Experiment 1

Materials:

- Sugar cubes (approximately 5-7 per student pair)
- One baby food jar or canning jar with lid
- Gravel (one handful per student pair)

To model how erosion breaks down rocks for instance when rocks are tumbled with sand in the ocean or a river, put sugar cubes and a small handful of gravel into a jar with a lid. The sugar cubes represent a softer type of rock and the gravel a harder rock type. Shake the jar vigorously for about 5 minutes and make observations about what happens to the "softer rocks" (the sugar cubes).

Experiment 2

Materials:

- Sandpaper (a 50 grain or similarly coarse sandpaper will work best for this) (1 small piece per student pair)
- Rough samples of a soft stone such as calcite, limestone, dolomite, uorite, rhyolite or similar stone with a hardness of about 3-4 on the Mohs hardness scale**. **Nature's Earth Products located at 10961 Hwy. 64 in Arlington – If you bring a 5 gallon bucket you can fill it with limestone for $1.50.**

In this investigation, you will explore how wind erosion can erode rocks. Due to the impracticality of using actual blowing sand against rocks, sandpaper will substitute. Choose a rock sample and sand it down for 5-10 minutes. If you have multiple rock types available, you can compare how different rock types affect the rate of erosion. Record initial and final observations of the rock surfaces.

Experiment 3

Materials:

- Water
- A beaker with a pouring lip
- Shallow pan (an 8x8 baking dish works well)
- Dry sand (enough for each student pair to fill the shallow pan once)

To make observations of splash erosion, you will need to pack the shallow pan with dry sand and then drop or pour water from the beaker onto the surface to make observations of how dropping water can erode rock surfaces. You can start this with the dry sand and as it gets wet, repack it and smooth it down and try again to make observations of the differences. You can also mound the dirt up into piles and sprinkle water over the piles to simulate rain and notice some interesting shapes appearing in the sand

Experiment 4

Materials:

- Large pan (a turkey roasting pan or plastic tub works well)
- 2-3 textbooks
- Dirt (enough to fill the pan a few times over depending on your class size)
- Water
- Beaker with a pouring spout

You will model erosion on slopes by creating a "hillside" of packed dirt in a pan that is propped up using heavy textbooks. Pour water down the hill and observe erosion.

Experiment 5

Materials:

- Large pan (a turkey roasting pan or plastic tub works well)
- Water
- Sand (enough to make a “beach” at one end of the pan)

Demonstrate beach erosion in this experiment by using a pan of sand with enough water to slosh back and forth when it is picked up and moved. Make a sand pile at one end and then slide the pan back and forth to create wave motion. Make predictions about what would happen to larger rocks undergoing this process over long periods of time.