Land on the Move

Read how moving water wears down and builds up land.

E.3.7B "Students will demonstrate an understanding of the composition of Earth and the processes which change Earth's landforms. Obtain and evaluate scientific information (e.g...."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline details that show land being worn down. Circle details that show land being built up so you can compare the changes.

A River Changes the Land

1. At the Grand Canyon in Arizona, tall walls show many rock layers. Rain and ice can crack the rock into smaller pieces. This breaking is called weathering. The Colorado River carries loose pieces away. Moving rock from one place to another is erosion. Over a very long time, weathering and erosion helped make the canyon deeper and wider. These processes wear down land.

2. The river does not carry every piece forever. When water slows, bits of rock and sand can settle on the riverbed. This settling is deposition. The bits can pile up and form a sandbar, a raised strip of sand in the water. Deposition builds land, so it is a constructive process. Erosion removes land in one place, so it is a destructive process.

3. Imagine a model made from a tray of damp sand and a cup of water. The sand stands for land, and the poured water stands for a river. A narrow stream of water cuts a channel in the sand. Some sand moves down the channel and settles where the water spreads out and slows. The model shows how one flow can wear down one spot and build up another.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did weathering and erosion work together to change the Grand Canyon?

2. How can a river make a sandbar? Is this a constructive or destructive change?

3. In the tray model, what do the sand and water stand for? Name one place where land is worn down and one place where it is built up.

4. Compare erosion and deposition. How does each change land?

3 YOUR TURN

Your own words

Draw two panels showing a rocky hill before and after ice cracks its rocks and rain carries the pieces downhill. Label weathering, erosion, and deposition in the after panel, then write two sentences explaining which change is destructive and which is constructive.

ANSWER KEY

Land on the Move

GRADE 3 · E.3.7B

PART 1 · READ AND MARK

Underline details that show land being worn down. Circle details that show land being built up so you can compare the changes. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did weathering and erosion work together to change the Grand Canyon?	**Rain and ice cracked rock into pieces. The Colorado River carried the pieces away, helping make the canyon deeper and wider.**
2	How can a river make a sandbar? Is this a constructive or destructive change?	**When the river slows, sand settles and piles up into a sandbar. This is constructive because it builds land.**
3	In the tray model, what do the sand and water stand for? Name one place where land is worn down and one place where it is built up.	**The sand stands for land, and the water stands for a river. Water cuts a channel, while sand settles where the water spreads out and slows.**
4	Compare erosion and deposition. How does each change land?	**Erosion moves pieces away and wears down land in one place. Deposition leaves pieces behind and builds up land in another place.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Before panel: A rocky hill with flat ground at its base. After panel: Cracked rocks labeled weathering, pieces moving downhill in rain labeled erosion, and a pile of pieces at the base labeled deposition. Erosion is destructive because it carries pieces away from the hill. Deposition is constructive because the pieces pile up at the base.

Accept models that show ice breaking rock, rain moving pieces downhill, and pieces collecting in a lower place. Students should identify erosion as destructive and deposition as constructive.