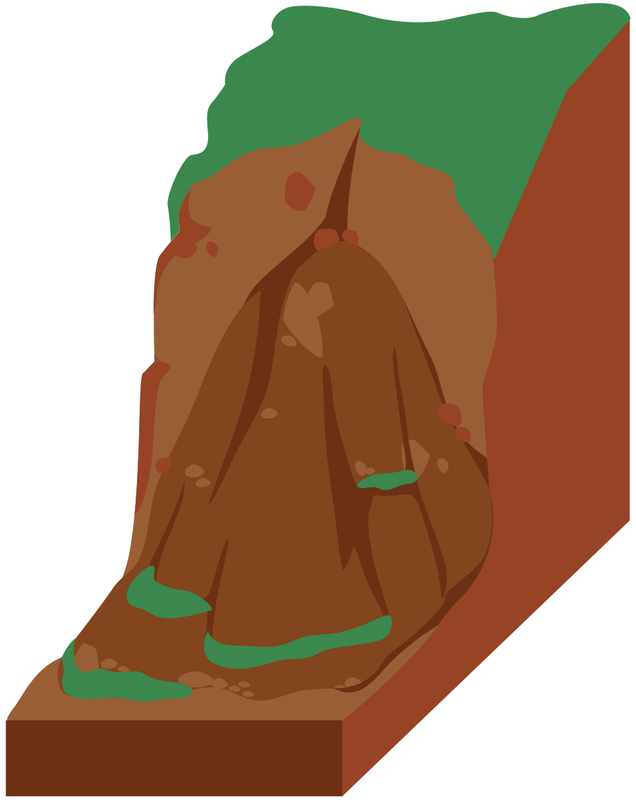


LESSON 33

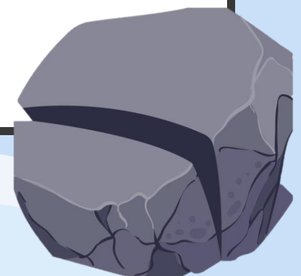
SOIL EROSION

IMPORTANT QUESTION

What happens after the rocks break?

When rocks are broken down into different pieces, it does not stay into one place. Some rock fragment become part of the soil. Others are transferred from one place to another is called **Erosion**. Materials that are transported due to erosion are called **Sediments**.

Erosion of rock fragments greatly contributes to the soil formation as well as formation of landforms.

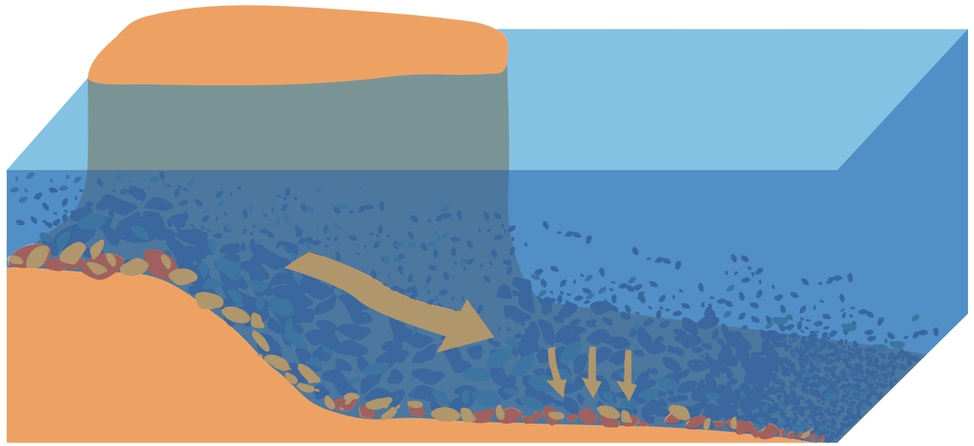


Eroded soil on the riverbank

Agents of Soil Erosion

Just like in weathering, there are different agents of soil erosion. It includes water, wind, animals, and humans.

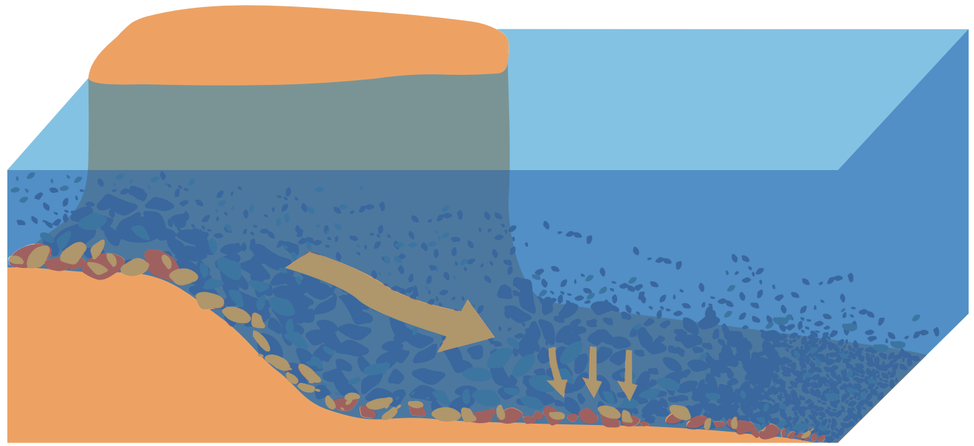
WATER



As water flows, transport rock and soil particles from one place to another.

The speed of flowing water affects the rate of erosion. The faster the water flows, the faster and farther the erosion would be. Faster movement of water can cause many sediments to be carried away by the water.

As water aids erosion, its color changes depending on the color of the rocks and the soil particles that it carries. For example, water that flows from a mountain can be brown because of the soil particle from the mountain that is carries. Mud left on the ground after flooding is also an evidence of erosion.



Wind

As the wind bows, it carries light particles of rocks and soil, transporting and depositing them in another place. Stronger winds carry the particles of soil in a distant place.

Wind erosion can take place in any area where the soil is not compacted. When the wind blows, the particles of sand move along with it.

Light particles of soil can be easily blown away by the wind. Try to rub the windowsill in your classroom. You may notice the dust sticking on your fingers. Where did the dust come from? How did the dust reach your place?

Erosion by wind contributes a lot in shaping the Earth's surface. An example of this is the formation of sand dunes. These are ridges of sand formed by the wind and are usually found in the deserts or shorelines. Dunes are formed when the wind blows sand into a secluded area. As sand accumulates, the dunes grow and vary in shape. An example of the sand dunes can be found in Ilocos Norte.

ANIMALS

Animals also contribute to the transportation of sediments. When burrowing animals dig the ground, some rock and soil particles stick to their bodies. As they move from place to place, they carry such particle, too.

HUMANS

Although erosion is a natural phenomenon, humans have a major contribution to the rate of soil erosion in the environment. Just like animals, whenever we walk, the soil clings to our shoes so the soil gets transported from place to place.

Other human activities like gardening can also cause erosion since soil moves as we dig the ground.

When quarrying, the impact created by blasting rocks and soil particles triggers soil erosion.

Huge volumes of soil and sand also get transported when they are used in the construction of houses and other infrastructure.

How Land Slope Affects Erosion

A Slope is an inclined surface of a land. The slope of a land affects the rate of the soil erosion.

Roots of trees and other plants absorb water as it rains, but some unabsorbed water still flows download, washing away soil. If the surface is greatly slanted, the water that flows has greater force and thus carries more soil. This results to greater and faster erosions.

Since the rate of erosion is faster on lands with steeper slopes, there is also great possibility for a landslide to occur. This is why it is not advisable to build houses on mountainsides or hillsides.

Long term erosion of soil and sand can create deserts and sand dunes like this.