Balloon Rockets

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

Learn about air pressure and Newton's Laws of Motion by building a balloon rocket and watching it fly.

Plan

1. Investigate pressure and how it applies to gases.
2. Investigate Newton's Laws of Motion. What are they?
3. 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.
4. Gather all the equipment that you need to make your balloon rocket. You will need the following equipment: a balloon, a long piece of string or wool (around 2-4 metres is ideal), a straw, and some tape. Depending on your location, you may also need a chair or two to secure your string to.

Do

1. Thread the straw onto the string, making sure to bend the straw as little as possible.
2. Making sure that the straw stays on the string, tie each end to a support (a door handle, chair, etc) at equal heights off the ground. It is also important to make sure that the string is pulled tight. This may require you to move one of the supports or shorten the string.
3. Make sure your straw is at one end of the string.
4. Inflate the balloon but do NOT tie it up.
5. Hold the end of the balloon tight to prevent air from escaping and tape the balloon to the straw, with the end of the balloon you are holding pointing to the side of the straw with less string. You may need to work with your patrol members to help tape the balloon while someone else holds it.
6. Let the balloon go and watch your rocket fly.
7. Race your patrol or unit members to who can make their rocket go furtherest or fastest.

Review

1. Were you able make your balloon rocket fly as you expected? Why or why not?
2. How do you think different types of balloons or string might change how the balloon flies? Why do you think it may or may not have an impact?
3. What did you enjoy most about building your balloon rocket? What did you learn?

Safety

- Allergy warning: Balloons contain latex, which some individuals may be allergic to. Latex allergies can vary in severity so make sure to check with individuals before use.

Variations

- This challenge card pairs well with balloon hovercrafts to investigate different ways balloons and air can propel vehicles or bicarb and vinegar rockets for an interstellar exploration theme.