Like many other Arizona communities, Tucson pumps groundwater to meet its water needs.

Groundwater is water that percolates through the soil, down into sand and gravel storage areas called aquifers. The groundwater we pump comes from aquifers hundreds of feet below the surface of the earth. Most of the groundwater that’s stored in aquifers took centuries to get there!

But as Tucson’s population grew, so did the city’s need for groundwater. We were taking out groundwater nearly three times faster than nature could replenish it. The water levels in our aquifers dropped at an alarming rate—we were being a real drain on our aquifers.

To save our groundwater, we’re beginning to use water from renewable sources like the Colorado River.

In the Tucson area, Central Arizona Project (CAP) manages and delivers Colorado River water to three recharge projects. Another recharge project CAP delivers water to is run by Tucson Water, a large CAP customer.

At recharge sites, river water helps replenish, or fill up, depleted aquifers. This stored water can then be pumped out as needed, without being a drain on our aquifers.

Here’s a simple soil experiment for you and your friends!

**What kind of soil holds the most water?**

**WHAT YOU NEED:** three identical cups, sand, gravel, water and a measuring cup

**DIRECTIONS:**
1. Fill one cup with sand, one with gravel and the third with a mixture of sand and gravel. Material should be level to the top of each cup.

2. Fill a measuring cup with water. Slowly pour water into the cup of sand until the water level reaches the top of the cup. Figure out how many ounces of water the sand holds. (Subtract what’s left in the measuring cup from the amount of water you started with.) Write down the amount of water the sand holds.

3. Repeat step 2 with the cup of gravel and then the cup mixed with sand and gravel. Write down how much water each of these soil types holds.

**QUESTIONS:**

1. Which soil type holds the most water?

2. Which held the least?

3. Why do you think this type of soil held the least amount of water?