




Experiment: Erosion Exploration

In this experiment, you will model how plants affect the amount of erosion in an area. Erosion happens naturally, however, human activities often speed up erosion. Too much erosion can lead to runoff and too much soil in our waterways. It is important that people help reduce the effects of erosion. This picture show erosion close to the back of a house. This experiment will require the growth of plants, so be sure to give yourself time to conduct it.



Materials:	Instructions:
<ul style="list-style-type: none"> • 3 empty clear 2-liter plastic bottles • Sharp scissors or a utility knife (adult supervision required) • 3 pieces of string (12in long each) • 3 disposable cups or the bottom of 3 plastic water bottles • Hole punch or another method of poking holes through the cups • Garden or potting soil • Dried leaves, sticks, vines, mulch, or other organic matter • Grass seed or seed for another fast-growing plant • Books or blocks to prop up end of bottles • Watering can with water • Tray to reduce messes 	<ol style="list-style-type: none"> 1. Ask an adult to help you cut one side off each plastic bottle (as seen in the picture). 2. Lay each bottle on its side and fill about halfway with soil. Leave the caps on the bottles for now. 3. Leave the 1st bottle as just soil. Mix your organic matter into the soil in the 2nd bottle. Follow the directions for planting your seeds in the 3rd bottle. Sprinkle water over your seeds. Be sure to keep them moist so they will grow. 4. Punch holes in the sides of the plastic cups and tie string making a handle. 5. Use the string to hang one cup from the spout of each bottle, as seen in the picture. 6. Water your seeds often to keep moist. Allow time for plants to take root and grow, this may take a couple weeks. 7. Once plants have grown, use books or blocks to prop up the bottom of the bottles so they are at an angle. 8. Take the lids off the bottles and make it rain! Use your watering can to make it rain on each bottle, it should keep raining until water begins to flow from the spout into the cup. 9. Observe the water in each cup. Which cup has the most soil in the water? If soil is in the water, this shows that erosion has occurred. Which cup has the least amount of soil in the water? What does this tell us about the use of plants as erosion prevention methods?