

ETUTORCHALK'S

W.E.D

GRADE
2

WEATHERING, EROSION & DISPOSITION

40

**TASK
CARDS**

NO PERP UNIT

8

**READING
COMPREHENSIONS**

**MULTIPLE
ACTIVITIES**

4

**WRITING
PROMPTS**

**INTERACTIVE
NOTEBOOK**

3

**EASY
EXPERIMENTS**

Earth's Systems

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WEATHERING

Weathering: How Rocks Break Apart

Have you ever seen a big rock with cracks or pieces broken into smaller pieces over time. It can be caused by weather or even plants. For example, when it rains, water flows into small cracks in the rock. If the water freezes, it expands and makes the cracks bigger, slowly breaking the rock apart.

Plants can also cause weathering. Tiny roots that grow into cracks in rocks can push them even bigger, breaking the rock apart. Wind and rain can also break rocks into tiny grains of sand. Weathering is the process that shapes the land around us.

Fill in the blanks with appropriate words.

- Weathering is the process of rocks breaking into smaller pieces.
- Plants can cause weathering by growing roots into cracks in rocks.
- Wind and rain can break rocks into tiny grains of sand.

EROSION

Erosion: How Rocks and Soil Move

Erosion is the process of soil and rocks being carried away by waves or wind. Water or ice can move soil, rocks, and sand to a new place. For example, rivers can carry soil and sand to a new place, slowly changing the shape of the land. Even a strong wind can wash soil down a hill, leaving bare patches of ground.

Erosion also causes erosion. In deserts, strong winds pick up tiny grains of sand and move them to form sand dunes. Glaciers, which are large sheets of ice, can scrape and carry rocks as they slowly move across the land. Erosion is a powerful process that helps shape valleys, rivers, and coastlines.

Answer the Following Questions

- What causes erosion by carrying soil, rocks, or sand to a new place?
- How does erosion change the shape of the land?

DEPOSITION

Deposition: How Rocks and Soil Settle

When wind, water, or ice stop moving, they drop the rocks and soil in a new place. This process is called deposition. Deposition happens after erosion, when the materials are in a new place. For example, rivers deposit sand and soil on banks, forming flat areas called floodplains. Ocean waves deposit sand to create beaches.

Deposition can also create new landforms. Wind can pile up sand to form dunes in deserts. Glaciers, when they melt, leave large rocks and soil called moraines. Over time, deposition changes the surface of the Earth by building up new land.

Select the best answer.

- What is the process called when wind, water, or ice carries soil and rocks to a new place?
 - Weathering
 - Deposition
 - Erosion
 - Transportation
- What landform is created when wind piles up sand?
 - A dune
 - A valley
 - A riverbank
 - A floodplain

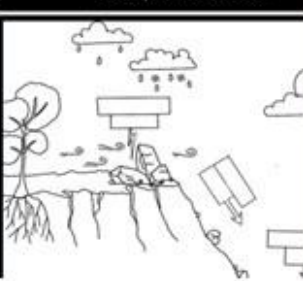
Weathering, Erosion and Deposition

The diagram below shows how weathering, erosion, and deposition shape the Earth's surface. Color the diagram and label each process (Weathering BREAKS, Erosion MOVES, DEPOSITION DROPS) in the correct boxes.



Weathering, Erosion and Deposition

The diagram below shows how weathering, erosion, and deposition shape the Earth's surface. Color the diagram and label each process (Weathering BREAKS, Erosion MOVES, DEPOSITION DROPS) in the correct boxes.



A Journey of a rock

(Narrative Writing Prompt)

Imagine you are a rock sitting on a tall mountain. One day, you start breaking into smaller pieces (weathering), and wind, water, or ice carries you to a new place (erosion). Finally, you settle down in a new location (deposition). Write a story about your journey, describing what happens at each stage and how you feel along the way!

EROSION BY WATER

Erosion by water happens when moving water carries sand, silt, or rocks. Rivers, streams, and rainwater are some main causes of water erosion. For example, during heavy rain, water flows downhill and takes soil with it. Over time, this creates deep valleys and canyons. Rivers also erode the land flow, carving out canyons like the Grand Canyon.

At the beach, ocean waves cause erosion by pulling wet rocks away from the shore. Floods can also wash away soil. Water erosion is a powerful force that shapes the land around us, creating rivers, beaches, and other landforms.

Match the following

- | | | |
|----------------|---|--------------------|
| 1. Rivers | • | a) Carry soil down |
| 2. Ocean waves | • | b) Create canyons |
| 3. Heavy rain | • | c) Erode beach |

EROSION BY WIND

Erosion by wind happens when strong winds move soil and small rocks to new places. In deserts, wind picks up tiny grains of sand and carries them across the land. Over time, the pile up sand to create sand dunes. This is why deserts have large hills of sand.

Wind erosion also happens in places where there is no sand. In dry, open fields, strong winds can pick up soil particles, making it harder for new plants to grow. Wind erosion is a powerful process, but it can change over time.

Write the correct order of the following

- Soil is carried away to a new location.
- The wind picks up soil particles, picking up to a new place.
- Strong winds blow across the land, wearing them away.
- Sand and silt pile up, forming sand dunes or sand dunes.

Wind Erosion VS Water Erosion

Please Sort into the correct category.

Sand is blown across the land.	Soil is washed away during heavy rain.
Wind carries sand away from the shore.	Wind piles up sand to form dunes.
Rivers carve valleys into the land.	Floods wash soil to a new location.
Topsoil is blown away from open fields.	Dust storms carry small soil particles.
Water erodes riverbanks.	Wind carries sand across the landscape.

Wind Erosion VS Water Erosion

Please Sorting Category

WIND EROSION	WATER EROSION

EXPERIMENT

Erosion by Wind

Objective: To observe how wind causes erosion by moving soil and sand.

Procedure:

- Fill a shallow tray with soil or sand.
- Blow through the straw, showing erosion by moving soil.
- Watch how the wind creates areas of the tray.
- Place a piece of cardboard or paper in the part of the tray.
- Blow again and observe the cardboard block.
- Note where the soil is and how the barrier affects erosion.

Materials Needed:

- Shallow tray or plate
- Sand or fine soil
- A small cup of water
- A spoon or small stick (to make a slope)
- A few small rocks or pebbles

Result: When you blow through the straw or use the fan, the wind carries soil across the tray. This shows how real wind erosion happens in nature. The soil moves from one place to another, just like rain or rivers move earth in real life. The soil that collects at the bottom of the tray shows deposition, where the materials are dropped in a new location. This experiment demonstrates how water shapes the land over time.

EXPERIMENT

Erosion by Wind

Objective: To observe how wind causes erosion by moving soil and sand.

Procedure:

- Fill the tray with a thin layer of sand or soil.
- Use a spoon or stick to create a small slope on one side of the tray.
- Slowly pour water from the top of the slope.
- Watch how the water moves the sand or soil.
- Observe where the soil collects at the bottom of the tray.
- If using rocks, see how they change the flow of water.

Result: When water flows down the slope, it carries sand or soil with it, showing how erosion happens in nature. The soil moves from one place to another, just like rain or rivers move earth in real life. The soil that collects at the bottom of the tray shows deposition, where the materials are dropped in a new location. This experiment demonstrates how water shapes the land over time.

How to Show Erosion

(Pre-writer Writing Prompt)

Choose one experiment: Erosion by Wind or Erosion by Water. Follow the step-by-step instructions explaining how to do the experiment. Use the transitional words below to make your writing clear.

First, Next, Then, After that, Finally, Because, So

Erosion by Wind

What Happens? Where Does It Happen? What Does It Create?

Erosion by Water

What Happens? Where Does It Happen? What Does It Create?

Water moves soil or rocks to new places.

Rivers, beaches, and hills during rain.

Soil will rise.

SLOW CHANGE

Slow changes happen when the Earth's surface a little over a long time. One example of a slow change is weathering, where rocks break apart into smaller pieces. Weathering can happen because of rain, wind, or cracks of rocks. Another slow change is erosion, where water carries soil and rocks to new places. This can take years or even centuries to create valleys, canyons, or mountains.

Deposition is another slow change. It happens when rocks or soil are dropped in a new place. This can be caused by water. For example, rivers deposit soil and rocks, slowly forming floodplains. This is an important role in shaping the Earth's surface.

QUICK CHANGES

Some changes to the Earth happen very quickly like during an earthquake. When the ground shakes suddenly, cracks can form, and buildings can be destroyed. A volcanic eruption is another quick change. It can change the shape of the Earth in a few hours.

Landslides are another example of a quick change. They happen when rocks or soil slide quickly down a hill or mountain, often carrying trees and buildings with them. Floods are also quick changes that can happen when heavy rain causes rivers to overflow, washing away soil and structures. These changes happen fast, but they can have big long-term effects on the land.

Cause and Effect Questions

- Effect: Cracks form, and buildings might fall.
Cause: _____
- Effect: Rocks and soil slide down in a landslide.
Cause: _____

Slow Changes VS Quick Changes

Image Sorting Category

Cut out the images, decide if each shows a slow or a quick change, and paste them in the correct category on the next page.



Biggest Earth Change

(Opinion Writing Prompt)

Write which change, slow or quick, has the biggest impact on the Earth. Illustrate your opinion with a drawing.

QUICK CHANGES

SLOW CHANGES

SOLUTIONS TO SLOWDOWN EROSION

Associate the solutions and underline how they work.

Erosion happens when wind, water, or ice moves soil and rocks to new places. This can cause serious problems, like washing away fertile soil that plants need to grow or damaging land used by animals and people. If erosion is not slowed down, it can make land less useful for farming, building, or living. Luckily, there are many ways to slow down erosion and protect the land.

Planting grass and trees is one of the best solutions. The roots of plants hold the soil in place, making it harder for wind and water to carry it away. These plants also absorb rainwater, slowing its movement over the ground. In areas where plants are missing, the soil is more likely to erode quickly. Adding vegetation can reduce the amount of water flowing downhill and stop soil from washing away.

Building walls or barriers, like fences or stone walls, is another useful way to stop erosion. These structures can catch soil and prevent it from directly hitting the soil and carrying it away. For example, farmers often use barriers to protect their crops from strong winds. On hillsides, stone walls can reduce the amount of water flowing downhill and stop soil from washing away.

How do the erosion solutions work?

How does building a wall or barrier help?

Why is it helpful to guide water through heavy rain?

What might happen to bare soil if it rains heavily?

EXPERIMENT Solutions to Slowdown Erosion

Objective:

To observe how different methods can slow down soil erosion caused by water.

Materials Needed:

- Two shallow trays or pans
- Sand or soil
- Shredded paper (to simulate plants)
- Small stones or pebbles
- A cup of water
- A stick or spoon (to create a slope)

Procedure:

- Fill the first tray and make a slope.
- Fill the second tray. Add shredded paper on one side, a stone on the other.
- Slowly pour water from the top of the first tray.
- Watch how the water flows. Notice how the soil erodes.
- Write or draw your observations.

VOCABULARY

Weathering



Breaking rocks slowly.

Erosion



Moving soil and rocks to new places.

Deposition



Dropping soil or rocks in a new place.

Wind Erosion



Soil being carried away by wind.

Water Erosion



Soil being carried away by water.

Glaciers



Large masses of ice moving slowly across the land.

TASK CARDS

5. A glacier moves slowly across the land. What process is this?

6. Tree roots grow into rocks and break them apart. What process is causing this?

7. A hill is hit by a car. The hill becomes smaller. What process is this?

8. A river carries soil to a new place. What process is this?

2. EROSION BY WIND & WATER

Erosion by Water

- Rivers
- Ocean waves
- Heavy rain
- Floods
- Water erosion

- Carry soil
- Create canyons
- Erode bedrock
- Wash away soil
- Shapes the land around it

Erosion by Wind

- 2
- 4
- 3
- 5

WIND EROSION

- Sand is blown across the desert.
- Wind piles up sand to form dunes.
- Topsoil is blown away from open fields.
- Dust storms carry small soil particles.
- Wind carries sand across dry farmland.
- Wind erodes rocks into smooth shapes.

3. SLOW AND QUICK CHANGES

Slow Changes

- True
- False
- True
- False

Quick Changes

- An earthquake cracks the ground.
- Heavy rain causes soil to loosen.
- Lava and ash cover the land.
- A landslide.

Slow Changes

1. A rock with cracks from weathering.
2. A volcano erupting.
3. Sand dunes forming in the desert.
4. Soil forming from broken-down rocks.
5. A flood washing away soil.

Quick Changes

6. A glacier slowly moving across a landscape.
7. Deposition forming a floodplain.
8. A landslide moving rocks downhill.

TASK CARDS

13. Without plants, wind blows away soil from a dry farm. What process is at work here?

14. Sand is carried by the wind and settles in a new place. What process is this?

15. Wind rubs sand against rocks, making them smooth over time. What kind of erosion causes this?

16. A rocky surface in the desert becomes smooth. What process is this?

TASK CARDS

17. Heavy rains cause soil to flow into a valley. What kind of erosion is this?

18. Over time, a river carves a deep canyon into the ground. What process is responsible for this?

19. A small stream carries rocks and soil down a valley. What is happening here?

20. The shoreline changes as water moves sand away. What type of erosion is this?