

# Dig Your Own Well

Adapted from: Wells: A Deep Subject, Water Sourcebook, Tennessee Valley Authority, January 1995

**Target Audience: 3-5**

**Subjects: Science**

**Time: 30 minutes**

## Advanced Preparation

1. Cut the top off of the 2-liter soda bottle.
2. Fill the bottom with 3 inches of gravel.
3. Locate a pump from the top of a soap dispenser.

- ◆ 2-liter soda bottle
- ◆ Gravel (may be purchased in the fish department of many pet or department stores).
- ◆ Sand
- ◆ Pump from the top of a soap dispenser or spray container
- ◆ Blue food coloring
- ◆ ¼ Cup of powdered cocoa
- ◆ 1 Paper cup
- ◆ Marker
- ◆ Spray bottle filled with water

## Procedure

Think of the container and sand and gravel models that you are about to make as part of a groundwater system. The bottom of the container is similar to bedrock or clay that is found beneath the Earth's soil layers. Because we can't see groundwater, we make models to demonstrate how it looks.

1. Fill the 2-liter bottle with 4 inches of sand. (See picture).
2. Pour in 2 to 3 inches of water colored with the blue food coloring. Mark the level of the water with a marker.
  - A. This water represents the groundwater found beneath the earth.
3. Put the pump into the gravel with the tube extending into the water.
4. Pump the water out of the model catching the water in a cup. Mark the new water level with a marker of a different color.
  - A. When we take water out of the ground, what happens to the water supply?  
\_\_\_\_\_.
  - B. How does water get back into the groundwater supply?  
\_\_\_\_\_.
5. Demonstrate the action of recharge by pouring more of the blue water back in until the original water table level is restored.

6. Sprinkle the cocoa on top of the sand. Using the spray bottle, spray water on the cocoa until a good amount of it begins to seep down through the sand.

7. Once again, pump out this water catching it in a cup.

A. What does the water look like? \_\_\_\_\_.

B. Could pollution seep through the ground and pollute our water supply? \_\_\_\_\_.

C. What kinds of pollution might get into our water? \_\_\_\_\_

\_\_\_\_\_.

D. What can you do to help keep our groundwater clean? \_\_\_\_\_

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