

Landform Detectives

Use evidence to explain how Earth's surface changes.

S5E1.a "Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains...)"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each surface feature, circle each process that changes it, and number two details that could serve as evidence in an argument.

Clues on the Land

- ① At the mouth of Pine River, the water enters Lake Blue and slows down. The river carries bits of sand, silt, and clay from upstream. When the current loses speed, these materials settle in layers. Over many years, the layers build outward into a delta. The delta is a constructive surface feature because deposition adds material to the shore.
- ② Wind can also move loose sand across dry ground. Where a fence or a clump of grass blocks the wind, the sand falls and piles up. Repeated deposition can form a sand dune, another constructive feature. Grass roots may hold some sand in place, so organisms can help the dune grow. The growing pile of sand is evidence for this claim.
- ③ Not every process builds land. Rain, ice, and plant roots can break rock into smaller pieces through weathering. Flowing water can then carry the pieces away by erosion. These destructive processes can wear down the sides of a mountain or volcano. Deep grooves, loose rock, and a smaller slope are evidence that material has been removed, even though the mountain or volcano was built earlier.

2 ANSWER WITH EVIDENCE Use the passage

1 What process formed the delta, and why is the delta a constructive feature?

2 How can grass help a sand dune grow? Use evidence from the passage.

3 How do weathering and erosion change the sides of a mountain or volcano?

4 What two details support the argument that erosion has removed material from a mountain or volcano?

3 YOUR TURN Your own words

A creek bank has a small gully after heavy rain. Soil is missing, roots are exposed, and the water is muddy. Write a three-sentence argument that names the process, tells whether it is constructive or destructive, and uses two details as evidence.

PART 1 • READ AND MARK

Underline each surface feature, circle each process that changes it, and number two details that could serve as evidence in an argument. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What process formed the delta, and why is the delta a constructive feature?	Deposition formed the delta. It is constructive because layers of sand, silt, and clay add material to the shore.
2	How can grass help a sand dune grow? Use evidence from the passage.	Grass roots hold some sand in place. Sand then piles up, helping the dune grow.
3	How do weathering and erosion change the sides of a mountain or volcano?	Weathering breaks rock into smaller pieces, and erosion carries the pieces away. These processes wear down the sides.
4	What two details support the argument that erosion has removed material from a mountain or volcano?	Deep grooves, loose rock, and a smaller slope are details showing that material has been removed. Any two of these details are acceptable.

PART 3 • YOUR TURN (SAMPLE ANSWER)

The small gully is a destructive surface feature caused by erosion. Heavy rain carried soil away, as shown by the missing soil and exposed roots. Because material was removed rather than added, erosion changed the creek bank.

Accept arguments that correctly identify erosion as destructive and use at least two given details as evidence. Accept equivalent scientific wording, such as soil was carried away or washed away.