

FAMILY FUN: GROUNDWATER DEMONSTRATION



INTRODUCTION

Comprehension of the critical role played by water in support of all life on Earth is an essential foundational element of the Inland Empire Resource Conservation District's (IERCD's) Water Conservation program. This activity is being provided to increase awareness of water uses and benefits.

BACKGROUND

An aquifer takes a long time to form. Some aquifers are millions of years old. An aquifer is an underground layer of water-bearing permeable rock, rock fractures or unconsolidated materials, from which groundwater can be extracted using a well. Water slowly infiltrates into permeable surfaces over time, eventually this water will reach the water table. In reality it could take many years for water to reach the water table, which is why water conservation is so important. People are drawing up water faster than they are recharging the aquifers. Groundwater supplies are replenished, or recharged, by rain and snow melt that seeps down into the cracks and crevices beneath the land's surface.

SUMMARY

This activity demonstrates how water infiltrates into the ground and how infiltration is impacted through the different types of soil.

MATERIALS

- 6 Clear plastic cups approximately 16 – 20 ounces; 3 for project, 3 for drainage.
- Gravel
- Sand
- Clay
- Soil
- Magnifying glass (optional)
- 3 separate cups of water 8 ounces each (per group)

DIRECTIONS

1. Split children into two groups. Have each group place large gravel, sand and clay in *separate* clear cups. Have children look closely at each cup.
2. To demonstrate how ground water moves through underground rock formations, pour water into each cup. Observe and discuss the result.
3. Inquiry: Which cup allowed the water to soak down the fastest? The slowest? How would the different materials influence water movement in natural systems?
4. Now poke a hole at the bottom of each bottle, drain, and capture the water.
5. Next add soil on top of the gravel, sand, and clay; pour dirty water over the soil to demonstrate the filtration that occurs in the ground. Capture the water in clear cups to be examined by the entire family.

WANT TO DO MORE

Discuss with the family the possible contaminants that can make their way to groundwater. For more content visit:

<http://www.groundwater.org/get-informed/groundwater/contamination.html>