Europe along the Silk Road?
A. The bubonic plague
B. Polio
C. Smallpox
D. Influenza
E. Malaria

9) What Ancient Chinese Dynasty significantly expanded the silk trade during their rule from 206 BC to 220 AD?
A. Tang Dynasty
B. Ming Dynasty
C. Qing Dynasty
D. Han Dynasty
E. Song Dynasty

10) What famous explorer is thought to have traveled along the Silk Road on his way to China?
A. Christopher Columbus
B. Marco Polo
C. Ferdinand Magellan
D. Vasco da Gama
E. Zheng He