

Changing the Land

Analyze how built systems reshape physical environments.

6.5.C “identify and analyze ways people have modified the physical environment such as mining, irrigation, and transportation infrastructure.”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each human-made change to the land or water. Circle a nearby phrase that tells one result of that change for people or natural systems.

Built Changes, Lasting Effects

- ① East of the Cascade Mountains in Washington, the Yakima Valley receives little rain in summer. Farmers have built dams, reservoirs, and canals to move water from the Yakima River to fields. This irrigation changed dry ground into land that can grow apples, hops, and other crops. It also changed the river system. When water is stored or diverted, less water may flow in some stream sections at certain times, affecting fish and other living things that depend on cool, flowing water.
- ② Mining can make another major change to land. At a surface mine, workers remove soil and rock to reach minerals below. The work may leave a deep pit, piles of waste rock, and new roads on land that once had hills or vegetation. Trucks carry ore from the pit to processing sites. Rail lines, highways, and bridges are transportation infrastructure, built systems that move people or materials. These systems can connect a mine to markets, but they can also divide habitats or increase erosion.
- ③ Transportation infrastructure also reshapes places far from mines. A highway may cross a valley by cutting through slopes, filling low areas, or using bridges. It can shorten travel time and allow farms and factories to send goods farther. Yet paved surfaces prevent some rainwater from soaking into soil, so runoff can carry pollution into streams. Engineers can lessen some effects by adding drainage systems, wildlife crossings, or routes that avoid sensitive areas. Every project changes both how people use a place and how natural systems work.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How did irrigation change the Yakima Valley, and what was one effect on the river system?

2 Describe two ways a surface mine changes the physical environment.

3 How are irrigation canals and transportation infrastructure alike? Explain one material each system moves.

4 What is one effect of a highway on natural systems, and what is one way engineers can lessen that effect?

3 YOUR TURN _____ Your own words

Invent a place where people build a canal, mine, road, bridge, or railroad. Write exactly four sentences that name the original physical feature, explain the modification, describe one benefit for people, and describe one cost for a natural system.

PART 1 • READ AND MARK

Underline each human-made change to the land or water. Circle a nearby phrase that tells one result of that change for people or natural systems. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How did irrigation change the Yakima Valley, and what was one effect on the river system?	Irrigation moved river water to dry fields so crops could grow. Storing or diverting water can leave less water in some stream sections and affect fish and other living things.
2	Describe two ways a surface mine changes the physical environment.	A surface mine can leave a deep pit and piles of waste rock. It can also add roads where hills or vegetation once existed.
3	How are irrigation canals and transportation infrastructure alike? Explain one material each system moves.	Both are built systems that modify the physical environment and help people use resources. Canals move water, while transportation infrastructure moves people or materials such as ore.
4	What is one effect of a highway on natural systems, and what is one way engineers can lessen that effect?	Paved surfaces can increase runoff that carries pollution into streams. Engineers can add drainage systems, wildlife crossings, or routes that avoid sensitive areas.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A town builds a bridge across a river. Workers place supports in the riverbanks and pave roads leading to the bridge. The bridge gives residents a faster route to school and stores. Construction can disturb riverbank plants and animal habitats.

Accept equivalent descriptions of changes, benefits, and environmental effects that are supported by the passage. For the open response, accept any realistic modification with all four required parts in exactly four sentences.