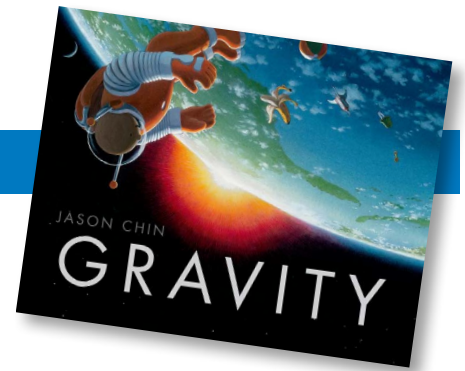


Gravity

RIF EXTENSION ACTIVITIES FOR EDUCATORS

STEAM-THEMES: SCIENCE, TECHNOLOGY, ENGINEERING, ART, MATH



SCIENCE

PLAYGROUND PHYSICS

Materials: balls, small plastic playground toys

Have students predict whether two objects dropped from the same height at the same time will hit the ground together or at different times. Observe and discuss results from dropping objects. How was gravity a part of this exercise? What do they think will happen if they drop the things from different heights? Repeat experiment. What happens when one of the toys weighs more than the other and they are dropped at the same time? What affects how quickly an item falls?



TECHNOLOGY (Upper Grades)

GRAVITY IN THE GYM

Have students help solve a mystery in the gym using what they know about the force of gravity: www.sciencekids.co.nz/gamesactivities/detective-science/gravity.html.

ENGINEERING, SCIENCE, MATH RAMP IT UP!

Materials: blocks, flat board, toy truck, tennis ball, baseball, whiffle ball, yarn, scissors

Have students build a ramp for the toy truck. Release toy truck from top of ramp. Use string to measure distance traveled. Allow students to study the weight differences of the 3 balls. Place the baseball in truck bed.



Release from top of ramp and, using yarn, measure distance traveled. Repeat procedure with other 2 balls. Have students sort yarn lengths under pictures of each ball. Discuss which ball made the truck travel farthest and why. How was gravity at work here?

ART, SCIENCE

MARBLES IN MOTION

Materials: shoe box, paper cut to box size, marbles, paint

Place paper inside box on a flat surface. Have students squeeze 3 small blobs of paint onto paper. Is the paint moving? Add a marble to the box. Is the marble moving? Why or why not? Have students experiment with different types of motions to make the marble move around the box. What effect does gravity have on the marbles? What is happening to the paint? Once the marble has traveled around the box, remove paper and let dry.

MATH (Upper Grades)

Mars and Earth's moon are smaller and have less mass than Earth. As a result, they have less gravity. If you weigh 100 pounds on Earth, you would weigh 64 pounds on Mars and just 28 pounds on the moon.

Have students weigh different objects on a scale. Using the information already provided, have them calculate how much the objects would weigh on Mars or the moon. Planets with greater masses have stronger forces of gravity. Research the mass of each planet in the solar system and record findings on the board. Students may use www.exploratorium.edu/ronh/weight/ to check their work.



Reading Is Fundamental