A Passage Remade

How changing a landscape changed travel and trade

WG.C.5.4 "Explain how transportation improvements (e.g., aqueducts, canals, railroad systems, airports) impacted human development through modification of the environment."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline changes people made to land or water, and circle the effects those changes had on travel, trade, or people's homes.

Building the Panama Canal

1. In 1914, the Panama Canal opened a shorter sea route between the Atlantic and Pacific Oceans. Before it existed, ships traveling between the two oceans often sailed around the southern tip of South America. Builders could not simply dig a level ditch across Panama. Hills rose in the middle, and the Chagres River could flood without warning. Workers cut through the hills at Culebra, removing enormous amounts of rock and soil. This cut changed the land's shape and helped make a passage for ships. It also required years of dangerous work and huge crews.

2. Engineers also built a dam across the Chagres River. Water collected behind it to form Gatun Lake, flooding forests and settlements in the river valley. Some residents had to move when their homes were covered. The lake became part of the route, letting ships cross much of the isthmus on water rather than through a longer excavated channel. Because the lake sits above sea level, ships enter locks, enclosed chambers that raise or lower them as water flows in or out. The dam, lake, and locks turned a steep, flood-prone landscape into a working transportation corridor.

3. The new route shortened many Atlantic-to-Pacific voyages, reducing travel time and shipping costs for some goods. Ports connected to the canal gained opportunities to handle trade, and distant markets became easier to reach by sea. These gains depended on changes to the environment: excavation, a dam, and a vast artificial lake. The changes also had costs. Flooding displaced communities and altered habitats, while digging disturbed soil and rock. The canal shows that transportation can expand human activity by reshaping land and water, but the benefits and burdens do not always fall on the same people.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did cutting through the hills at Culebra help create a route for ships?

2. How did damming the Chagres River change the valley, and why was that change useful for ship travel?

3. Why did ships need locks to use the route through Gatun Lake?

4. Explain one trade benefit and one cost to people that resulted from building the canal.

3 YOUR TURN

Your own words

A town and a port are separated by a steep ridge, and the current road winds around it. Propose a new rail route in 4 to 5 sentences, explaining one change to the land, how it would affect travel and livelihoods, and one likely environmental or community cost.

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PART 1 · READ AND MARK

Underline changes people made to land or water, and circle the effects those changes had on travel, trade, or people's homes. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did cutting through the hills at Culebra help create a route for ships?	**Removing rock and soil opened a passage through the high ground that blocked the route.**
2	How did damming the Chagres River change the valley, and why was that change useful for ship travel?	**The dam flooded the valley to form Gatun Lake. Ships could cross much of the isthmus on the lake instead of using a longer excavated channel.**
3	Why did ships need locks to use the route through Gatun Lake?	**Gatun Lake sits above sea level, so locks raise ships to the lake and lower them again.**
4	Explain one trade benefit and one cost to people that resulted from building the canal.	**The shorter route made distant markets easier to reach by sea. Flooding to create the lake forced some residents to move.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Workers could bore a tunnel through the ridge to connect the town to the port by rail. Trains could carry farm products to ships more directly than trucks using the winding road, helping farmers reach more buyers. Blasting near the tunnel entrances could disturb wildlife habitat. Placing the entrances away from homes could reduce noise for residents, though it would not prevent habitat loss.

Accept equivalent cause-and-effect explanations supported by the passage. For Part 3, look for a plausible land modification linked to both a travel or livelihood effect and a specific cost.