

# Earth Science for Kids: Erosion

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Edited and formatted by: C. Colley & B. Street

## Word Study:

The word erosion comes from the Latin word "erosionem" which means "a gnawing away."

erosion - noun  
erode - verb  
erosive - adjective



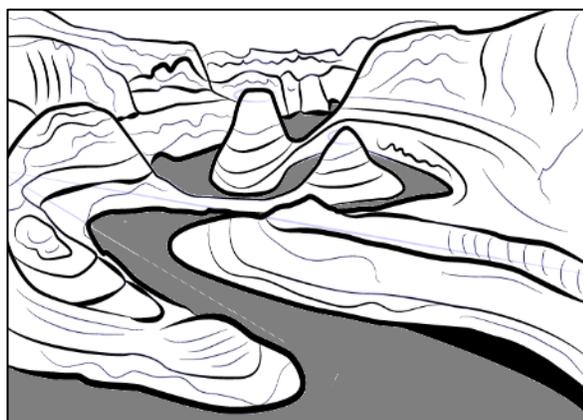
Erosion is the carrying away of land by forces such as water, wind, and ice. Erosion has formed many interesting features of the Earth's surface including mountain peaks, valleys, and coastlines. There are different forces that cause erosion. Depending on the type of force, erosion happens quickly or takes thousands of years. The major forces that cause erosion are water, wind, ice, and vegetation.

## Water Erosion

Water is the main cause of erosion. Water is one of the most powerful forces on the planet. Some ways that water causes erosion include: rainfall, rivers, waves, and flooding.

Rainfall can cause erosion two ways. First, when the rain hits the ground and the drops move little bits of soil. This is called splash erosion. Second, raindrops land, roll together, and then flow as runoff across the surface in small streams that can carry pieces of soil.

Rivers also erode soil over time. They break up particles along the river bottom and carry them downstream. One example of river erosion is the Grand Canyon which was formed by the Colorado River. The size of earth materials that are carried away by rivers depends on how fast the water is moving. A fast-flowing river can carry large pebbles and rocks. A slow-moving stream might only be able to move very small bits like clay, silt, and sand.



*The Colorado River created the Grand Canyon by washing away bits and pieces of rock over thousands of years.*

Ocean waves can cause the coastline to erode. The energy and force of waves cause pieces of rock and coastline to break off and be carried away, changing the coastline over time.

Large floods cause erosion to happen very quickly, washing away loose soil and moving it to new places.

### **Other Types of Erosion**

Other forces that cause erosion include wind, animals, vegetation, and gravity. Wind causes erosion, especially in dry areas. Wind can pick up and carry loose particles and dust from one place to another. Small animals, insects, and worms can help erosion by breaking up the soil so it is easier for the wind and water to move pieces around. Plant roots hold onto soil which prevents erosion. In areas where trees are cut down the soil is no longer held together and can more easily be carried away by water and wind. The force of gravity can cause erosion by pulling rocks and other particles down the side of a mountain or cliff. Gravity can cause landslides which can significantly erode an area.

Additionally, humans have increased erosion in some areas. This happens through farming, ranching, cutting down forests, and the building of roads and cities. Humans cause about one million acres of topsoil to erode each year. Planting trees around farmland and replacing trees that are cut down are two ways to limit the amount of erosion caused by human activity.

