When Rivers Shift

Trace how water choices affect farms, ecosystems, and communities.

7.C.4 "Analyze the interactions of humans and their environment. Analyze how humans adapt to their environment, including the impact of climate and weather patterns and natural disasters on human populations, resulting in displacement..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two choices people made about water or farming and circle two changes in the environment. Write 1, 2, and 3 beside a human choice, its environmental effect, and an effect on people that followed.

The Aral Sea's Changing Shores

1 On a windy day near the Aral Sea in Central Asia, dust can blow across land that was once underwater. The Aral Sea was fed by the Amu Darya and Syr Darya rivers. Beginning in the 1960s, Soviet planners diverted much of their water into canals to irrigate fields in a dry climate. Irrigation let farms grow cotton, a cash crop sold for income, and rice. Large farms produced cotton for sale to factories, an example of commercial agriculture. More crops meant more farm work and income.

2 But the rivers carried less water to the sea. As the Aral Sea shrank, its water grew saltier, and many fish could not survive. Fishing jobs disappeared in many lakeside towns. Wind lifted salt and dust from the exposed lakebed onto nearby fields, harming crops. Some families moved to find work elsewhere. Farmers growing food mainly for their own households, called subsistence farmers, also faced damaged soil and limited water. Thus, the same water diversion that helped cotton production made food growing harder for some people.

3 Today, farmers and officials face a choice about how to use river water. Drip irrigation delivers water near plant roots, so less evaporates than with open canals, but new equipment costs money. Sending more river water toward the sea could help its remaining fish, yet farms would have less water unless they reduced waste or planted less thirsty crops. Roads connect farms to cotton buyers and bring food to towns where local harvests fall short. Those links matter, but a road cannot replace healthy soil or a reliable water supply.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did diverting river water help farms while changing the Aral Sea?

2. Trace a chain of changes from the shrinking sea to some families moving away.

3. How did water diversion affect commercial cotton farms differently from subsistence farmers?

4. What is one trade-off of sending more river water toward the sea, and how could drip irrigation affect it?

3 YOUR TURN

Your own words

Imagine a dry valley where families grow vegetables to eat, and a company wants to divert river water to grow flowers for sale. In four or five sentences, explain one economic benefit, one environmental change, one possible effect on the families, and one choice that might limit harm.

When Rivers Shift

PART 1 · READ AND MARK

Underline two choices people made about water or farming and circle two changes in the environment. Write 1, 2, and 3 beside a human choice, its environmental effect, and an effect on people that followed. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did diverting river water help farms while changing the Aral Sea?	**Irrigation increased cotton and rice production, farm work, and income, but less river water reached the Aral Sea, so it shrank.**
2	Trace a chain of changes from the shrinking sea to some families moving away.	**As the sea shrank, its water grew saltier and many fish could not survive. Fishing jobs disappeared, so some families moved to find work.**
3	How did water diversion affect commercial cotton farms differently from subsistence farmers?	**Commercial cotton farms gained irrigation water to grow crops for sale. Subsistence farmers faced limited water and soil harmed by salt and dust, making it harder to grow food for their households.**
4	What is one trade-off of sending more river water toward the sea, and how could drip irrigation affect it?	**More water could help the sea's remaining fish, but farms would have less water. Drip irrigation could reduce water lost to evaporation, although the equipment costs money.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Selling flowers could bring income to the valley and create farm jobs. Diverting water might lower the river's flow and leave less water for wild plants. Families could then struggle to grow enough vegetables to eat. The company could limit the water it takes so more remains for other users.

Accept other cause-and-effect chains supported by the passage. For Your Turn, look for a plausible benefit, environmental change, effect on families, and harm-reducing choice linked to the proposed diversion.