



Edible Aquifer

Did you ever wonder where all of the water you use comes from? In Wisconsin, most of us get our water from under the ground. Groundwater doesn't flow like an underground river. Instead, groundwater is stored in and moves slowly through layers of soil, sand and rocks called aquifers. It can be kind of hard to picture how this works, so to help you out, we're going to make an aquifer. In this case, it will be an edible aquifer. This will show you how groundwater is stored and how what we do above ground can affect the water underground.

Here are all of the items you'll need: blue or red food coloring, vanilla ice cream, clear soda, different size chocolate chips, cake decoration sprinkles and sugars, drinking straws, spoons and clear cups.



Some of the things you'll need.

The first step to making our edible aquifer is to fill a small, clear cup about one-third of the way with your chocolate pieces. This represents all of the sand, gravel, and rocks in the aquifer.

Now, cover the "gravel, sand, and rock layer" with white soda. This is our groundwater. See how the "water" fills in the spaces around the "gravel, sand, and rock."

The next layer of our aquifer is called the confining layer, which is usually clay or dense rock. The water is confined below this layer. Today our confining layer is going to consist of ice cream. Spread a layer of ice cream over the chips and soda. Now add another layer of "gravel and sand," chocolate chips.



Now add some food coloring to a small amount of soda. The coloring represents pollution.

The next layer is our porous, top layer of soil. Decorating sprinkles and some colored sugar can be used to represent this layer.

Now add some food coloring to a small amount of soda. The coloring represents pollution. Can you think of some pollutants that can affect groundwater? Watch what happens when we pour it on the land.



By sucking on the straw, you can pump the well and watch as the water table goes down.

Now, using your straw, drill a well (push the straw down toward the bottom of the cup) into the center of your aquifer. Slowly begin to pump the well by sucking on the straw. Watch as the water table goes down? Also, watch and see how the contaminants can get sucked into the well area and end up in the groundwater by eventually leaking through the confining layer.

Pretend it's raining and recharge the aquifer by adding more soda. A real aquifer takes a lot longer to recharge, this is just an example to speed up the process and give you a little more soda to drink! That's it, now it's time to eat up your aquifer.



PROCESSING THROUGH SIX PILLARS:

Lesson: Edible Aquifer

WHAT

- What happened when we added pollutants (food coloring) to our land?
- Who is responsible for clean water?

NOW WHAT

- What are some things people do to harm our water quality when they wash their cars?
- What are some things people do to harm our water quality when they take care of their yards?
- What are some things people do to harm our water quality when they clean up after their pets?

SO WHAT

- What kinds of things should you do when cleaning up after your pet if you want to take responsibility for cleaner water?
- What kinds of things should you do to take care of the fall leaves if you want to take responsibility for cleaner water?