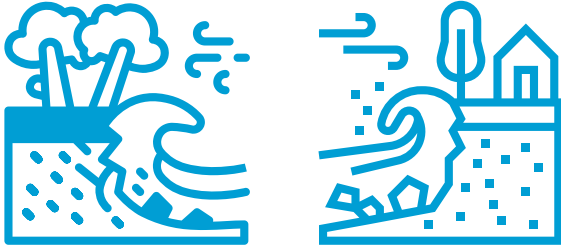


## ACTIVITY 4: SIMULATE EROSION



The purpose of this activity is for students to conduct an erosion simulation experiment, which will introduce them to the basic processes of erosion and sedimentation, to model how natural forces shape landscapes.

### **Materials:**

- Various rocks (can be collected beforehand or provided by the teacher)
- Sand or soil
- Small pebbles
- Clay or modeling dough
- Disposable aluminum baking trays
- Water
- plastic water pitchers
- Plastic spoons or sticks for stirring
- Chart paper and markers

First, inform students that they will be modeling the natural processes of erosion and sedimentation. Review that **erosion** is when wind, water, or ice move dirt and rocks from one place to another, like when a river carries away soil from a riverbank. **Sedimentation** happens when the moved dirt and rocks settle down in a new spot, such as when sand gathers at the bottom of a pond. So, erosion moves things, and sedimentation is when those things find a new home. Use visuals, such as diagrams or pictures, to illustrate these two processes and the relationship between them.

Next, divide students into small groups and distribute the materials to each group: sand or soil, small pebbles, clay or modeling dough, aluminum trays, water, a pitcher, plastic spoons or sticks. Instruct each group to create a miniature landscape in their container using the provided materials. They should layer sand, pebbles, and clay to simulate sediment layers. Have them predict what will happen when they pour water over the landscape.

Then, have students pour water slowly over their landscapes and observe how erosion and sedimentation occur. Encourage them to use the plastic spoons or sticks to simulate natural forces like rain or flowing water. Encourage them to discuss in their groups what the changes are that they observed and how their landscape was shaped by the water. They can repeat the simulation with additional water pours to further model the processes.

Last, reconvene as a class and discuss the results of the erosion simulation experiment together. Ask students to share their observations and explanations for the changes in their landscapes. Facilitate a discussion to help them extend their thinking and apply their model to the natural world around them. Have them discuss how this simulation models erosion and its impact on geological formations. Be sure to point out that by rock hunting, people can learn how erosion and sedimentation have shaped an area and moved rocks from far away to nearby.