



Making a Water Clock (Clepsydra)

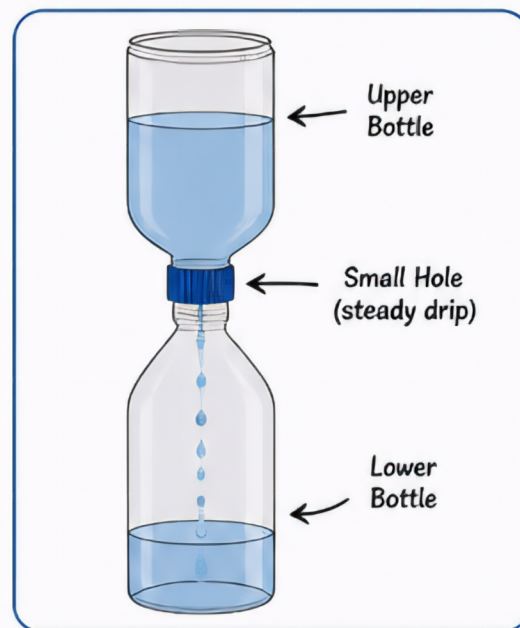
A clepsydra (KLEP-sih-druh) is a water clock used by ancient people to measure time. Water flows at a steady rate, so we can use it to track equal amounts of time.

MATERIALS

- 2 clear plastic bottles with caps (same size works best)
- Water
- Push pin or small nail (for making a hole)
- Tape (waterproof or packing tape works well)
- Marker
- Measuring cup (for measuring water)
- Stopwatch or timer
- (Optional) Modeling clay or putty (to help seal the caps)

PROCEDURE

1. Fill the upper bottle with water.
2. Use a push pin or small nail to make a tiny hole in the cap of the upper bottle. The hole should be small so water drips slowly and steadily.
3. Screw the cap back on tightly.
4. Place the upper bottle upside down on top of the empty lower bottle.
5. Tape the two caps together so the bottles stay connected and no water leaks out. (Use clay or putty if needed for a better seal.)
6. Make a mark on the lower bottle to show the starting water level (bottom line).
7. Start the timer as soon as water begins to drip into the lower bottle.
8. Stop the timer when the water reaches a second mark you make on the lower bottle (for example, every 50 mL).
9. Repeat for several intervals. Record your results in the data table.



SAFETY

- Use the push pin or nail carefully. Ask an adult for help if needed.
- Do not make the hole too large, or the water will flow too fast.
- Clean up spills to prevent slips.

DATA TABLE

Interval Number	Start Water Level in Lower Bottle (mL)	End Water Level in Lower Bottle (mL)	Time Elapsed (seconds)	Notes
1				
2				
3				
4				
5				

Average Time per Interval: _____ seconds

ANALYSIS QUESTIONS

1. Was the time for each interval about the same? Why or why not?

2. What affected how fast the water dripped?

3. How could you make your water clock more accurate?

4. How did people in ancient times use water clocks?



THINK FURTHER

Challenge: Can you calibrate your water clock so that one interval equals exactly 1 minute? Adjust the hole size and test again!