

Earth Shapers

Trace how water, wind, and ice slowly change land.

4.10.B “model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice; and”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each sentence that describes weathering, erosion, or deposition. Write W, E, or D beside it, and circle water, wind, or ice when it causes the change.

Slow Changes, Big Results

- ① On a rocky hillside, rainwater slips into tiny cracks. When the water freezes, it expands and pushes the cracks wider. This slow breaking of rock is weathering. Later, rain and a small stream carry loose bits of rock downhill. This movement is erosion. Where the stream slows near a bend, it drops some sand and pebbles. That settling is deposition.
- ② In a dry, open area, wind lifts and rolls sand grains across the ground. The grains scrape against exposed rock, wearing it down little by little. This is weathering caused by wind-blown sand. Wind also moves the grains, which is erosion. When the wind loses speed behind a bush or rock, the grains collect there. Over time, these deposits can build a sand dune.
- ③ High in the mountains, a glacier is a thick mass of ice that moves very slowly downhill. Rocks frozen in its bottom scrape the land beneath it. The scraping wears and breaks rock, a kind of weathering. The glacier carries rock pieces along, causing erosion. When the ice melts at a lower place, it leaves the rock pieces behind. This deposition can form piles of sediment.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Put the three hillside changes in order. What happens first, next, and last?

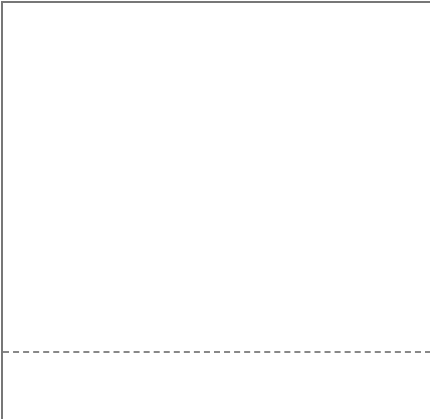
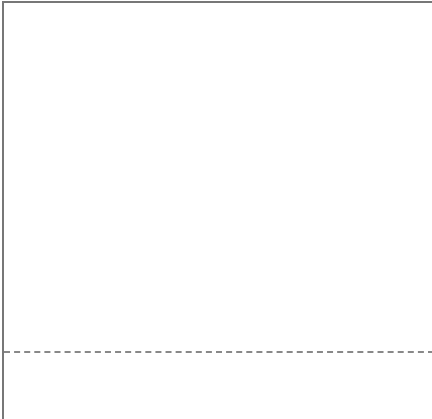
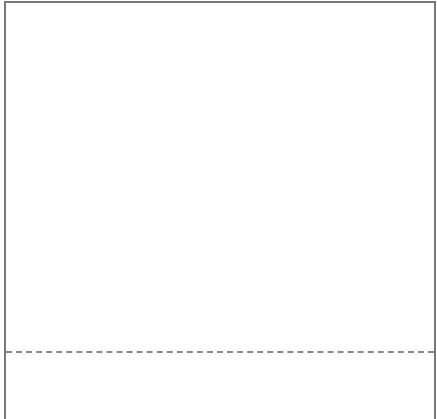
2 How do wind-blown sand grains cause both weathering and erosion in the dry area?

3 Why do sand grains collect behind a bush or rock, and what landform can they build?

4 What happens to rock pieces when a glacier melts at a lower place? Name the process.

3 YOUR TURN _____ Your own words

Use the three panels to show one rock piece being changed by water, wind, or ice. Label the panels Weathering, Erosion, and Deposition, then write one sentence telling how the material changed from the first panel to the last.

		
---	--	---

PART 1 • READ AND MARK

Underline each sentence that describes weathering, erosion, or deposition. Write W, E, or D beside it, and circle water, wind, or ice when it causes the change. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Put the three hillside changes in order. What happens first, next, and last?	First, freezing water widens cracks and breaks rock, weathering. Next, rain and a stream carry rock downhill, erosion. Last, the stream drops sand and pebbles when it slows, deposition.
2	How do wind-blown sand grains cause both weathering and erosion in the dry area?	The grains scrape exposed rock and wear it down, weathering. Wind lifts, rolls, and moves the grains across the ground, erosion.
3	Why do sand grains collect behind a bush or rock, and what landform can they build?	They collect because the wind loses speed. Their deposits can build a sand dune.
4	What happens to rock pieces when a glacier melts at a lower place? Name the process.	The glacier leaves the rock pieces behind. This is deposition.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Weathering panel: Rainwater freezes in a crack in a cliff and breaks off a rock piece. Erosion panel: A stream carries the rock piece downhill. Deposition panel: The stream slows at a flat bank and drops the piece. Sentence: Water first breaks rock, then moves it, and finally leaves it in a new place.

Accept equivalent descriptions that correctly separate weathering, the breaking or wearing of rock, from erosion, the movement of material, and deposition, the settling of material. For the panel task, accept any accurate agent, sequence, and labeled process.