

Contamination on the Move

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What happens if a contaminant is spilled in a recharge area?

Recharging groundwater supplies is very important. It replaces the groundwater that has been used with a new supply of fresh, pure water. What will happen to the groundwater when a contaminant is spilled in an area where groundwater is recharged? The groundwater could possibly become contaminated. That is why it is very important to prevent contaminants from being released in a groundwater recharge area.

Key Topic: Aquifer, Contamination/pollution prevention, Earth science/geology, Groundwater, Recharge, Water quality

Grade Level: This activity can be adapted for many age groups and settings

Duration: 15 minutes

Objectives

To learn that contamination can spread and pollute groundwater.

Items Needed:

- Empty coffee can
- Medium weight string or cord that knots easily and resists fraying
- Water
- Food coloring
- Measuring tape
- Scissors
- Masking tape
- Large, open area
- Golf balls (optional)
- Stopwatch (optional)



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Activity Steps:

1. Cut five pieces of string approximately seven feet long. On one end of each of the five pieces of string, tie a one inch loop.
2. Cut a two-foot piece of string and feed it through the loops at the ends of the five pieces from step one. Tie the two-foot piece of string snugly around the base of the coffee can, approximately one to one and a half inches from the bottom of the can.
3. In a large, open area lay down enough string to make a circle that is approximately 10 feet in diameter. Masking tape may be used to secure this string in place on windy days. This circle represents the recharge area for an aquifer.
4. Pour water in the coffee can until it reaches approximately two inches from the top and add food coloring. This represents an open container of a harmful contaminant. *If you are unable to complete this activity outside, substitute the water with golf balls.*
5. Place the coffee can of "contamination" in the center of the circle of string. Stretch the five pieces of string outside the circle.
6. Divide the students into groups of five. If you have a large number of students that is not divisible by five, you may add more five-foot pieces of string and attach them to the can. In addition, multiple teams may compete at the same time, simply complete steps one through five for each team.
7. The mission of the students is to move the can outside of the circle while not spilling any of the contaminant in the recharge area of the aquifer. Students may not enter the circle with any part of their bodies. The team has to work together to lift the can, using only the strings, and move it outside of the circle. **The team is not allowed to drag the can!** Once the team has successfully moved the can outside of the recharge area without spilling its contents, the aquifer will be declared safe.

For More Fun:

- Use the stopwatch to time each team. The team that safely moves the coffee can out of the recharge area the fastest wins.



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