

Human Influences on Groundwater

Engage

What To Do:

1. Watch the Groundwater animation from

<https://www.youtube.com/watch?v=uQRvN6MUajE>

2. Answer the questions below.

Questions:

1. When it says the water is used over and over again what does this mean?

2. What kept the rain from soaking into the ground?

3. What did it show that could help the rain soak into the ground around parking lots and streets?

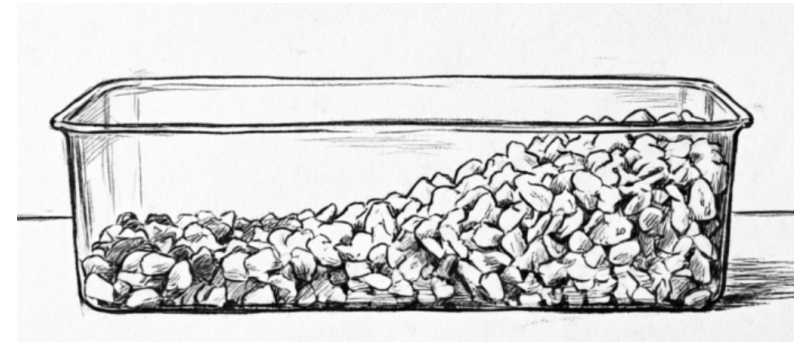
Explore

Teacher Demonstration

Materials: Clear plastic bin (shoebox) small white gravel, enough to fill the plastic container about half full, colander or strainer, container with 1L of water and container with 250 mL water, blue and red food coloring, soap dispenser pump, rinsed (pump only) packing tape or painters tape, thin piece of cotton, scissors, rubber band, 2 small, clear drinking cups

What To Do:

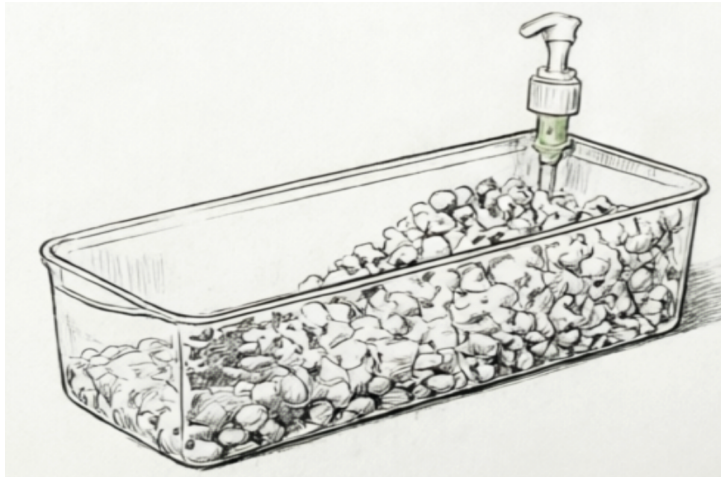
1. Cut the thin piece of cotton and wrap it around the bottom of the soap dispenser to act as a filter. Keep it in place with a rubber band.
2. Use the strainer to rinse the gravel. Place cleaned gravel in plastic bin. Make a hill on one side of the bin and only a thin layer of gravel on the other side of the bin. (See picture below)
3. Place several drops of blue food coloring in the 1L container and pour it gently on the hilly side of the container.
4. Have students look through the side of the container.



5. Draw, color, and label the water table.

6. Label and color the lake.

7. Place the soap dispenser pump just inside the edge of the bin on the hilly side and tape it so it stands up straight in the gravel. (see picture on next page)



8. Recolor the water table and lake in the picture above.
9. Hold one of the small cups under the pump and push the pump down at least 10 times.
10. What color is the liquid that comes out of the pump? _____
11. Why did we put the cotton on the bottom of the pump? _____

12. Place several drops of red food coloring in the 250 mL container. Make sure it is mixed well.
13. Spill about half the red water into the lake but not on the gavel hill side.
14. Look from the side and color the red water in the picture above.
15. Place the other small cup under the pump and press it about 10 more times.
16. How did the water color change? _____
17. How did the red water get there? _____

CONTAMINATION OF GROUNDWATER

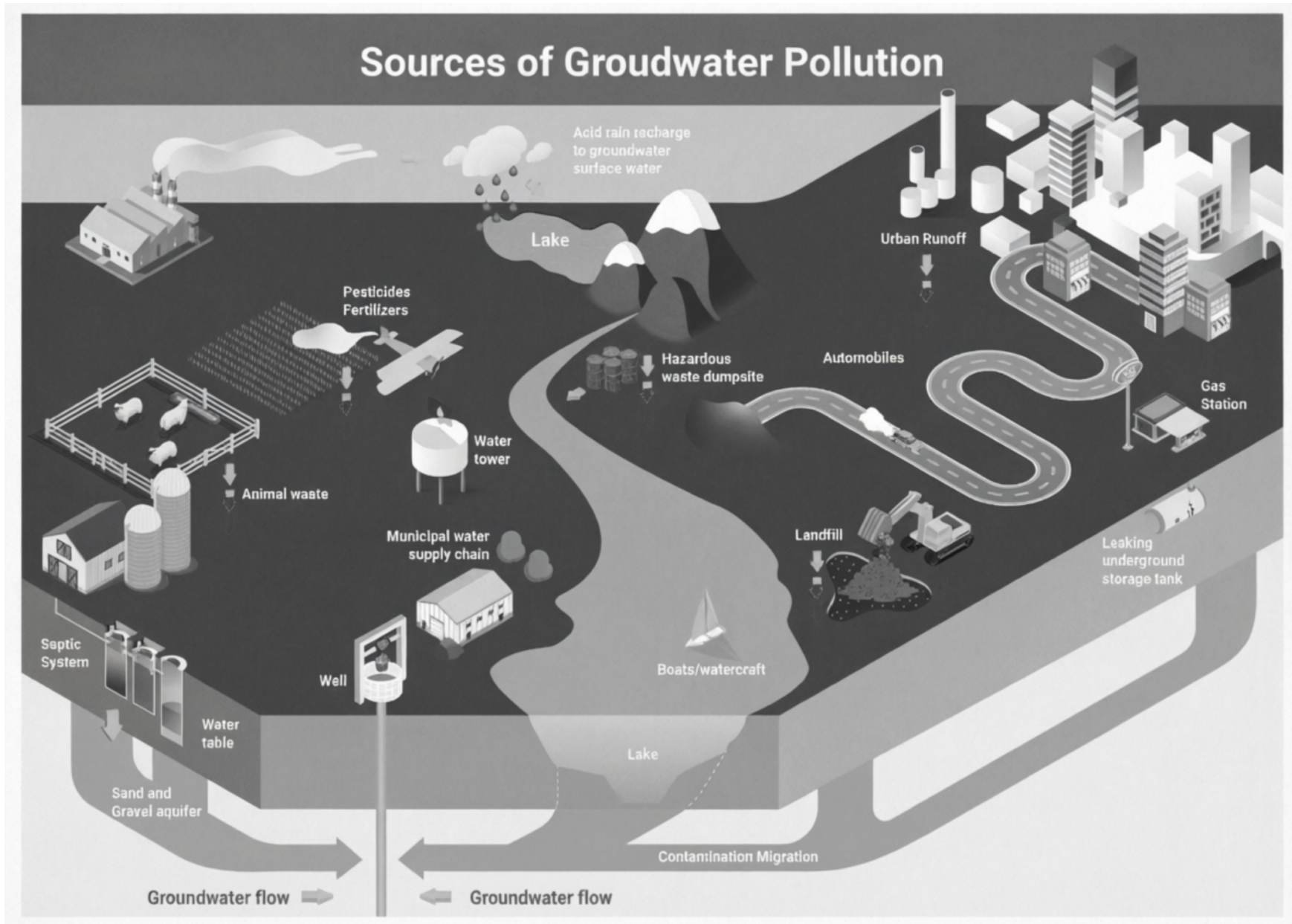
Explain



**UNDERGROUND STORAGE
TANKS**

SEPTIC SYSTEMS

LANDFILLS



What To Do:

1. Color all water blue.
2. Answer questions on next page.



Elaborate

Questions:

1. Find the underground storage tanks and circle it in red.
2. Find the septic system and circle it in red.
3. Find the landfill and circle it in red.
4. Explain how the leaking underground storage tanks can affect groundwater.

5. Explain how the septic system can affect groundwater.

6. Explain how the landfill can affect groundwater.

7. Explain how the animal waste can reach the groundwater.



Evaluate

Name _____ period _____

EXIT TICKET

Human Influences on Groundwater

1. Name three ways humans can pollute groundwater.

2. Pick one of the ways humans pollute groundwater and describe how to prevent it from happening.
