

The Shrinking Egg

Action

The experiment will show how to get an egg into a bottle that has an opening smaller than the diameter of the egg and not cutting or pushing the egg.

Grade Level

Grade 5 - Heat

Grade 3 - Simple Machines

Materials

- Matches
- A boiled, peeled egg
- A glass bottle with an opening slightly smaller than the diameter of the egg
- Safety glasses

Instructions

- Light a match, allow it to burn for a few seconds and then drop it in the bottle.
- Immediately place the egg over the mouth of the bottle and observe the results. The egg will be sucked into the bottle.

Safety

Safety glasses should be worn and take care when dealing with open flame.

Hints

- Longer matches will be more effective because it will make sure that enough oxygen is consumed in the bottle so that the egg will be sucked in. To obtain a longer burn, a taper or a wad of paper towel can be lit and will burn for longer than a simple match.
- Turn the bottle sideways when dropping in the match or taper.

Science Principle

When a match burns, oxygen is consumed; therefore air is being taken into the bottle. When the egg is placed over the mouth of the bottle, the intake of oxygen is restricted and in an attempt to draw more oxygen into the bottle, the egg is sucked in. It is the vacuum created which sucks the egg into the bottle.