

## Watch It Run!

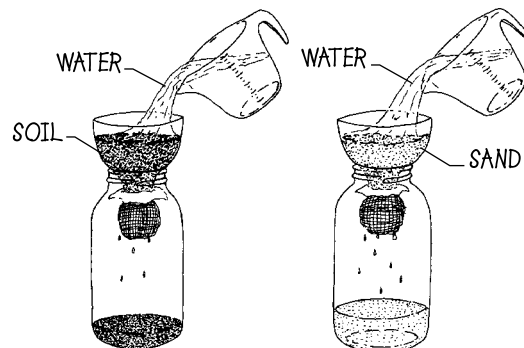


One earthworm can process 36 tons of soil in a year!

### Equipment/Materials

two 1-liter plastic soda bottles  
 two 1-quart canning jars  
 two 5-inch-square pieces of cheesecloth  
 dry soil, about 2 cups\*  
 watch, stop watch or electronic timer  
 \* gather the soil from your community

water  
 clear measuring cup  
 two stout rubber bands  
 dry sand - about 2 cups



**Time Required:** 10 minutes

### Procedure

1. Make a funnel from the top portion of each empty soda bottle by cutting off the bottom.
2. Fold the cheesecloth and cover the small end of the soda bottle funnel with it, securing it with the rubber band. Invert the funnel into the canning jar or other container with the small end down. The funnel should not rest on the bottom of the container.
3. Put about 2 cups of dry soil from your community into one of the funnels. Several samples could be used if desired. Spread the soil in a thin layer and allow it to dry for at least 1 or 2 days before doing this activity!
4. Put an equal amount of dry sand into the other funnel. Like the other sample, this one should be completely air dry.
5. While one participant times the process from the beginning, pour a measured amount of water (about 1 pint or 2 cups) into the first funnel; and record the following information.
 

Elapsed time for first drop to reach the container \_\_\_\_\_

Elapsed time until water stops flowing or dripping into the container \_\_\_\_\_

Original amount of water added \_\_\_\_\_

Amount of water collected in the receiving container \_\_\_\_\_

Amount of water retained by the soil \_\_\_\_\_
6. Using the same techniques and amounts of material, repeat the process for the other funnel(s), recording the same data.
 

Elapsed time for first drop to reach the container \_\_\_\_\_

Elapsed time until water stops flowing or dripping into the container \_\_\_\_\_

Original amount of water added \_\_\_\_\_

Amount of water collected in the receiving container \_\_\_\_\_

Amount of water retained by the soil \_\_\_\_\_
7. Lead participants to compare the water holding capacities of the samples and to consider how the texture of the soil affects its water holding capacity.
8. Using the relative amounts of soil that are carried into the receptacles by the water flowing through the funnels, compare the influence of soil texture on soil erosion. Remember, the cheesecloth may act as a selective filter to some degree, allowing only smaller soil particles through, if it is tightly woven.