Make a Water Well!

Water is a vital resource; most living things depend on it for survival. But where does our water come from? Most kids might say it comes from the tap, but how does it get there in the first place? With water wells, of course! Throughout history, humans have been using wells to draw up the water naturally present in the earth into our homes.

Give your child the chance to see how a well works by constructing your own! In this activity, make your own well and plot of land with a cardboard tube, sand, and gravel. This is a great preschool activity that provides an excellent visual to help kids understand the process behind water wells.

What You Need:

- Cardboard toilet paper tube
- Large, empty coffee can
- Gravel, such as from a fish or pet store
- Sand
- Water

What You Do:

1. Place the cardboard toilet paper tube upright in the bottom of the coffee can. This tube will represent your well.
2. Hold the tube steady and pour a layer of the gravel around the bottom outside edge. Make the gravel layer about 2 inches deep. Remember not to pour any gravel *inside* the tube, only outside!
3. Pour sand on top of the gravel to form a second layer. Some of the sand will fill gaps in the gravel; the rest will build up to make another layer, which should be about 1½ inches deep. Again, make sure that no sand gets inside the tube. After pouring, about half an inch of the cardboard tube should still be sticking up above the sand and gravel. Involve your child in the process by asking her what she thinks the sand and gravel layers are supposed to represent. (These layers are the earth's soil.)
4. Now that the well is constructed, it's time to see how wells get our water. Ask your child what she thinks will happen when you add water to the sand and gravel.
5. Pour water onto the sand and gravel, continuing until the water level reaches the very top of the sand layer.
6. Observe the tube—what happens? (Water should begin to rise in the tube.)
7. Discuss with your child what she thinks is going on. Some questions you can ask: Where is the water in the well coming from? How does the water get inside the well? How is this miniature well related to real-life wells? Why is it important to be aware of what we put in our soil?

What's Going On?

In this activity, you have built a water well where the cardboard tube represents the well while the sand and gravel around it represent the soil in the earth. When you pour water into the sand and gravel, the water level in the tube should begin to rise. Why does this happen?

In nature, after it rains, the resulting groundwater is absorbed into the earth and is "stored" in the soil. Eventually, enough water is absorbed into the soil so that water pressure builds up in this underground "storage." When we dig a well, this intense pressure forces water into the well, which allows us to reach the water and use it.

Knowing where our water comes from is important to understanding why keeping our soil clean is a major concern. Because some of our water is extracted from the earth's soil, it's our responsibility to see that we keep our earth free of as many chemicals and toxins as possible so that our water will also be safe to drink and use in the future.

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