Farms Leave Footprints

Trace how farming changes land and water.

7.C.4.2.C "Examine how agricultural practices in a region imprint the physical environment (e.g., desertification of the Aral Sea, terraced construction for rice farming, modern irrigation methods utilized in the Arabian Peninsula)."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each farming practice, circle the land or water feature it changes, and number each practice and its effect with the same number. Use your marks to trace how farming reshapes a place.

What Farming Leaves Behind

1. At the edge of the Aral Sea in Central Asia, fishing boats now sit on dry ground. For decades, farms drew large amounts of water from the rivers that fed the sea, mainly to irrigate cotton fields. With less river water reaching it, the sea shrank, leaving behind a salty lakebed. Wind lifts dust and salt from that exposed ground and carries them across nearby farms and towns. Irrigation made cotton farming possible in a dry region, but it also transformed shorelines and damaged soil far beyond the fields.

2. On steep hills in parts of Southeast Asia, rice farmers build terraces, wide, level steps cut into slopes. Low walls hold water on each step so rice can grow without water racing downhill. The hillside takes on a stair-step shape instead of its original slope. Terraces can reduce soil washing away when they are kept in good repair. If a wall breaks during heavy rain, water may rush through the gap and carry soil downhill. The same structures that protect farmland need steady care to prevent damage.

3. In parts of the Arabian Peninsula, farmers pump groundwater to feed fields with modern irrigation systems. Some use center-pivot sprinklers, which turn around a fixed point and water circular fields. From above, those circles stand out against the desert. Other farmers use drip lines that deliver water near plant roots instead of spraying it into the air. Drip lines can reduce water lost to evaporation, but even efficient systems may draw on groundwater faster than it is replaced. Farming changes both the visible land and water supplies hidden below it.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did irrigation for cotton change the Aral Sea shoreline and land nearby?

2. How does building and maintaining rice terraces change a hillside and affect its soil?

3. What visible pattern do center-pivot sprinklers make in the desert, and what hidden resource may be affected?

4. Terraces and drip lines can each reduce an environmental problem. What problem can each reduce, and what risk remains for each?

3 YOUR TURN

Your own words

A village wants to grow crops on a windy plain where loose soil blows away. Propose one farming practice not described in the passage. In 4 to 5 sentences, explain how it would change the land, help crops, and create one possible environmental trade-off.

ANSWER KEY

Farms Leave Footprints

GRADE 7 · 7.C.4.2.C

PART 1 · READ AND MARK

Underline each farming practice, circle the land or water feature it changes, and number each practice and its effect with the same number. Use your marks to trace how farming reshapes a place. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did irrigation for cotton change the Aral Sea shoreline and land nearby?	**Drawing water from rivers shrank the sea and exposed a salty lakebed. Wind then carried dust and salt across nearby land.**
2	How does building and maintaining rice terraces change a hillside and affect its soil?	**Terraces turn the slope into level steps. When their walls are maintained, they hold water and reduce soil washing downhill.**
3	What visible pattern do center-pivot sprinklers make in the desert, and what hidden resource may be affected?	**They water circular fields. The groundwater they pump may be depleted if it is drawn faster than it is replaced.**
4	Terraces and drip lines can each reduce an environmental problem. What problem can each reduce, and what risk remains for each?	**Terraces can reduce soil loss, but a broken wall can let water carry soil downhill. Drip lines can reduce water lost to evaporation, but pumping may still deplete groundwater.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Planting rows of trees beside fields would create strips of wooded land across the plain. The trees would slow the wind and keep more loose soil in place, helping crops grow. Their roots could also hold soil during storms. However, the trees would use some water that crops and nearby wild plants need.

Accept other passage-supported cause-and-effect explanations for the questions. For Your Turn, accept a feasible new practice if the response explains a physical change, a benefit to crops, and a plausible environmental trade-off.