
Safety:

- Instruments:**
- a glass bottle
 - a drinking straw
 - a cardboard box
 - scissors
 - modeling clay
 - felt pens
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- Chemicals:**
- cold water
 - food coloring
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- Experiment:**
- Fill the bottle roughly three-quarters full with cold water and put several drops of food coloring into the water.
 - Place the straw into the bottle so that it stands straight up. Fasten it to the bottle neck using modeling clay (the seal must be airtight).
 - Blow into the straw. The water level rises. Stop blowing when the water stops just above the level of the clay.
 - Fold the cardboard container and cut two double slits in it. Push the straw through the slits and mark the water level with a black pen.
 - Put the thermometer in a warm place. Mark the water level with a red pen.
 - Put the thermometer in the refrigerator. Mark the water level with a blue pen.
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Advice for the teacher:

The black mark shows the beginning temperature.
The red line indicates warmer temperatures and the blue line colder.

Warming the thermometer causes the air in the bottle to expand, pushing the water into the straw, which is the only possible exit.
Cooling causes the air in the bottle to shrink together and pull water out of the straw, causing the level to sink.

The pupils should learn that temperatures have an effect on the gas volume in the bottle. The water level in the straw reflects this clearly.

Tip: The teacher should help during the folding and cutting of the cardboard container.
