

Ideas on the Move

Trace how scholars translated, adapted, and shared knowledge.

WG.14.b "explaining the intellectual exchanges among cultures including, but not limited to the areas of science, geography, mathematics, philosophy, medicine, art, and literature."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each phrase that names an idea, skill, or material that traveled between cultures. Circle the culture or language connected to it, then number the exchanges you find.

Knowledge Crosses Borders

- ① In the 700s and 800s, Baghdad became a meeting place for scholars working under the Abbasid caliphs. At the House of Wisdom, translators put Greek works on astronomy, geometry, and philosophy into Arabic. Hunayn ibn Ishaq, a Christian scholar who knew Syriac, Greek, and Arabic, helped translate medical writings. These efforts did not simply preserve old books. Arabic-speaking scholars could question, test, and build on ideas that had traveled from the eastern Mediterranean to Baghdad.
- ② Scholars in the Islamic world also learned from India. Indian systems for writing numbers used a symbol for zero and place value, meaning a digit's position changes its value. Muhammad ibn Musa al-Khwarizmi wrote about these methods in Arabic during the 800s. His books helped spread Hindu-Arabic numerals and systematic ways to solve equations. Later, Latin translations carried both the numerals and al-Khwarizmi's mathematical methods to readers in Europe over many centuries and across regions.
- ③ Knowledge traveled in more than books. Chinese papermaking reached the Islamic world after the mid-eighth century and supported wider production of manuscripts. In turn, Arabic medical and philosophical works were translated into Latin in places such as Toledo, Spain, where Muslim, Jewish, and Christian scholars lived and worked. European doctors gained access to Ibn Sina's medical writing, while readers encountered Greek ideas through Arabic commentaries. Exchanges changed knowledge because each community selected, translated, and added to what it received.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How did translation at the House of Wisdom help scholars build on Greek knowledge?

2 Trace the path of Hindu-Arabic numerals from India to readers in Europe.

3 What feature of the Indian number system made it useful for mathematics, according to the passage?

4 Give one way Chinese papermaking changed knowledge sharing and one way Latin translations changed it.

3 YOUR TURN _____ Your own words

Write exactly three sentences comparing the Indian mathematics exchange with the Arabic medical exchange. Name what traveled in each exchange, explain how it reached a new group of readers, and state one important difference between the two exchanges.

PART 1 • READ AND MARK

Underline each phrase that names an idea, skill, or material that traveled between cultures. Circle the culture or language connected to it, then number the exchanges you find. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How did translation at the House of Wisdom help scholars build on Greek knowledge?	Translators put Greek works into Arabic, allowing Arabic-speaking scholars to question, test, and build on those ideas.
2	Trace the path of Hindu-Arabic numerals from India to readers in Europe.	Indian number methods were written about in Arabic by al-Khwarizmi. Later, Latin translations carried the numerals and his mathematical methods to readers in Europe.
3	What feature of the Indian number system made it useful for mathematics, according to the passage?	It used zero and place value, so a digit's position changes its value.
4	Give one way Chinese papermaking changed knowledge sharing and one way Latin translations changed it.	Chinese papermaking supported wider production of manuscripts in the Islamic world. Latin translations gave European doctors and readers access to Arabic medical and philosophical works.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Both exchanges depended on people changing knowledge into another language or form. Al-Khwarizmi's Arabic book helped Indian numerals reach Latin readers, while Latin translations of Arabic medical works gave European doctors access to Ibn Sina's writing. The mathematics exchange spread a number system, but the medical exchange spread medical knowledge.

Accept accurate comparisons that identify the ideas, the route or translation that moved them, and a meaningful difference. Students may use wording different from the passage if their explanation remains historically accurate.