Egg in a Bottle

Sections

Joey Scouts | Cub Scouts | Scouts | Venturer Scouts | Rover Scouts

Scouts VICTORIA

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Challenge Areas

COMMUNITY | CREATIVE | OUTDOOR | PERSONAL GROWTH

Scout Method Elements

COMMUNITY INVOLVEMENT | LEARNING BY DOING | NATURE AND THE OUTDOORS | PROMISE AND LAW | PERSONAL PROGRESSION | PATROL SYSTEM

SYMBOLIC FRAMEWORK | YOUTH LEADING, ADULTS SUPPORTING

SPICES Growth Areas

CHARACTER | EMOTIONAL | INTELLECTUAL | PHYSICAL | SOCIAL | SPIRITUAL

The Adventure

Can you fit an egg through the neck of a bottle that is smaller than the opening of the bottle? In this Challenge Card, you and your patrol or unit can investigate this and the scientific processes behind it.

Plan

1. Investigate the characteristics of air. What factors affect these characteristics?
2. Investigate air pressure and what affects it? Make sure to investigate the effects on temperature.
3. Investigate the effect of air pressure on everyday life.
4. Investigate the properties of a hard-boiled egg and why it might be suitable for this experiment.
5. Read the safety information and discuss with your leaders or another appropriate adult what safety equipment, precautions, and supervision may be required. Ensure that you have these safety measures in place before starting the ‘Do’ section. A risk assessment should also be completed.
6. Collect all of the materials you will need for this experiment. You will need the following: a glass bottle or conical flask with an opening just smaller than an egg, vegetable oil, a peeled and hard-boiled egg, and matches.

Do

1. Make sure everyone knows the safety requirements and are wearing correct protective equipment.
2. Grease the mouth of a glass bottle or conical flask with vegetable oil and place on the table.
3. Place a hard-boiled egg on the neck of the bottle and see that the egg cannot be pushed into the bottle without breaking.
4. Light 3 matches simultaneously and drop them into the bottle.
5. Quickly place the egg over the mouth of the bottle or conical flask and observe what happens.

Review

1. Did the experiment go as you expect? Why or why not?
2. What did you enjoy the most about this experiment and what is one thing you learnt?
3. How do you think you might get the egg out of the bottle?
4. What could you change about the experiment to improve it?

Safety

- Fire hazard: This activity uses fire and flames and therefore there is the risk of burning. Caution and supervision should be used.

Variations

- Extension activities to further explore why the egg goes into the bottle can be found here: https://www.scienceworld.ca/resource/egg-bottle/