



CHINESE DISCOVERIES AND INVENTIONS

LEARNING OBJECTIVES

- Students will be able to identify the Chinese advances in paper, printing, and the compass.
- **Industry** refers to the manufacturing of goods.



THINK / PAIR / SHARE: WHAT DO YOU
SUPPOSE THE ITEMS ON THIS PAGE ARE
MADE OF? HOW DO YOU THINK THEY
WERE MADE?



The process for making these items
came from China.

PAPER

- The Chinese developed the art of paper making by the second century A.D.
- They probably first used the bark of mulberry trees, and later rags and bamboo.



From China, paper traveled to Japan and Korea. Making paper was considered a fine art, and the secrets to making it were highly guarded.

When the Chinese lost a battle to the Arabic army in 751 AD, skilled papermakers began making paper in Samarkan.

Papermaking spread across the Arabic Empire to places like Syria, Egypt, and

Paper and papermaking arrived in Europe with the Muslim conquest of Spain in the 1100s, but Christian people in Europe still did not use paper. It was not until the Christians took back control of Spain in the 1200s that paper became widely used in all parts of Europe.

Think / Pair / Share: What title would you use to name this slide? Hint: What is the overall idea?

WHITEBOARDS!

13

Which of these describes how paper was introduced into medieval Europe?

- A** The Chinese introduced it to the Arabs, who passed it on to Europeans.
- B** The Swedes bought it from Russians, who learned about it from Indians.
- C** The Turks learned to make it and sold the process to Europeans.
- D** The Arabs learned about paper making from the Japanese and taught Europeans.

WHITEBOARDS!

- 13** Which of these describes how paper was introduced into medieval Europe?
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The correct answer is A.

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Paper

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③ illustration

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2 interesting facts:

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How does this invention affect us today? Give examples.

Printing



- The Chinese also made several key advances in printing.
- **Woodblock printing:** a process of carving into a wooden block, covering the carving with ink, and pressing onto paper. This allowed the same thing to be printed exactly over and over again.

- The Chinese used woodblock printing to make playing cards as early as the 9th Century, and the Song dynasty began to print paper money in 1107.



- ❑ **Movable type:** Developed in the Song dynasty. Instead of one woodblock, movable type was made of a separate block of clay for each character surrounded by a frame. When the printing job was done, the type could be removed from the frame and used again.
- ❑ This lowered the cost of printing and made the spread of information and education easier.
- ❑ Until computers, all newspapers, books and magazines were printed using movable type.

WHITEBOARDS!

- Paper, printing, and movable type all contributed to:
 - A. Restrictions on trade.
 - B. A new ruling dynasty.
 - C. The spread of learning.
 - D. The rise of social classes.

WHITEBOARDS!

- Paper, printing, and movable type all contributed to:
 - C. The spread of learning.

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Printing

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picture

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2 interesting facts about woodblock printing

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How does this still affect us today?

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**Movable
Type**

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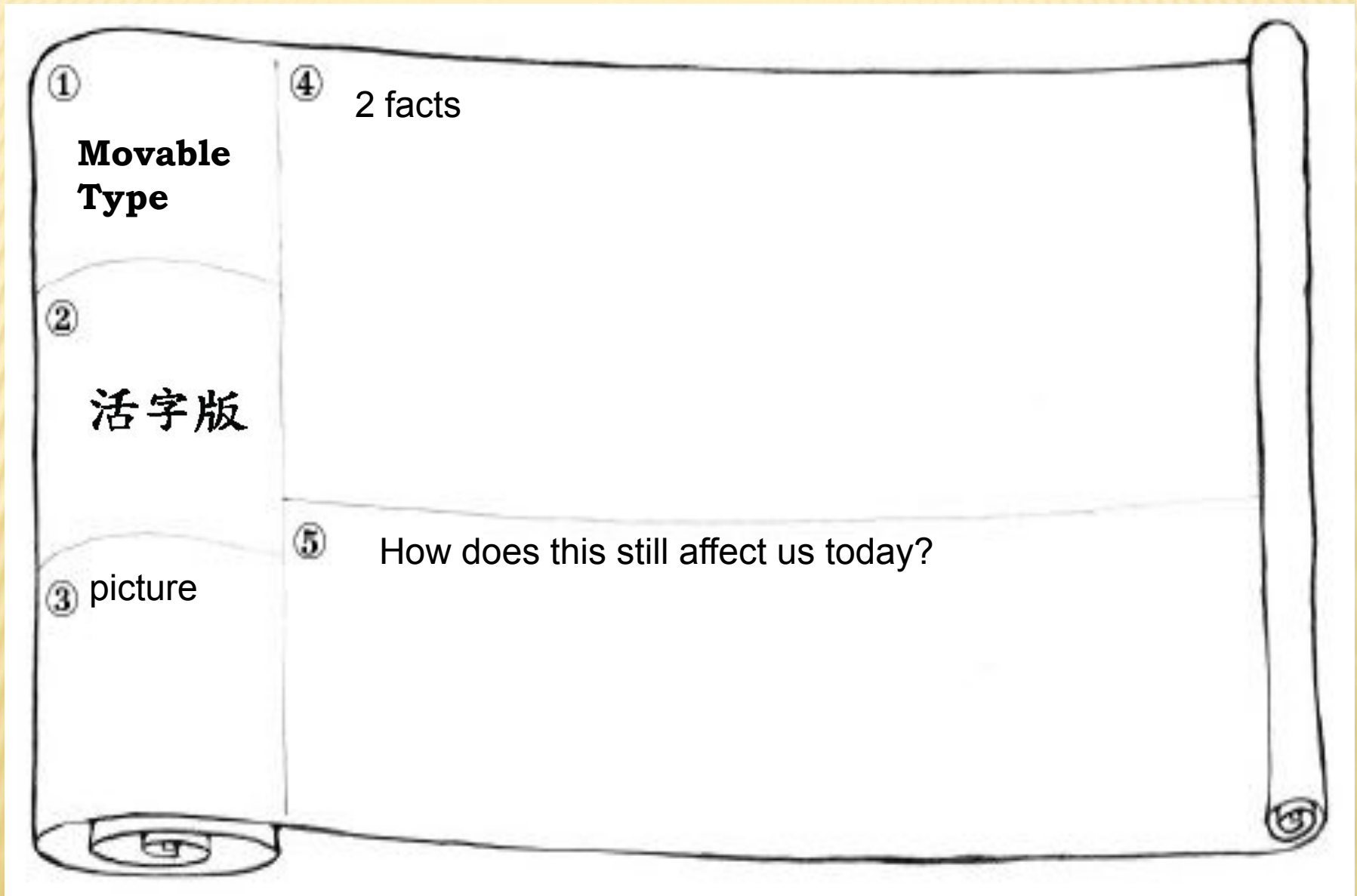
③ picture

④

2 facts

⑤

How does this still affect us today?



THINK / PAIR / SHARE

- Why do you think it is important for us to study the Chinese inventions we have discussed so far today?
- A's tell B's
- B's tell A's
- I will now choose someone to explain to the class.

THINK / PAIR / SHARE
WHAT DO YOU SUPPOSE ALL OF THESE
ITEMS ARE MADE FROM?



The material
these items
were made
from was
invented in
China.

Porcelain

- Porcelain is a pottery made by combining the rocks quartz and feldspar with clay. After being baked at a very high temperature, the pottery becomes hard, white, and waterproof.
- The Chinese were making porcelain by the 10th Century, and became famous for their dishes.
- We still often call fine dinnerware “china.”



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Porcelain

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③

picture

④

2 interesting facts

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How do we still use this invention today?

⑥

THINK / PAIR / SHARE WHAT DO YOU
THINK ALL OF THESE ITEMS HAVE IN
COMMON?



The
material
these items
are made
out of was
invented in
China.

Steel



- The Chinese developed a way to make iron stronger.
- They learned that by melting different types of iron and adding air, a chemical reaction is caused, making steel.
- Steel is made from iron, but it is less brittle (breakable) than iron and easier to bend into different shapes (flexible).

WHITEBOARDS!

- When the Chinese already had iron, why did they develop a way to make steel?
 - A. Steel is stronger than iron.
 - B. Steel is less flexible than iron.
 - C. Steel is easier to make than iron.
 - D. Steel is more available than iron.

WHITEBOARDS!

- When the Chinese already had iron, why did they develop a way to make steel?
 - A. Steel is stronger than iron.

①

Steel

②

③

picture

④

2 interesting facts

⑤

How do we still use this information today?

⑥

CREDITS

- Photos: FreeDigitalPhotos.net; photographers' usernames listed below.
 - Cards: phanlop88
 - Paper: anankkml
 - Bible: Arvind Balaraman
 - Money: David Castillo Dominic
 - Porcelain vases: graur razvan ionut
 - Plates, drill bit: Keattikorn
 - Urinals: lobster20
 - Knife, steel construct: Suat Eman
 - Blacksmith: Bill Longshaw
 - Metal Casting: kittikun Atsawintarangkul
- Photos also from TCI (Teachers Curriculum Institute)
- Student Worksheets: TCI (Teachers Curriculum Institute)
- Information on second paper slide and corresponding whiteboard question courtesy of DataWorks Educational Research