Copper Across Oceans

Map where copper is mined and how trade connections change

GHW.8.1 "Use maps to show the location and distribution of Earth's resources, and analyze how this distribution changes over time and affects trade among countries, regions, and local communities."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the places where copper is mined, circle the places it travels through or to, and number the dates when mining changed. These marks will help you compare resource and trade maps from different years.

From the Andes to the Pacific

1. Copper ore is not spread evenly across Earth. In Peru, many major deposits lie in the Andes, including the southern region of Arequipa and the south-central region of Apurímac. Cerro Verde, near Arequipa, was operating before 2000. Las Bambas, in Apurímac, began producing copper in 2016. A resource map should place these mines inland, east of Peru's Pacific coast, rather than mark the whole country as one giant mine. Trucks or rail lines carry copper concentrate toward coastal ports. Ships then move some of that copper across the Pacific Ocean to buyers in China.

2. In 2000, Peru mined about 550,000 metric tons of copper. By 2020, it mined about 2.1 million metric tons. Existing mines expanded, and new ones began operating. The copper in Earth's crust did not move, but the locations supplying copper for sale changed. Over those two decades, China's factories used increasing amounts of copper for wiring, motors, and electronics. China bought copper from several countries, including Peru. These facts can help you make a reasoned comparison of trade maps, though they do not give the exact amount shipped between any two countries.

3. A copper trade route also connects distant places to local communities. Mines in the Andes can provide jobs and income, while their use of land and water can affect nearby farms and towns. Coastal ports handle cargo and support other work. If overseas demand rises, companies may expand a mine or build roads to reach a new one. Such changes can bring more copper into trade without creating new deposits. To understand who might benefit or face costs, a map needs more than country names. It needs mine locations, routes to ports, and the destinations of shipments.

2 ANSWER WITH EVIDENCE

Use the passage

1. On a map of Peru, where would you place symbols for Cerro Verde and Las Bambas relative to the Pacific coast?

2. How should mine symbols on a 2020 map differ from those on a 2000 map? Explain one change using the passage.

3. If a thicker arrow means a greater likely volume of copper trade, which year would you give a thicker Peru-to-China arrow, 2000 or 2020? Give two pieces of evidence and explain why the arrow is an inference.

4. Why would a map showing only the words Peru and China miss information needed to judge how copper trade affects Peruvian communities?

3 YOUR TURN

Your own words

Draw two simple maps, one for 2020 and one for an imagined 2035. A new copper mine has opened in northern Peru's Andes, and a buyer in Mexico wants its copper. Show where copper is mined, a route through a Pacific port to Mexico, and what changed between the maps. Add a key and one sentence about a possible local effect.

ANSWER KEY

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HIGH SCHOOL · GHW.8.1

PART 1 · READ AND MARK

Underline the places where copper is mined, circle the places it travels through or to, and number the dates when mining changed. These marks will help you compare resource and trade maps from different years. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	On a map of Peru, where would you place symbols for Cerro Verde and Las Bambas relative to the Pacific coast?	**Place both inland in the Andes, east of the Pacific coast. Cerro Verde is near Arequipa in southern Peru, and Las Bambas is in south-central Apurímac.**
2	How should mine symbols on a 2020 map differ from those on a 2000 map? Explain one change using the passage.	**Show Las Bambas as a producing mine in 2020 but not in 2000, because it began producing copper in 2016.**
3	If a thicker arrow means a greater likely volume of copper trade, which year would you give a thicker Peru-to-China arrow, 2000 or 2020? Give two pieces of evidence and explain why the arrow is an inference.	**Use a thicker arrow for 2020. Peru mined much more copper, and China's factories used increasing amounts. The passage gives no Peru-to-China shipment totals, so the arrow shows a likely change, not a measured one.**
4	Why would a map showing only the words Peru and China miss information needed to judge how copper trade affects Peruvian communities?	**It would not show which Andean communities are near mines and may gain jobs or face land and water impacts, or which coastal communities handle shipments.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

2020 panel: Label Peru, the Andes, the Pacific coast, and Mexico. Mark producing mines inland near Arequipa and in Apurímac. 2035 panel: Keep those mine symbols and add a new mine symbol in northern Peru's Andes. Draw an arrow from the new mine to a Peruvian Pacific port, then across the Pacific to Mexico. Key: dot = producing mine; arrow = copper shipment. A northern Andean town might gain mining jobs but face greater pressure on its water supply.

Accept clearly labeled schematic maps; exact coastlines and distances are not required. The new mine must be inland in northern Peru's Andes, and the 2035 route must connect it to a Pacific port and Mexico.