



Erosion

Grade Level: K-4

Overview No matter where you look, the land you see is a battleground. On one side of the battle are the forces beneath the surface. These forces cause the crust to be faulted, folded, tilted, and lifted. On the other side of the battle are the natural processes of weathering and erosion. Once rock has been broken up by weathering the small pieces can be moved by water, ice, wind, or gravity. Everything that happens to cause rocks to be carried away is called erosion.

Purpose The following activities will demonstrate to students various types of erosion. The purpose of these activities is to increase students awareness to the point where they can make intelligent decisions on proper land use.

Objectives Students will be able to:

- Identify the different types of erosion.
- Describe the effect of wind on land.
- Explain how water affects landforms.

Resources/Materials

Old Newspapers
Dry sand in jar with lid
Soup spoon
Water, paper and pencil.

Activities and Procedures Carry out the following activities to enable you illustrate the following:

i. Sand Dunes:

How do sand dunes form? Place sand in a pile and blow gently from one side. Observe what happens. What happens when you blow on the sand? Could you make the whole pile move if you blew long enough?

ii. Windblown Deposits:

Collect the following: newspaper, dry sand in jar with lid, box lid, spoon, water, paper, and pencil. Place the jar with lid on the center of the paper. Remove the lid from the jar and place it near the center. Blow gently on the sand, increase the strength of your breath until sand is being thrown from the jar. Continue blowing for 5 to 10 seconds. Examine the material in the paper by rubbing your finger over it. Do the same to the material trapped in the jar lid. Which is finer? Why?

iii. Water Weight Erosion:

How does the weight of water affect the earth? Find a spot of bare dry earth. Pour a

cupful of water on it. Repeat on the same spot, 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? 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?

iv. Landslides:

Why do hills and mountains that seem very solid in dry weather develop major landslides after prolonged rains? Build a sandcastle. After you have it shaped firmly, pour some water on it. Pour the water slowly and gently. Keep pouring until the sand can absorb no more water. What happened at first? What happened finally? How can you compare this to rainfall and mountains?

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

Assessment The teacher should pose and discuss the following questions with the children:

- i. What do you understand by the term "erosion" ?
- ii. What causes the greatest erosion in your environment?
- iii. What should be done in your locality to reduce erosion in your locality?

Suggestions/Modifications

- Students may trace the history of a few famous landforms and describe the role of erosion in creating these forms.
- Students may create an "erosion warning" handbook to inform others about the dangers of erosion.
- Students may create a science project showing the effects of erosion.

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