Aquifer Pollution Search

How Many Sources of Pollution Can YOU Find?

The Edwards Aquifer is an underground limestone formation with fractures, caves, and channels filled with flowing water. There are many types of pollution that can end up in our aquifer because openings on the surface of the land can be direct conduits through the aquifer.

Find 5 sources of pollution and write them in the spaces below

1. _____
2. _____
3. _____
4. _____
5. _____

Count how many total sources of pollution you can find.

TOTAL = ☐

Science Fun at Home!

Background

Did you know that there is water under our feet? A lot of Austin's underground water is stored in a limestone aquifer. Picture a large area of rocks hidden beneath our yards with holes in them like the holes in a sponge. Some of those holes can be caves, big enough to hold people. When the holes are on the surface of the land, water can flow quickly through them to where it is stored underground in an aquifer.

Aquifers can also be made of sand, like the one in East Texas. Can you picture water flowing through sand? Would it travel as quickly as it would through holes in rocks? How about pollution from your neighborhood? Do you think it would travel faster through our limestone aquifer or a sand aquifer?

Try this easy experiment to learn more about our aquifer.

Materials

2 clear plastic one quart water bottles

2 paper coffee filters

1 bottle of "pollution" (1/2 teaspoon of food coloring)

1 quart bag each of small rocks and sand

cup for measuring water

Hypothesis

What do you think will happen? (circle one)

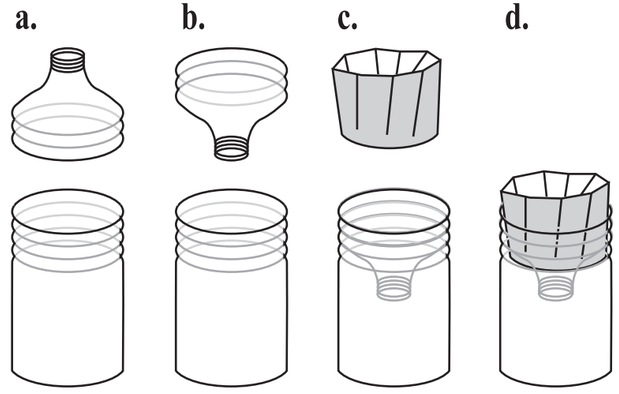
Water in a

sand aquifer *limestone aquifer*

will get polluted the quickest.

Test your Hypothesis

1. Cut bottles in half and put the tops upside down into the bottoms of the bottles. Place a paper filter in each one.



2. Place rocks into the first filter. This bottle represents the limestone of the Edwards Aquifer in Austin.

3. Add a half cup of water to the rock bottle, while counting until all the water has come through the container. Use this system to count in seconds: One Mississippi, Two Mississippi, Three Mississippi, etc. Do exactly the same experiment on the sand bottle.

Write down the number of seconds for each container.

Rock _____ sec. Sand _____sec.

5. Slowly add 1/2 teaspoon of pollution (food coloring) to each aquifer. Describe how much pollution entered the aquifer in each container. What does this mean about pollution in our aquifer (Edwards Aquifer)?

6. What happens when it rains? Add a half cup of water to each container. Describe the differences in color. What do you think that difference means about pollution in our aquifer (Edwards Aquifer)?

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