

Edible Aquifers

Materials Needed:

- Cream soda or Blue or red food colouring
- Vanilla Ice Cream
- Clear soda pop
- Crushed ice
- Variety of coloured cake decoration sprinkles and sugars
- Drinking straws
- Clear plastic cups

Objective:

To teach about the geologic formations in an aquifer, how pollution can get into groundwater and how pumping can cause a decline in the water table.

Activity Steps:

1. Begin to construct your edible aquifer by filling a clear plastic cup 1/3 full with crushed ice (represents gravels and soils)
2. Add enough soda to just cover the ice.
3. Add a layer of ice cream to serve as a "confining layer" over the water-filled aquifer.
4. Then add more crushed ice on top of the "confining layer." Colored sugars and sprinkles represent soils and should be sprinkled over the top to create the porous top layer.
5. Now add the food coloring to the soda. The food coloring represents contamination. Watch what happens when it is poured on the top of the "aquifer." Keep in mind that the same thing happens when contaminants are spilled on the earth's surface.
6. Using your straw, drill a well into the center of your aquifer. Slowly begin to pump the well by sucking on the straw. Watch the decline in the water table. Notice how the contaminants can get sucked into the well area and end up in the groundwater by leaking through the confining layer.
7. Now recharge your aquifer by adding more soda which represents a rain shower.