



FORCES AND MOTION

Grade 2 | 60 Minutes

Program Overview

Description

Observe how magnetism, gravity, and wind change the path and position of objects. Students will conduct experiments at investigation stations to learn about how changing forces affects the motion of objects. Try your hand at building foil boats and powering them with wind. Experiment with dropping different objects in a controlled environment. Complete your program with exciting demonstrations.

Adult chaperones recommended: 6

Content Standards

Subject	Gr	Ohio Department of Education Standards
Physical Science	2	<ul style="list-style-type: none">• Forces change the motion of an object.• Motion can increase, change direction or stop depending on the force applied.• The change in motion of an object is related to the size of the force.• Some forces act without touching, such as using a magnet to move an object or objects falling to the ground.

Vocabulary

attract	motion
energy	pull
forces	push
gravity	repel
magnetism	wind

Books we recommend

- Forces Make Things Move by Bradley. Harper Collins, 2005.
- Forces and Motion with Max Axiom by Sohn. Capstone Press, 2007.
- Forces: The Ups and Downs by Wendy Sadler. Raintree, 2006.

Post-Trip Activities

Predict the changes in motion that a moving object or an object at rest experiences when acted on by a force (e.g., push, pull, gravity).

Discuss the motion of a ball. Brainstorm ideas of how to get a ball to change its motion once it's in the air.

Other Resources

Forces simulator: https://phet.colorado.edu/sims/html/forces-and-motion-basics/latest/forces-and-motion-basics_en.html

Astronaut David Scott drops a feather and a hammer on the Moon:
https://www.youtube.com/watch?v=Oo8TaPVsn9Y&ab_channel=ScienceNews

Zero-G OK Go! Music video: <https://youtu.be/LWGJA9i18Co>
(filmed over 8 zero G plane flights, spliced together and slowed down.)