



## Level 3 • Module 3

# Forces and Motion with Spotlight Lessons on the Solar System

## Lesson Overview

Your student is learning about an object's motion on Earth and in space to understand how forces can change an object's motion. In spotlight lessons on the Solar System, your student is studying Earth's solar system to learn about the size, makeup, and location of objects in the solar system.

Classroom activities for this module include:

- Observing and describing the motion of a soccer ball on Earth and in space
- Predicting and testing predictions about how an object will move
- Investigating how the forces acting on an object can affect how the object moves
- Investigating magnetic and electric forces
- Using magnets to solve a problem experienced by astronauts
- Investigating what objects in space can cause a solar eclipse

### Conversation Starters

Support your student's learning with these talking points:

- Discuss forces and motion in everyday life.  
Ask: Why is it easier to pull a wagon on a smooth sidewalk than on rough grass? Why does a bike speed up while going downhill?
- Talk about how forces affect the motion of a ball in a variety of sports.
- Ask students how their daily activities might be different on the International Space Station.
- Observe the night sky and talk about which objects in the sky are closer to Earth.

### Activities

Have fun with these related activities at home:

- Look for magnets in the home to discover how magnets are used in everyday objects.
- Watch a sporting event and encourage your student to describe the forces and motion they observe.
- Invite your student to find examples of objects that move in different ways, such as those that swing, bounce, roll, spin, slide, and curve.
- Research a favorite planet and find out interesting facts.



### ADDITIONAL RESOURCES

Visit your local library or use an online library to explore topics related to the module, such as motion, forces, solar eclipses, and the solar system.



To learn more about living and working in space, visit

[https://www.nasa.gov/audience/forstudents/k-4/more\\_to\\_explore/Living-Working-In-Space.html](https://www.nasa.gov/audience/forstudents/k-4/more_to_explore/Living-Working-In-Space.html).

To learn about the International Space Station, visit

<https://solc.gsfc.nasa.gov/modules/newkz3/index.html>.