

Making a Model of the Water Table

In this experiment, you will build a model to see how water collects underground and forms a water table.

Name: _____

Date: _____

Subject: Earth Science

Topic: Groundwater

Level: Middle / High School



OBJECTIVE

To model how water infiltrates into soil and collects above an impermeable layer to form a water table.



MATERIALS

- Clear plastic container (shoebox size or larger)
- Small rocks or gravel
- Sand
- Soil (topsoil)
- Water
- Spray bottle or cup
- Spoon or small trowel (optional)
- Tape (optional)



PROCEDURE

1. Place a layer of small rocks or gravel in the bottom of the clear container. This represents the impermeable layer (bedrock). Use about 2–3 cm of rocks.
2. Add a layer of sand on top of the rocks. This represents the porous material (sand/gravel layer). Use about 3–5 cm of sand.
3. Add a layer of soil on top of the sand. This represents the surface soil. Use about 2–3 cm of soil.
4. Slowly pour water over the soil using a spray bottle or cup. Add water a little at a time and watch what happens.
5. Continue adding water until the sand layer is saturated and you see a clear line where water collects above the rock layer.
6. Observe and record your results.
7. (Optional) Use tape to mark the water level on the outside of the container.



QUESTIONS

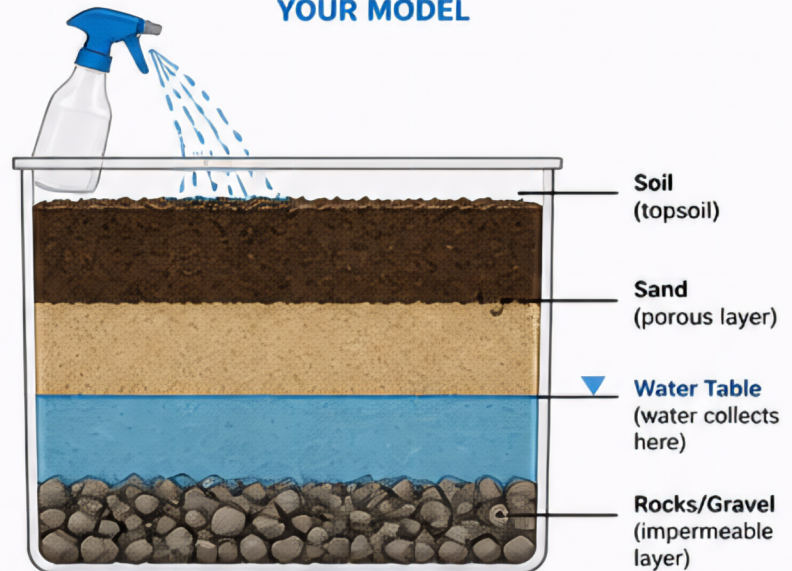
1. What is the water table in your model?

2. Why did the water stop at that layer?

3. What might happen if more water is added?

4. How does this model help explain groundwater in real life?

YOUR MODEL



The water table is the top level of groundwater. Water fills the spaces in the sand until it cannot go down any farther.



OBSERVATIONS

Fill in your observations below.

What happened as you added water? _____

Where did the water collect? _____

What layer did the water stop at? _____



CONCLUSION

In 2–3 sentences, explain what you learned from this experiment.



THINK FURTHER: Research how wells access groundwater. What happens when the water table drops during a drought?