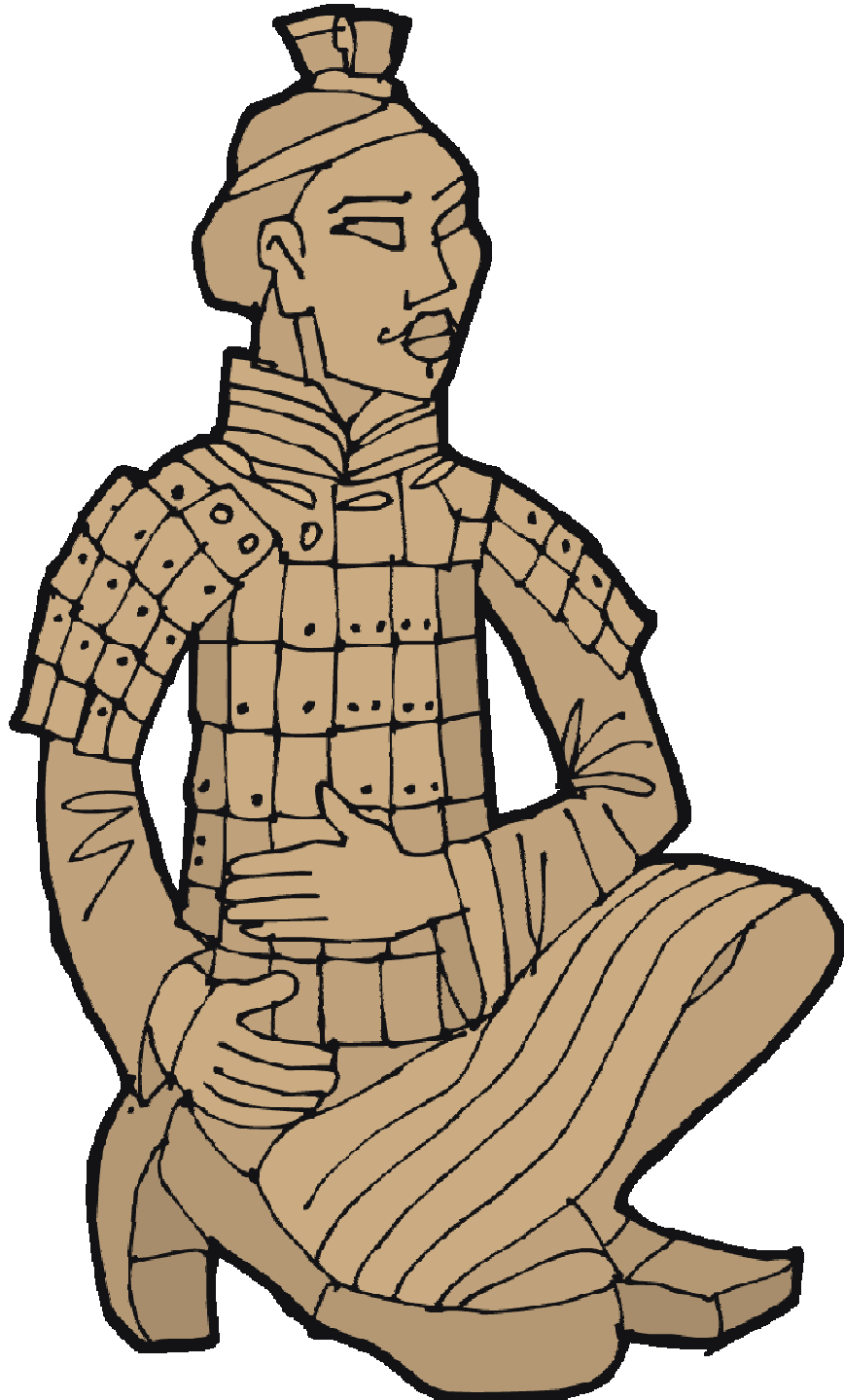


Ancient China



Name _____

Period _____

The Location & Climate of China

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Location

- China is located on the eastern portion of Asia, and is neighbor to India & the 'Stans' in the west, Russia & Mongolia to the north, Southeast Asia to the south, and Japan & the Pacific Ocean to the east.
- China is the fourth largest nation in the world (after Russia, Canada and the USA), and is the most populous with over 1.3 billion people.



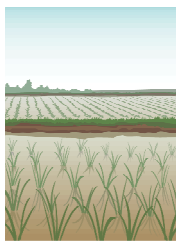
General Topography

- The topography of China is extremely varied. In the west, the Himalaya Mountains are the highest in the world, while the Turfan Depression is more than 500 feet below sea level!
- Besides mountains, China also has two major deserts to the north and northwest. These serve as barriers to trade and travel, and tend to separate groups of people.
- The eastern portion of China tends to be flat and arable – more suitable for living and farming.
- The hills, valleys, mountains and deserts all serve, to some degree, as barriers. Together, they serve to create a great deal of diversity within China. There are multiple ethnicities and languages spoken in China.



Climate and Extremes

- It might be said that China is a land of extremes. Certainly this is true of China's topography, but it is also true of the climate.
- The north and northwest of China are dominated by desert regions. Both the Gobi and Taklamakan deserts are cold deserts (given their proximity to Siberia). They can get hot during the day in the summer months (up to 120° F), but average temperatures in the winter hover around 0°. Neither desert receives much rainfall, but both sometimes get snow.
- In the southeast, winters are relatively mild and short, while summers are long, hot and steamy. Much of the area is tropical, and is affected by monsoons.
- In the south (near Vietnam), China actually has some rainforests. These areas are hot and humid year round, and receive abundant rainfall.
- The western part of China is very mountainous, and has a very cool climate. Summers are cool, and winters are brutally cold.
- In the northeast, China has a 4 season temperate climate. It is hot in the summer and very cold in the winter.



Demography

- China is the world's most populous nation, and it the world's fourth largest nation. In fact, China is just barely smaller than the United States. Of course, the density of population per square mile is much higher in China! They average 352 people per sq. mile compared to 80 in the United States.
- Most of China's enormous population lives in the eastern *third* of the country. This means that more than 1.3 BILLION people live in an area the size of the eastern United States (to the Mississippi River). (So actually the population density in this region is more like 1088 people per square mile!)
- Why does everyone live in the east? This is most likely due to the topography (which is flatter) and the climate.



The Location & Climate of China

1. Where is China located?

2. How large is the nation of China (in comparison to the rest of the world)?

3. What topographical highs and lows may be found in China?

4. Where are China's deserts located? How have they impacted China's history?

5. Describe the eastern portion of China.

6. How has the varied topography impacted China?

7. Describe the climate in the:

a. North (and Northwest) –

b. Southeast –

c. South –

d. West –

e. Northeast –

9. What is the population density of China compared to that of the U.S.?

10. Where does most of China's population live? Why there?

11. What does that make the population density more like?

The Topography of China

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Mountains

•China is a very mountainous nation, as nearly two-thirds of the land is covered with them. The highest ranges rise out of the west (in the Himalaya region), and lesser ranges gently slope downward to the coast in the southeast. (This tends to force people to live in the east.)



•The Tibetan plateau is located in the southwest, near the Himalayas. It is more than 13,000 feet above sea level! It is sometimes called 'The Rooftop of the World'. Many rivers in Asia flow out of the Himalayas and the Tibetan plateau.

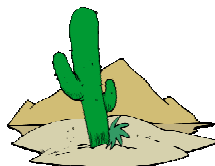
•There are a series of mountains that run through the northeast of China. They are half the height of the western mountains, but may appear as high because they rise from a sea-level base.

•Many mountains have a religious significance, as there are five sacred mountains for Taoism, and four for Buddhism.

Deserts

•There are two major deserts in China. The Gobi desert is located in the north, and extends into Mongolia as well. It is a rain shadow desert of the Himalayas. (The Himalayas block the passage of rain systems.)

•The Taklamakan desert is located in the northwest. The name 'Taklamakan' means "go in and you will not come out". It is an especially deadly desert. The famed Silk Roads ran around the Taklamakan desert to the north and to the south. It was too dangerous to travel through it.



Rivers

•Several important rivers wind their way through China. All originate in the highlands of the west and flow eastward to the coast.

•The first river (and the farthest north) is the **Yellow** (or *Huang-He*) river. It gets its name from the yellow silt, or *loess*, that is blown into it from the Loess Plateau. The river carries an enormous volume of silt – nearly 1.4 billion tons. This silt will often settle to the bottom and force the water level to rise, ultimately causing the river to flood.



•This river has flooded so often, and with such destructive force, that it is often called 'China's Sorrow'. Even today the Chinese government struggles to control the flooding of the Yellow River. However, since it was the site of China's ancient civilizations, it is also called 'China's Pride'.

•The second river which runs through central China is the third longest river in the world. It is the **Yangtze**, or *Chang Jiang* river. It originates on the Tibetan Plateau in the Himalayas, and flows nearly 4,000 miles eastward to the East China Sea.

•This river is a major transportation link for China, and many Dynasties settled around it, because the climate is milder, and more suitable for agriculture.

•The **Pearl** River runs through southern China. It also originates in Tibet, and flows to the South China Sea. The Pearl River delta is the site of tremendous growth and industrial development (Hong Kong & Macau, for example).

The Topography of China

1. How much of China's land is covered by mountains?

8. Why is the Yellow known both as China's sorrow and China's pride?

2. What are the highest ranges? Where are they located?

9. How long is the Yangtze River? Where does it originate? Where does it end?

3. Why is the Tibetan plateau called the 'rooftop of the world'? Where is it located?

10. Why is the Yangtze River important to China?

4. Why might the mountains in the northeast appear to be as high as those in the west?

11. Where does the Pearl River originate and end?

5. From what does the Yellow River get its name?

12. Why is the Pearl important?

6. What is the volume of silt that the Yellow River carries?

13. What is meant by the fact that the Gobi desert is a 'rain shadow' desert?

7. What is the impact of this silt?

14. What does 'Taklamakan' mean? Why did the silk roads run around it?

The Xia Dynasty, China's first?

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Did it really exist?

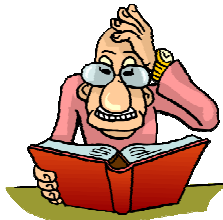
- The Xia Dynasty was rumored to have existed from about 2100 BCE to the 1600s BCE. For centuries, scholars have questioned its existence because its existence pre-dated use of a written script.

- Stories of the Xia were passed down from generation to generation, and were eventually written down in the late Zhou Era, but scholars and archaeologists could find no actual evidence of its existence, and thus believed it to be only legend.

- In 1959, archaeologists unearthed several large palaces south of the Yellow River near the city of Luoyang. These palaces suggested the existence of a highly organized state. Scientists used radiocarbon dating and found that the artifacts dated to 2100 BC. They believed they had found the legendary Xia Dynasty!

- Despite the architectural discoveries in 1959, the actual existence of the Xia Dynasty is still hotly debated and in doubt. No one debates the existence of an advanced culture in the area where the artifacts were discovered, rather they question whether what was found should be attributed to the Xia.

- These same historians argue that the Xia Dynasty was an invention of the Zhou Dynasty. Why would the Zhou fabricate a fictitious Dynasty? The theory is that the Zhou needed to justify their overthrow of the Shang Dynasty, so they invented the Xia and recorded the fact that the Shang had overthrown the Xia. This justified Zhou actions and established the Dynastic cycle.



Legendary Establishment of the Xia

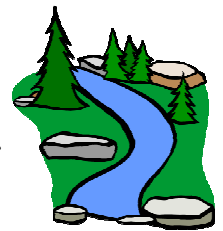
•In Chinese legend, there were three sovereigns who were believed to be demigods. These sovereigns helped the Chinese people develop fire, and build homes. They also invented farming. Descended from the three sovereigns were the five Emperors.

These Emperors furthered the development of Chinese culture by inventing the calendar, script, medicine, and it is said the Yellow Emperor's wife invented silk.



- The founder of the Xia Dynasty, **Yu the Great**, claimed to be a 5th generation descendant of one of the five Emperors. This confirmed the Xia's god-like origins.

- In the legendary establishment of the Xia, Yu's father, Gun was given the task of controlling the flooding of the Yellow River by Emperor Yao. Gun built barriers, but they did not work, and Gun was executed for his failure. Yu was then given the same job. He worked for 13 years, digging various canals which would carry the extra water out to the sea. This was successful and Yu was deemed a hero! Yu was then made general of the armies, and he won many important battles.



- In the legend, the Emperor abdicated (gave up) his throne in favor of Yu, whom he deemed worthy to rule. This began Xia rule (Yu was the leader of the Xia tribe). Before Yu died, he changed tradition. Leaders would usually choose the most able person to succeed them. Yu instead choose his son to do so, setting in motion a precedent of Dynastic rule. Thus Xia rule was indeed the first Dynasty in China in which power was passed from father to son for generations.

The Xia Dynasty, China's first?

1. Why was the existence of the Xia Dynasty in question? (Two reasons)
2. What did archaeologists find in 1959 which seemed to prove its existence?
3. Why is the existence of the Xia still in doubt despite the archeological discoveries?
4. Why do some historians argue that the Xia Dynasty is an invention of the Zhou?
5. What were the 3 sovereigns? How did they help the Chinese people?
6. How did the 5 Emperors help the Chinese people?
7. What confirmed the Xia's god-like origins?
8. What job was Gun given? What were the results?
9. How did Yu approach the same job? What were the results?
10. How did Yu come to power?
11. How did Yu establish the Xia *Dynasty*?

The Shang Dynasty

Establishment of the Shang Dynasty

- The Shang Dynasty was established when *Cheng Tang* overthrew *Jie* – the last ruler of the Xia in 1675 BCE. The Shang would rule for over 600 years – until they themselves were overthrown by the Zhou in 1046 BCE.
- The Shang Dynasty was located primarily in the Yellow River valley – not far from where the excavated palaces attributed to the Xia were found.
- The Shang were a warlike clan. They used horse drawn chariots and were able to conquer with their superior weapons. These weapons and chariots were very similar to those used by Indo-Europeans in their migrations at the time. There is good evidence that the Shang had contact with, and borrowed the technology of, the Indo-Europeans.



Accomplishments of the Shang

- The Shang gave China its first written script of rudimentary characters. (The characters would change and mature over time.) The characters did not stand for sounds, but ideas. Thus people throughout China could learn to *read* Chinese script even if they *spoke* different languages. (The same way that $2 + 2 = 4$ is comprehensible throughout the world, regardless of what language is *spoken*.) This helped to unify China.
- The Shang are also known for their very detailed jade carvings and bronze work. Thousands of artifacts have been found including bells, urns, axe heads, pots and jewelry. The quality and detail in the carvings and the bronze molds is incredible!



Shang Culture

- The Shang engaged in the worship of *Shangdi* – the supreme deity. Shangdi ruled over all other gods (which controlled nature), and over the spirits of the deceased. It was believed Shangdi determined the success (or failure) of battles, of harvests, the flooding of the Yellow River, and the health of the kingdom.
- Shangdi could not be accessed directly through public worship or sacrifice, only Shang kings could gain access through the souls of their dead ancestors. It was believed that the souls of Shang kings would join Shangdi in the afterlife. Thus Shang kings often led ceremonies and offered sacrifices (sometimes human) to Shangdi.
- The Chinese character for “king” represents the king’s role as intermediary between earth and heaven. Three horizontal lines are connected with a single vertical line indicating communication between heaven and earth flowed through the king.
- Shang kings also sought the advice of Shangdi on many problems using *oracle bones*. Questions were written on bones (often flat shoulder blades) or tortoise shells. The bones were then heated until they cracked. Answers came from interpretation of the cracks.



Social Structure

- The King ruled Shang society, and the warrior class made up governing officials. They also were the primary landowners. There seemed to be a small middle class of merchants and artisans, with peasant farmers below. At the bottom were slaves.

The Shang Dynasty

1. How was the Shang Dynasty established? How long did it last?
2. Where was the Shang Dynasty located?
3. What allowed the Shang to be successful in battle? Where did the Shang get the new technology?
4. Who was Shangdi? Over what did he rule or have power?
5. Why did Shang kings lead ceremonies or sacrifices to Shangdi?
6. How does the Chinese character for "king" illustrate a king's role?
7. What were *oracle bones*? How were they used?
8. What did Chinese characters stand for?
9. How did the creation of a Chinese script help to unify a diverse China?
10. What was remarkable about Shang bronze and jade work?
11. What type of jade and bronze artifacts have been found?
12. Describe the social structure of the Shang.

The Zhou Dynasty

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Establishment of the Zhou

•In 1046 BCE, *Zhou Wu* overthrew the Shang king who, according to accounts, was a corrupt tyrant. In order to justify the rebellion against the king, the new Zhou kings began to put forth a new ruling concept known as the *Mandate of Heaven*.

•Kings were seen as the intermediary between heaven and the people. As such, they had a responsibility to govern with competence and kindness. Since the final Shang king was a cruel tyrant, the Zhou argued that he had lost Heaven's support. Heaven now favored the Zhou – they had the Mandate of Heaven.

•This idea led to the *Dynastic Cycle* in Chinese history. The rise and fall of dynasties was attributed to the degree of order (or lack thereof) created by those dynasties.



The Feudal System

•The Zhou set up a *feudal* political, social and economic system.

•In this system, the Zhou kings divided the kingdom into numerous territories, and placed a member of the aristocracy in charge of running each territory. In theory, these rulers were to be loyal to the king.

•Economically, the aristocracy owned large tracts of land, and the peasants were required to work that land. Peasants also had land of their own, but they were required to work on the land of their lord.

•Below the peasants was a class of slaves (generally prisoners of war or criminals) who performed menial labor based tasks.

•This system focused on an agricultural economy and created a social structure with no mobility. Politically, it was a decentralized system. Although the Zhou kings were theoretically in charge, local lords often were very powerful.



Warring States

•The Zhou Dynasty was the longest lasting Dynasty in Chinese history, lasting for nearly 800 years. By the 6th century BCE, the Zhou kings were virtually powerless.

•Regional lords proclaimed themselves kings and fought with each other constantly. This time period is known as the warring states phase.

•At this same time, the *Hundred Schools of Thought* emerged and turned into the Golden Age of Chinese philosophy. Many new philosophies were developed, including *Legalism*, *Daoism* and *Confucianism*. Each of these philosophies addressed the role of the individual and the state, and the best way to maintain order in society.



Accomplishments

•Toward the end of the Zhou period, a real monetary (money based) economy had started to develop. The Zhou built numerous roads and canals to facilitate trade and improve agriculture. They also minted standard coins which further helped improve trade.

•The Zhou also developed blast furnaces in which they were able to make cast iron. (The rest of the world was still making wrought iron – iron heated and worked by a blacksmith.) Cast iron is made by melting the iron (heat between 2,000–2,500°F), then pouring it into a designed cast or mold.



The Zhou Dynasty

1. How did Zhou Wu justify the overthrow of the last Shang king?
2. What is the *Mandate of Heaven*?
3. How did Mandate of Heaven lead to the *dynastic cycle* in China?
4. How did the Zhou kings divide their kingdom?
5. What was the social structure like?
6. On what was the economy based?
7. Who owned the land? Who worked it?
8. Why was this an example of a *decentralized* political system?
9. How long did the Zhou Dynasty last?
10. What happened during the warring states phase?
11. When did the warring states phase begin?
12. What was the *Hundred Schools of Thought*? What philosophies developed during this time?
13. How did the Zhou attempt to promote trade?
14. What is cast iron? How is it made?

Han Fei

•Han Fei lived from 280-233 BCE, several centuries after Confucius and Lao Tzu. It was the end of the *warring states* period of the Zhou Dynasty, when things truly disintegrated into civil war and the rise of a new Dynasty. Han Fei's philosophy of Legalism expanded upon the legal ideas of earlier philosophers.

•Han Fei's philosophy was adopted by the Qin state (later the Qin Dynasty). His friend and classmate Li Si became the prime minister of the Qin state. In an ironic twist, Li Si ordered the execution of Han Fei. Like Socrates, he was forced to drink poison. In a further twist, Li Si was also executed by the Qin state! Those who live by the law...



Philosophy or Religion?

•Legalism, even more so than Confucianism or Taoism, belongs in the category of philosophy and *not* religion.

•While it did have a profound effect on society, the effects were imposed by the government, and were not due to the fact that society embraced the philosophy.

•Additionally, Legalism does not address questions about the nature or purpose of life. Nor does it speculate on the possibility of an afterlife, or the position of man in the universe.

•Legalism stands out as a governing philosophy which promotes strong central government, and suggests that societal order is achieved through a strong and harsh legal system. Order is maintained through fear of the harsh punishments.



The Theory of Legalism

•The underlying premise behind legalism is the belief that man is essentially born evil, selfish, and concerned only about his own interests. As such, man is not particularly interested in law or order – unless it benefits him in some way.

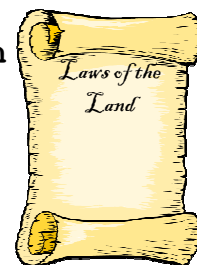
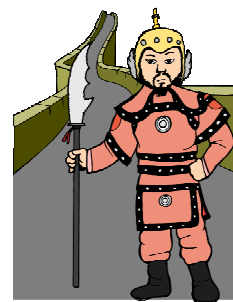
•The only way to counter the depraved nature of men is to establish laws that reward good behaviors that aid others and the state, and harshly punish bad behaviors that harm others and the state.

•In opposition to Confucianism, which suggested that power was wielded by the Emperor for the benefit of the people, Legalism suggested that the benefit of the people lay in ruthless control of individual selfishness.

•In fact, since the Emperor himself was human and therefore selfish, it is essential that the laws be supreme – even over the Emperor. Ideally, there might be no need for an individual ruler if the laws were strong enough and enforced appropriately.

•Thus it was the LAWS that functioned as most important in the state (as well as the enforcement of the laws), not the Emperor himself. In a legalist system, the government would continue to function effectively, even under a weak emperor.

•Also, in a Legalist state, the state (or government) is more important than any individual person. Thus, people had no legitimate civil rights, and personal freedoms existed only if they did not conflict with the state or state goals.



1. When did Han Fei live?

2. What was going on politically during Han Fei's lifetime?

3. How did Han Fei's philosophy of legalism come back to haunt him?

4. What is the underlying belief of legalism?

5. What is the only way to create an orderly society (according to a legalist)?

6. How did legalism differ from Confucianism in terms of what most benefits the people?

7. Which is more important, Law or Emperor? Why?

8. How could the legalist government function even in the face of a weak Emperor?

9. What was the legalist view of personal rights and freedoms?

10. Why is legalism considered a philosophy and *not* a religion?

11. The effect that legalism had on society... what was that due to?

12. Do YOU think legalism is an effective way to govern? Why?

The Qin Dynasty

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The Qin State & Dynasty

- The Qin state was one of many independent and war-like states that existed at the end of the Zhou Dynasty.
- The leader of the Qin adopted Legalism as his state philosophy, and he experienced success in unifying his state and in conquering other states.
- In 221 BCE, the ruler of the Qin State established the *Qin Dynasty* in China and proclaimed himself *Shi Huangdi*, or First Emperor.



Qin Policies

- Shi Huangdi and his prime minister Li Si worked to establish a powerful central government.
- They implemented a code of harsh and repressive laws, and subordinated the individual to the state.
- In order to prevent any opposition, Shi Huangdi ordered all Confucian books burned, and all Confucian scholars put to death. Hundreds of scholars were buried alive.



Economic and Social Policies

- Shi Huangdi wanted to break the power of the gentry – the large landowners in China. He seized their land, took some for himself, and redistributed a good deal of it to landless peasants.
- He did this not only to diminish the power of the gentry, but also because often the gentry employed landless peasants to work their land. They then lied about the number of peasants they employed in order to avoid taxation.
- As new landowners and not just laborers, peasants owed taxes to the state, and they also owed a month of labor (per year) to the state. (This may have included army duty.)
- The Qin government also began a program of standardization in China. During the warring states period, each state coined its own money, set its own standards for weights, etc. Shi Huangdi ordered everything to be standardized throughout the Empire – coins, weights, measures, writing, even axle length (so that ruts in the road would be uniform!).



Legacy of the Qin

- Since there were millions of peasants who now owned land and owed labor to the state, the Qin set about aggressive building projects.
- They built thousands of miles of roads throughout the Empire – essential for the easy movement of troops to defend the nation. They also constructed miles of canals to connect the river systems of northern and southern China. Again, this was to facilitate troop movements, but they also were used in trade.
- The largest building project of the Qin was the construction of the Great Wall. There were lots of existing frontier walls, but the Qin began an aggressive project to connect them all in an effort to protect China from the nomads to the north. Over a period of almost 10 years, the Qin linked over 3,000 miles of wall. This task cost the lives of hundreds of thousands of peasants, and it has been called 'the longest cemetery in the world'.
- The Qin Dynasty was so oppressive that it is probably no surprise it lasted a mere 15 years. It was overthrown in 206 BCE.



Global History
The Qin Dynasty

Name _____

1. What effects did the Qin ruler experience as a result of his legalist philosophy?

7. What kinds of things did Shi Huangdi order to be standardized?

2. Who established the Qin Dynasty?

8. Why do you think he ordered things standardized?

3. How did Shi Huangdi and Li Si work to establish a powerful central government?

9. Who did the Qin employ to labor on building projects?

4. What did Shi Huangdi do to prevent opposition to his policies?

10. How did the Qin improve transportation in China?

5. How did Shi Huangdi break the power of the gentry?

11. Why did the Qin improve the roads and canals?

6. How did Shi Huangdi's land redistribution plan actually result in an increase in taxes to the treasury?

12. What was the largest building project the Qin engaged in?

13. Why did they build the Great Wall?

14. Why is the Great Wall sometimes referred to as the longest cemetery in the world?

The Han Dynasty

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Overview

•The Han Dynasty arose with a successful rebellion against the Qin led by Liu Bang. The Han lasted from 206 BCE to 220 CE, and was China's classical era civilization. This was an era of innovation, cultural advancement and prosperity.

Establishment of Dynasty

- Following the repressive nature of Qin Legalism, the Han sought to separate and differentiate their rule.
- The Han emperors retained the centralized authority of the state and the administrative structure instituted by the Qin – they did, after all, want a powerful centralized state. However, they abandoned Legalism and adopted Confucianism as the official state philosophy.
- Because of the Confucian emphasis on an educated bureaucracy, the Han implemented a 'meritocracy'. Government officials were recommended for positions based on their *merit*, as opposed to their family connections.
- Importantly, around 165 BCE, the Han implemented a civil service exam for these potential candidates in order to identify the most intellectually talented. This exam was simplistic compared to later versions, but it was based on Confucian philosophy found in *The Analects*.
- Although all candidates were from the upper classes, this method of selecting the most qualified individuals for government jobs set an important precedent which would be continued in future Dynasties.



Social Structure

- The social structure reflected Confucianism.
- At the top (besides the Emperor & his family) were the scholar-gentry. The scholars were granted large land estates. These estates often employed landless peasants to work the land.
- Next were small landowners or peasants. Although this is unusual, Confucius and the Han considered the farmer an important contributor to society. The farmer harvested food to feed people, and paid land taxes which sustained the empire.
- Next were the artisans, who created some products that were useful for society.
- At the bottom were the merchants, who were considered the dregs of society, although they were often wealthy. They traded the products created by others, and thus were likened to leaches.



Decline

- Numerous factors contributed to the decline and overthrow of the Han.
- The government had grown corrupt, and the emperors focused more on the pleasures of court than on the ruling of China. This led to the rise of local warlords, challenging for power.
- The biggest issue was defense of the northern borders. The Xiongnu constantly threatened the Chinese, and the defense sapped the treasury. The Han raised taxes to pay for the defense and for mercenaries – many people were paying to get out of army conscription. This led to a low quality army.
- The crushing taxes, corruption and invasions led to rebellions that toppled the Han.



Global History
The Han Dynasty

Name _____

1. How and when was the Han Dynasty established?

2. Who led the rebellion?

3. What aspects of "Qin" rule did the Han leave in place?

4. What did they abandon? (And what did they adopt instead?)

5. What is a *meritocracy*?

6. How did the Han ensure that only the most intelligent people were chosen to be government officials?

7. What was the test based on?

8. List the levels of Han society...

a.

b.

c.

d.

9. Why were peasants given a higher position in Han society?

10. Why were merchants given the lowest position?

11. What internal political problems did the Han begin to face?

12. What external threat did they face?

13. What economic problems did they face?

14. Why did the quality of the army decline?

Han Economy & Technology

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Economy

•The economic activity that most people engaged in was still agriculture. The vast majority of the population were small farmers, and new innovations like the iron plow, horse harness, or the wheelbarrow were helpful in increasing yields.

•The economic activity that enriched the Han Dynasty was trade along the Silk Roads. Extensive trade ran from China through to the Middle East, and ultimately to Rome. As a result of the lucrative (profitable) nature of trade, the Han government sought to protect the western trade routes that ran around the Taklamakan desert by extending the Great Wall 2700 miles.



•Because Chinese silk was so highly desired by other empires, the Han government tightly regulated the silk industry and went to great lengths to protect the secret of silk making. Silk was literally worth its weight in gold! The penalty was *death* to any who told the secret of silk making, or who smuggled silk worms out of the country!

•The Han government also controlled the most important industries inside of China. These industries included the mining of salt, the production of iron, and the brewing of alcohol. Iron was used to make all tools, especially farming tools, salt was an important preservative, and alcohol was, alcohol!

•The government also minted coins in order to facilitate trade and the growth of the economy. This was another example of how the Han exerted powerful control over the economy.



Technology

•The Han era was one of significant technological innovation.

•Many of the inventions were geared to facilitate agricultural production. One of the important inventions was the development of the *iron plow*. With this, the Chinese were able to cultivate difficult land, and do so more rapidly.

•Two other important inventions were the *wheelbarrow*, and the *horse harness*. The wheelbarrow allowed peasants to carry heavy loads without the use of animals. The horse harness was more comfortable for horses, and allowed them to pull heavier loads.



•One of the most important inventions was the use of *hydraulic power*. The water wheel was used to turn gears and pound grain. The wheel was also used to power the bellows which stoked the fires that heated the iron. It also blew oxygen through the iron to create purer iron (oxygen blew the impurities off to the side). This was used in all manner of tools (including the plow).

•An important military invention was the creation of the repeating crossbow with automatic reload.

•But possibly the most important invention, historically speaking, was the creation of paper. Wood fibers, hemp waste and old rags were soaked in a water bath until a pulp was created. Screens were dragged through the pulp until fibers attached to them. The screens were then pressed to remove excess water, and dried. The resulting dried pulp was used as a writing surface. This paper was cheap and easy to make, and helped to raise literacy rates in China.



The Han Economy & Technology

1. What did most people in the Han Dynasty do for a living?
2. What new innovations helped make farming easier?
3. What enriched the Han Dynasty?
4. How did the Han Dynasty attempt to protect traders along the Silk Roads?
5. How much was silk worth?
6. How did the Chinese government attempt to protect their silk monopoly?
7. What three industries did the Han government control?
8. Why did the government control these three industries?
9. How else did the Han attempt to grow the economy?
10. Describe the impact of these farming innovations.
 - a. iron plow –
 - b. wheelbarrow –
 - c. horse harness –
11. What is *hydraulic power*?
12. What was it used for?
13. What was an important military invention?
14. What was the most important innovation?
15. How was it made?