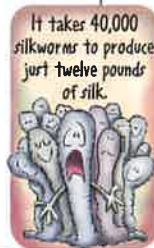




▲ PRINTING WAS invented during the Tang dynasty. An artisan carved away the surface of a wooden block to create a character (a symbol for a word) of the Chinese language and then applied ink to this surface. The printer stamped the inked surface on paper. Later, the Chinese went a step further, learning how to make movable type in a wooden frame.

▼ THE CHINESE invented the wheelbarrow almost two thousand years ago. They called their invention the "wooden ox" or "gliding horse." A worker could push it or pull it. Almost 1,300 years passed before Europeans learned of this labor-saving device and copied it.



A SILKY SECRET

For hundreds of years, the Chinese kept the secrets of silk-making to themselves. Eventually, Europeans discovered how it was done and smuggled this knowledge out of the country.

1 Silk thread comes from the cocoon of a caterpillar which feeds on mulberry leaves.



2 Baby silkworms feed on mulberry leaves until they've stored enough fat to build cocoons. They make their silky cocoons from a jellylike substance in their silk glands.



3 After about a week, workers steam or bake the cocoons to kill the worms inside. The cocoons are then rinsed in hot water to loosen the tightly woven strands of silk thread that make up the cocoon. The strands are unwound onto a spool. Each cocoon is made



up of a thread about half a mile long. About six of these twisted together make one thread strong enough for spinning.

Papermaking

In 105 A.D. a Chinese civil servant named Cai Lun discovered how to make paper, although archaeological discoveries show that craftspeople may have

discovered it two centuries earlier. Along with the printing press, this invention made possible rapid changes in communications. Here's how paper was first made.

1 Silk rags, mulberry bark, bamboo, and hemp were mixed together in a large vat and soaked in water to soften them.



2 The mixture was boiled, mashed, and pounded to form pulp, a soft, wet mass of material.

3 A fine screen was dipped into the pulp to gather up a thin film of fibers. The screen was pressed to remove the water.



4 The screen with the sheet of paper on it was left to dry on a heated wall. When dry, the paper was peeled off the screen.

Which Chinese invention has had the greatest impact on your life?

THINK PIECE!

By Land and Sea

When the Chinese turned their skills to building, trade, and travel, they showed the same creative spirit that made them such remarkable inventors.

The most amazing feat of Chinese engineering is the Great Wall, but a close second is the Grand Canal. The canal, a massive building project, helped make trade and travel between parts of China easier.

One of the ancient world's most famous trade routes, the four-thousand-mile-long Silk Road served as a thoroughfare for merchants traveling between China and other parts of Asia and Europe carrying silk, spices, and other goods.

In the 1400s, the Chinese set out to show the world their skills as sailors. The Ming emperor Yong Lo sent a huge fleet of ships on seven sea voyages to show foreign rulers that China was a great naval power.

The major constructions helped unify the country, while the trade links let others find out all about it.



◀ At one thousand miles long, the Grand Canal is the world's longest canal. Built by Emperor Yang Di (569–618) during the Sui dynasty to help transport sol-

diers and grain around the empire, it linked the Yangzi and Yellow rivers and stretched from Hangzhou in the south to Beijing in the north. It was built by connecting

new and existing canals. Great engineering improvements were made on the waterway during the Ming dynasty. The canal worked as the emperors

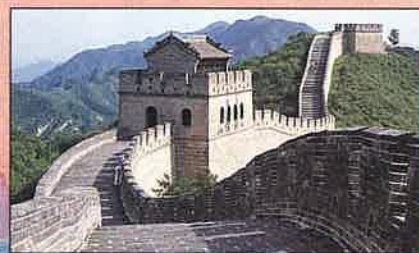
had hoped. It made it easier to collect taxes, distribute grain, and transport soldiers. During famines, it became a lifeline, bringing food to starving people.





◀ **DURING THE MING** dynasty, Admiral Zheng He led seven voyages into what the Chinese called the "Western Ocean." Between 1405 and 1431, Zheng He's fleet visited Southeast Asia, India, Arabia, and Africa. Their goal was not conquest or trade. They wanted to show the world that China was a great

naval power. On his first voyage, the admiral's fleet consisted of 63 ships and 28,000 men. After Emperor Yong Lo's death, the voyages abruptly stopped. New Ming rulers forbade Chinese ships to sail outside of coastal waters and greatly reduced Chinese contacts with foreigners.



▲ **IN SOME PLACES** the Great Wall is as high as a three-story building and wide enough for several horses to travel side by side. Soldiers

stood guard at watchtowers all along the wall, sending messages to each other by runners, mirrors, and smoke signals.

► **ITALIAN MERCHANT** Marco Polo is one of the Silk Road's best-known travelers. In 1271, he made the trip from Venice to China, where he won the favor of the rulers of the day. He served as

a valued official in China for nearly 20 years. When he returned to Italy, he wrote *Description of the World*, which gave most Europeans their first glimpse of China's advanced society.



► **THE SILK ROAD** was not one but a series of trade routes that connected China with India, the Middle East, Persia, and the Roman Empire. Because of this trade, the Romans knew China as Serica, "Land of Silk." Chinese merchants made great fortunes selling

silks, spices, tea, and Chinese crafts. In exchange, the Chinese received from other traders gold, silver, glass, wool, pearls, and furs. To travel safely on the Silk Road, merchants formed caravans. Traveling together lowered their risk of being attacked by robbers. Few



merchants went the entire route themselves. Instead, goods were sold from

one trader to another until at last the precious cargo reached its destination.



▲ **THE DEATH OF** hundreds of thousands of workers while building the Great Wall earned it the nickname "Longest Cemetery on Earth." Workers ate little and worked long hours carving granite blocks, digging trenches, and pushing backbreaking loads up steep hillsides. Most died of overwork and exhaustion.

Finding the Past in the Present

Although Chinese society has faced great changes since the last emperor lost his throne in 1912, evidence of ancient China is everywhere in the modern world. Chinese cooking, medicine, and exercise contain elements thousands of years old. The paintings and pottery of the artists of the past inspire the young artists of today. Two of the world's great belief systems—Confucianism and Daoism—began in China. The ideas of their founders have had an impact on everything—from politics to cooking to martial arts.



Chinese Medicine

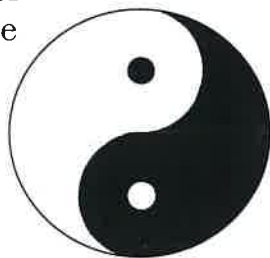
Through thousands of years of experimenting dating back to the Han dynasty, the Chinese developed many ways of caring for



▲ **DO YOU WANT** clearer skin? Perhaps an herbalist can help. One treatment recommends swallowing a mixture that contains ground-up pearl.

An herbalist offers treatments combining herbs, leaves, roots, and bark plus dried snake, lizard, or animal horn.

Chinese Teachings



▲ **HAVE YOU EVER** seen someone wearing one of these? This yin-yang symbol is often linked with Daoism. The ancient Chinese

believed that the forces in nature balance each other. The darker half of this symbol is yin, which is earthly, female, dark, and wet. The lighter half is yang, thought to be heavenly, male, light, and dry. Happiness requires an equal balance between yin and yang.

◀ **CONFUCIUS IS** China's best-known thinker. Born in 551 B.C., he lived during a time of constant warfare in China. His ideas show his desire to restore peace. Confucius taught that the relationships between ruler and ruled, father and son, older brother and younger brother,

and husband and wife were important in keeping order in society. In each relationship, the "superior" person's duty is to look after the "inferior" person, whose job it is to follow and obey. For example, sons and daughters respect and obey their parents, and subjects obey their ruler.

the sick and improving health. Herbal medicine, massage, and acupuncture are all forms of traditional Chinese medicine. Healers try not only to treat illness but also to bring the body back to its natural balance.



◀ **ACUPUNCTURE IS** an old form of Chinese medicine. Chinese doctors believed energy flowed along 12 lines in the body. Doctors eased pain and treated certain illnesses by sticking very fine needles into the skin at special points along these lines. This 600-year-old acupuncture chart shows the arm's main needle points.



◀ **DAOISM IS THE** other major belief system that began in China. *Dao* means "the way" in Chinese. The founder of Daoism was Lao Zi, born in 604 B.C. Lao Zi believed there was a balance in nature that should not be disturbed. He wanted people to live simple lives in harmony with nature.

Chinese Art

► **ALTHOUGH THE ART** of cloisonné was probably invented in the Middle East, Chinese artists perfected the process of decorating the surfaces of metal containers with enamel paint. The artist makes designs on the metal with tiny wires called cloisons. Brightly colored enamel paints cover the space between the wires. The metal object is heated to bind the enamel to it.



The Changing Chinese Language

THE CHINESE LANGUAGE is made up of more than 40,000 signs, or characters. Some stand for sounds. Others are pictures or symbols of words. The strokes that make up each character have to be written in the proper order. The Chinese made writing into a fine art form called calligraphy. In

China, the work of a master calligrapher is considered equal or superior

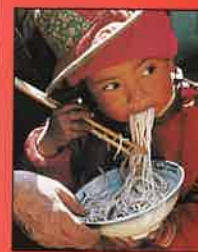
to painting. Calligraphers use special brushes and inks.



► **THE CHINESE** written language began about 6,000 years ago. At first, many Chinese characters were picture symbols for whole words. Notice how the earliest character for mountain (top

► **CHANGES IN THE CHINESE CHARACTER "MOUNTAIN"**

right) looked like a mountain. Like many others, this character changed until it reached its present shape. Can you find any reminders of the original character in the one used today (see bottom right)?



Chopsticks

The Chinese may have eaten with chopsticks 3,000 years ago. Chopstick use spread to other parts of East Asia. Today chopsticks come in wood, bamboo, plastic, and even silver and ivory.



Rest the bottom chopstick between thumb and the third finger. This chopstick never moves.



Hold the top chopstick like a pencil. This chopstick moves up and down. Keep the tips of the chopsticks even with each other.



Now move the top chopstick up and down while holding the bottom one still.

Chopstick Manners

Never point with your chopsticks. Never leave your chopsticks standing up in your rice bowl. In this position, the chopsticks look like the incense sticks set before a grave.



Martial Arts

◀ **MARTIAL ARTS ARE** fighting skills that developed in Asia hundreds of years ago. Today people all over the world practice these skills for exercise, self-defense, and fun. The martial arts that began in China are called wushu. Americans know them as kung fu, words meaning "good effort." Kung fu is at least 2,000 years old and may have started in northern China. Today the Chinese practice hundreds of styles of kung fu.



▼ **MANY STYLES OF** kung fu have movements recalling such animals as the dragon, leopard, and tiger. The kung fu style known as wing chun was invented by a nun called Yim Wing Chun. Its movements are based on those of the crane and snake.



The Art of Chinese Cooking

▲ **THE WOK IS THE** Chinese cook's main cooking pot, used especially for stir-frying. Its rounded bottom allows heat to spread evenly so food cooks quickly. Steaming, boiling, deep frying, or stir-frying are all ways to cook Chinese food. The Chinese developed stir-frying to save time and costly fuel. Food is cut into small, bite-size pieces so that it cooks faster.

▼ **EMPERORS PICKED** their chefs carefully. To be certain the food was not poisoned, trusted servants put a silver rod into each dish before the emperor ate it. If the rod turned black, it had touched arsenic, a deadly poison.

CHECK IT OUT!

In the centuries before refrigeration, the Chinese found creative ways to preserve foods. The Chinese make so-called 1,000-year-old eggs. Do you know how they are made?

(answer on back cover)



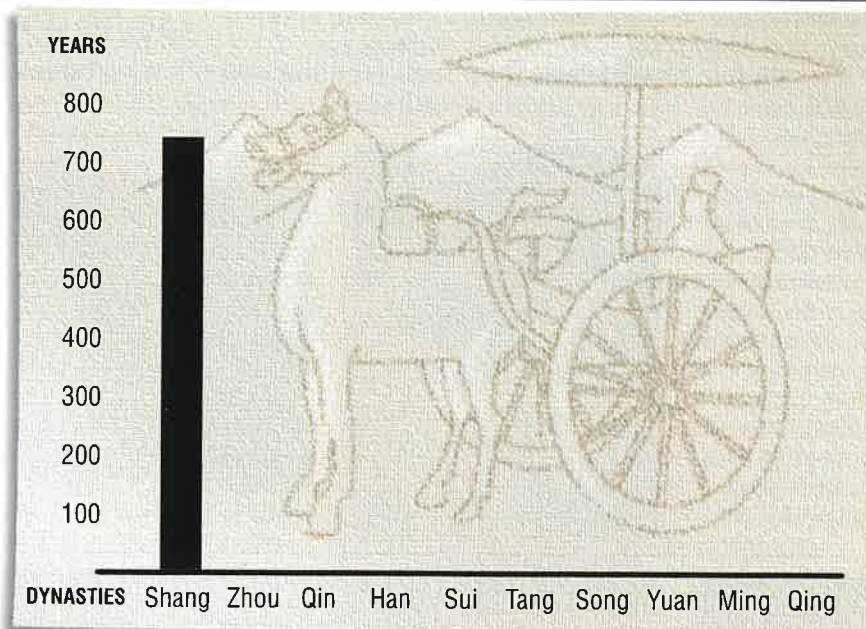
◀ **A CHINESE ARTIST** made this piece by painting a wooden box with up to 35 thin coats of lacquer, a sticky liquid that comes from the

sap of a tree. Artists covered wood or bamboo kitchen tools with lacquer layers so they could withstand high heat. Lacquerware was

often colored with black, red, brown, or gold lacquer. The babies of the rich ate from lacquer spoons and bowls.

DYNASTY GRAPH

How long did China's major dynasties last? Here's how to make a bar graph to compare the length of dynasties. The dates of major dynasties are given on pages 2-3. Subtract the lower number from the higher to find the length of the dynasty (except for the Han dynasty, which spans B.C. and A.D., add the two numbers). Then record the information on the bar graph. Above each dynasty's name, draw a thick line from the bottom of the graph to the nearest number of years of the dynasty's rule. The first one is done for you.



Chinese Feast

Some Chinese cooking is very elaborate, and some is quite simple. Here are two easy recipes you can prepare with the help of an adult. Each recipe serves about four people.

FRIED RICE

- 3 cups cooked rice
(This is good for using up leftovers)
 - 2 tablespoons vegetable oil
 - 2 tablespoons chopped onion
 - 2 eggs, well beaten
 - 1/2 cup cooked ham cut into small cubes (or small shrimp or cubed cooked chicken)
 - 1 tablespoon soy sauce
- ① Heat a frying pan over high heat and add the oil.
 - ② Cook the onions for a few seconds.
 - ③ Add eggs and cook another few seconds.
 - ④ Add rice, ham, and soy sauce and stir for about 3 minutes.

EGG DROP SOUP

- 2 cans chicken broth with the fat taken off the top
 - 1 can water
 - 2 tablespoons cornstarch mixed with 4 tablespoons water
 - 2 eggs slightly beaten
 - 1 tablespoon chopped scallions
- ① Put broth and water in a covered pot and bring to a boil.
 - ② Add the cornstarch mixture and turn off the heat.
 - ③ Pour in the beaten eggs while you stir gently.
 - ④ Add the scallions and serve.

THE POETRY OF NAMES

The Chinese have some poetic names for some common terms. Match the items in column two with their poetic nicknames in column one.

- | | |
|----------------------------------|-----------------|
| ___ 1. China's curse | A. compass |
| ___ 2. gliding horse | B. Great Wall |
| ___ 3. south-pointing fish | C. Yellow River |
| ___ 4. longest cemetery on earth | D. wheelbarrow |



WORDS OF WISDOM

Fill in the blank spaces with the correct words.

1. Home of Ming and Qing rulers

_____ 6 _____ 17 36 _____ 4 5

2. Source of silk threads

_____ 9 _____ 18 37 33

3. Italian visitor to ancient China

_____ 26 _____ 11 _____ 22 _____ 32

4. Su Song's timely invention

_____ 1 _____ 21 20 _____ 24 _____

5. Ruling family

_____ 8 _____ 10 _____ 45 41 23

6. Four-thousand-mile-long trade route

_____ 27 _____ 44 34 _____ 31

7. First emperor of China

_____ 2 _____ 7 _____ 15 _____

8. Longest human-made construction in the world

_____ 35 _____ 13 _____ 29

9. Chinese eating utensils

_____ 42 39 _____ 12 _____

10. Healing art using needles

_____ 14 _____ 19 _____ 16 _____ 28

11. Chinese thinker

_____ 40 _____ 30 25 _____

12. Chinese "letter"

_____ 3 _____ 38 43 _____

Numbers are underneath some of the letters. Put each numbered letter in the blank with the same number. You will have a quote by the Chinese thinker Confucius.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45



MORE READINGS ON ANCIENT CHINA

CHILDREN'S BOOKS

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ANSWERS:

PAGE 17: Do you know how thousand-year-old eggs are made? *The Chinese make these so-called 1,000-year-old eggs by covering a duck or chicken egg with a mixture of powdered lime, ashes, and salt. It is then buried in the ground for about 100 days. When the egg is dug up, the shell has turned black and looks like it has been buried for centuries. The yolk is green and cheese-like. The uncooked egg is popular as banquet food or a breakfast treat.*

PAGE 18: DYNASTY GRAPH:



THE POETRY OF NAMES: 1. C; 2. D; 3. A; 4. B.

PAGE 19: WORDS OF WISDOM: 1. Forbidden City;

2. cocoon; 3. Marco Polo; 4. water clock; 5. dynasty; 6. Silk Road; 7. Shi Huangdi; 8. Great Wall; 9. chopsticks; 10. acupuncture; 11. Confucius; 12. character. Quotation by Confucius: What you do not want done to yourself, do not do to others.

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