HANDS-ON STEM

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Force and Motion Vocabulary

AT A GLANCE

Put the power of gravity into perspective for students in this activity as they study acceleration caused by motion and gravity, using toy cars on inclined planes. Adult supervision is required—plus a passion for scientific experimentation!

BACKGROUND INFORMATION

Students will be tasked with determining the acceleration of a toy car on an inclined plane at various angles. This experiment demonstrates **Newton's 2nd Law of Motion:** a force, acting on an object, will change its velocity by changing either its speed, direction, or both.

VOCABULARY

- **Motion:** the movement of an object from one position to another. An object is set into motion when a force is applied to that object.
- **Force:** a push or pull that can cause change in an object's motion.

PROCEDURE

1. Calculate the acceleration of the car on a slope or ramp.
2. Solve for the acceleration by filling in the variables.

THE SCIENCE

Gravity is by far the most familiar physical force, as we experience it every moment of every day. By dropping an object, the pulling force of gravity causes the object to inevitably fall to the ground the same way every single time.