



BUILDERS BONANZA

Lesson: Balloon Rocket

CURRICULUM REFERENCE: Forces Causing Movement

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 does the balloon get pushed forward?
2. If the balloon was not following on a string, could we predict where it would land? Why or why not?
3. How do the force(s) control the movement?



LEARNING OUTCOMES

- Investigate forces that cause an object to start moving, stop moving, or change direction.
- Conduct investigations to determine the effects of increasing or decreasing the amount of force applied to an object.
- Use technological problem-solving skills and knowledge acquired from previous investigations to design and build devices that use forces to create controlled movement.



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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>

