SLC #17B – Erosion
5th Grade
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References:

www.atozteacherstuff.com/lessons/Erosion.shtml - This is the source for the outline of the lesson plan which has been only slightly modified here.

Some addition and changes based on suggestions by Meghan Knapp

Benchmarks:

SLC 17: Analyze the impact of human activity on the ecosystems of the earth.
CPS Benchmark: SLC 17B: Students will identify the impact of human activities on the earth’s ecosystem (pollution, conservation of natural resources, erosion, and soil fertility).

Objectives:

Students will be able to identify erosion and explain the causes of erosion, as well as some things to slow erosion.

Materials:

- Potted plant
- Science Journals
- Aluminum baking trays
- Sand
- Gravel
- Potting Soil
- Sticks
- Bottles of water
- Collection Tubs

Initial Demonstration:

Provide each pair of students with a disposable aluminum baking tray, enough soil to fill the tray, water, small container, and newspapers. Cover each working area with newspapers to prevent a huge mess.

Instruct students to fill their tray with soil, patting down to firm in place. Place the narrow side of the tray filled with rocks and soil on a book, so as to place the tray on a slant. Have one of the students pour little drops of water, starting at the highest part of the tray, so the water can run down the soil. Direct another student to pour larger
amounts of water at the highest part of the tray. Have students note the condition of the water coming off of the tray, as well as how that changes with the rate of water being poured onto the tray

**Target Observations:**

- The water causes the soil and rocks to move when you pour enough of it on.
- The more quickly you pour the water on, the more soil is moved.

**Target Model:**

- Running water erodes the land.

**Procedure:**

Introduce the term erosion. Ask students how they could slow down the erosion in their trays. Give them sticks, and rocks, and have them repeat the earlier demonstration and observe the changes in the results. As a side demonstration, take a potted plant out of the pot, with soil intact. Ask what effect the roots have, and what would happen to this plant if it were having water poured on it.

Ask students if and where they have seen examples of erosion. Now take the class outside to the playground to examine the effects of erosion on the playground and surrounding school property. Ask students to remember how plants hold soil, and to pay special attention to the placement of trees and shrubs on the school grounds. Have students record their observations - with a lot of detail - in their science journals. As a class find a few good examples of erosion, and then allow the students to split into pairs, and find a few of their own examples. Don’t forget to set boundaries where students may explore.

Ask students to share what they observed and wrote in their science journals. Ask if anyone noticed anything about the placement of trees and shrubs. Extend this idea to deforestation, and a general discussion of how humans clearing plants can lead to increased erosion.

**Target Revised Model:**

- Erosion is caused by running water.
- Plants slow down erosion.
- Erosion is sped by lack of plants to hold the soil.

**Summary:**

Erosion is when soil is moved from one place to another. Running water can cause erosion. Plants can slow erosion down