
Rocket to Success

An Educator's Reference Desk Lesson Plan

Submitted by: Pete Sandall

Endorsed by: Don Descy, Mankato State University

Date: October 28, 1996

Grade Level(s): 4, 5, 6

Subject(s):

- Science/Physics

Description: This lesson plan is a simple science experiment that students can use to understand Newton's complex theory of Action and Reaction.

Background Information: This activity can be used with students at all ability levels. This lesson teaches students the simple laws of action and reaction. Using balloons and string, students will work in groups to create simple rockets. The whole class will then come together as a large group to conduct rocket races.

Goal: Students will be able to enjoy rocket races.

Objectives:

1. The students will be able to construct their own rockets.
2. The students will be able to identify the steps of Newton's Law of Action and Reaction.

Materials:

- balloons
- string
- straws
- tape
- markers
- scissors

Procedure: (Be sure that all groups have the same size balloons.)

1. Divide students into groups of 3-4. Students will work together to construct their rockets (see Internet sites below for information on how to construct the balloon rockets).
2. The students will experiment with their rockets. Students will blow up their balloons to various sizes and observe how far their rockets travel.
3. Students will record their various measurements.
4. Students will then be able to determine that the amount of air in the balloon is relevant to the distance that the rocket travels.
5. Students will then record all observations regarding their rockets.
6. Students will then come together as a large group.
7. The class rocket races will take place.

Assessment: Students will come together as a large group to discuss their observations. Students will be able to relate their observations to those of Newton's Law of Action and Reaction. Students will brainstorm ideas for other ways to demonstrate the concepts of Newton's Laws.

Useful Internet Sites:

* [Creative Chemistry - Balloon Rockets](http://www.creative-chemistry.org.uk/activities/balloons.htm)

<http://www.creative-chemistry.org.uk/activities/balloons.htm>

* [Balloon Rockets](http://www.amnh.org/mars/balloon.html)

<http://www.amnh.org/mars/balloon.html>

* [Build a Balloon Rocket](http://unmuseum.mus.pa.us/exjet.htm)

<http://unmuseum.mus.pa.us/exjet.htm>