

Science Experiment

Turning the Air Upside Down

You may need someone to help you with this experiment.

Materials:

- 1 empty, two litre plastic bottle
- 1 balloon
- 1 large bowl
- Warm to hot, not boiling, water (get an adult to help you with this)
- Ice

Experiment:

1. Fit the mouth of the balloon over the mouth of the empty, two litre bottle.
2. Stand the bottle in the centre of the bowl. Fill the bowl with hot water, around the outside of the two litre bottle.
3. After a few minutes, notice what happens to the balloon.
4. Carefully pour the water out of the bowl and fill the bowl with ice. What happens?

Explanation:

Question: Why did the balloon inflate and deflate in response to the hot and cold water.

Answer: When air is warmed, it expands and needs more space, so it stretches out the balloon. When air is cooled, it contracts and needs less space, so the balloon deflates. In this closed system, the amount of air in the bottle remains same, so this experiment shows that the warm air requires more space than the cool air. Warm air rises because it is less dense (heavier) than cold air.



