

Erosion

Target Audience: All
Subjects: Earth Science
Time: 30 minutes

Materials Required

- ◆ Milk cartons (1 per group)
- ◆ White paper
- ◆ Tape
- ◆ Rock

Background Summary

Water drops are capable of breaking up the soil as they hit the ground. The force at which the raindrops land is determined by the speed at which the drop falls, the size of the drop, and the amount of protection the soil has from suffering a direct hit. Grass, for example, acts like an energy absorber so that the raindrop is not able to land directly on the soil. Blades of grass will bend as the raindrop hits it so that the raindrop is actually “caught” before it reaches the soil. When stream banks have a limited amount of vegetation, they are unprotected from the force of falling rain. The soil making up the stream bank in this particular situation is susceptible to erosion and can end up being washed away into the stream. This can have profound effects on the types of organisms living in that area of the stream.

Educational Goals

Students will be able to:

- ◆ Identify the different types of erosion.
- ◆ Identify the effect of water on landforms.

Activity One

1. Make splash posts by taping white paper to a milk carton. Place rock into the milk carton to give it stability.

2. Place these splash posts outdoors during a rainstorm in different locations. Try an open grassy area, under bushes or trees, in the garden etc. The impact of the water drops on the ground will be indicated by how high up the soil is splashed on the paper indicator.

3. If you can, get an eye-level view of grass blades catching raindrops! Use a water can with a sprinkler if you don't want to wait for rain. What happens to the blade of grass after it catches a drop?

Additional Activity

1. How does the weight of water affect the Earth? Find a spot of bare dry earth. Pour a cupful of water on it. Repeat this step, but this time hold the cup from as high a distance as possible. Observe how the earth changed when you poured your first cupful of water.

Discussion Questions

How did it change when you poured the second cupful from a greater height? Can you relate this to changes caused by the weight of water in various places around the earth?

Conclusion

The natural process of erosion works slowly. In hundreds of thousands of years, erosion can wear away a mountain until it is level with the plain. The more that students know about the causes and prevention of erosion, the more they can do to wisely use the land and not destroy or misuse it.

Source for Activities:

◆ Adapted from: The Comprehensive Water Education Book, International Office for Water Education, 1994