MAKE AN AQUIFER IN A CUP!

INTRODUCTION

Here is a fun activity you can do at home to demonstrate an **aquifer**. Drinking water in New Mexico comes from aquifers that store freshwater called **groundwater**. Water fills the open space between grains of sediment or between fractures in hard rock. The amount of open space is called the **porosity**, and the more connected the open spaces, the higher the **permeability**. An aquifer has a relatively high permeability and can transmit groundwater to a drinking water well.

The City of Albuquerque has deep groundwater wells that pump water to the surface to provide residents with the water they receive when they turn on their tap. Some areas outside Albuquerque receive water from smaller community drinking water wells, and some families even have their own private drinking water well.

The Albuquerque aquifer is a **geologic basin** (like a tub) that is filled with **sedimentary deposits**, such as gravel, sands, silts, and clays. The depth to groundwater in Albuquerque varies based on where you are in the City. Water used for drinking is generally taken from deep within the aquifer.

MATERIALS

- Clear container, such as a glass, cup, or cut off soda bottle
- Small pebbles or aquarium rock
- Drinking straw
- Tap water

PROCEDURE

Step 1: Make the Geologic Deposit
Fill the container with pebbles. This represents the sedimentary deposits.

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Step 2: Make the Aquifer
Pour tap water into the container. Through the clear container, watch how the water moves between the pebbles. This is how water is stored in an aquifer.

Step 3: Make the Well
Insert a straw into the container. Watch how the straw fills with water. This is your groundwater well.

Step 4: Make a Pumping Well (optional)
Insert a clean soap or lotion pump into the container. Push the top of the pump as you would to get soap. This is your aquifer pumping well.

DEFINITIONS

Aquifer—rock or sediment underground that is completely saturated with water and has enough interconnected space to store groundwater and transmit groundwater to a well.

Groundwater—water contained within the open space in rock or sediment underground.

Geologic Basin—large, low-lying area that fills with sediments.

Porosity—amount of open space in rock or sediments.

Sedimentary Deposit—geologic material laid down through the action of wind or water.

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