

# FUN-DAMENTAL FORCES

*What do gravity, inertia, and centripetal force have in common? They are all part of the fun in this introduction to physics. Feel the pull of precession with the bike wheel gyroscope, and strike the perfect balance with the Gravity Game kit.*

## SUMMARY:

Find out what makes the world go around in an entertaining introduction to the basic concepts of forces. Sir Isaac Newton would be proud when young scientists investigate his law of inertia. Children experiment with mass and balance using their own centers of gravity. A comparison between rubber and dough balls brings the physical effects of forces to light. Gyroscopes, bike wheels, and toy racetracks reveal the concepts of precession and centripetal force. Children leave with a thirst for physics along with their very own Gravity Game Take-Homes.

## EDUCATIONAL VALUE:

Fun-damental Forces introduces children to the pushes and pulls that make the universe tick. Gravity, inertia, and centripetal force are some key concepts they discover along the way. Some exciting, hands-on investigations into forces include the bike wheel gyroscope, a coin-spinning vortex, and the balloon centrifuge. This program lays the foundation for further study in the physical sciences.

## TAKE-HOME MESSAGE:

- 1 A force is a push or pull.
- 2 An object keeps moving or stays still unless a force acts on it.
- 3 Centripetal force makes objects move in a circle.

## TAKE-HOME PRODUCT:

Gravity Game

## NORTH CAROLINA ESSENTIAL STANDARDS:

- 3.P.1 Understand motion and factors that affect motion.
- 5.P.1 Understand force, motion and the relationship between them.

