



BUILDERS BONANZA

Lesson: Balloon Rocket

CURRICULUM REFERENCE: Flight

LESSON OBJECTIVE

Watch how air pressure works to push the balloon forward while air is escaping from the back.

THE SCIENCE BEHIND

Newton's Third Law of Motion states that "for every action, there is an equal and opposite reaction." We are going to witness this by pressurizing air in a balloon and then focussing its release. When the air rushes out of the balloon, it will push the balloon in the opposite direction.

VIDEO: <https://youtu.be/C0hZrW1j7Ow>

FOLLOW-UP QUESTIONS

1. How do we know that air is in the balloon?
2. When have you felt the force or pressure of air?
3. How can we change variables such as speed of the balloon?



LEARNING OUTCOMES

- Use scientific inquiry/experimentation skills to investigate the properties of air.
- Use technological problem-solving skills to design, build, and test a flying device.
- Identify the properties of air that make flight possible.
- Identify and describe the four forces of flight – lift, weight, drag, and thrust.



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MATERIALS (PER PERSON)

- Balloons
- String
- Straws
- Tape

INSTRUCTIONS

1. Feed a straw through the string and place the straw at one end of the string.
2. Tie the string tightly across an open space (such as between two chairs or trees).
3. Blow up a balloon (but do not tie it closed).
4. Now, tape the top middle of the balloon to the straw.
5. Get ready and let go of the balloon at one end of your string and watch it speed across the string.

VIDEO: <https://youtu.be/YMm6q0eJKqg>

