

**Project FOCUS
Best Lessons
SECOND GRADE**

Title of Lesson: Motion

Theme: Physical Science

Unit Number: 3 **Unit Title:** energy/ Pushes and Pulls

Performance Standard(s) Covered (enter codes):

S2P3

S2CS1

S2CS2

Enduring Standards (objectives of activity):

Habits of Mind

- Asks questions
- Uses numbers to quantify
- Works in a group
- Uses tools to measure and view
- Looks at how parts of things are needed
- Describes and compares using physical attributes
- Observes using senses
- Draws and describes observations

Content (key terms and topics covered):

Essential Questions: (1) What makes things move?

(2) How does speed affect the motion of an object?

Enduring Understandings: Nothing moves without force. Everything can be moved if the force is strong enough. Speed is directly related to motion.

Content: The way to change how something moves is to give it a push or a pull.

Key Terms: force, direction, motion, position, speed

Learning Activity (Description in Steps)

Abstract (limit 100 characters): The objective of this lesson is introduce the concepts of motion, speed, and direction.

Details:

Background:

Introduce the concept of motion to students and help them understand that motion is anything that is moving. Have them all wiggle and different ways and then yell, "FREEZE!" Tell them that they are in motion when they are wiggling. Or roll a ball along the floor. Discuss different types of motion, such as running, jumping, or walking. Have them name things that can be in motion such as cars, birds, people etc. Write their observations down. Also discuss direction and help kids understand that direction is the path of motion. Demonstrate different paths of motion such as around in circles or zigzag. Discuss position being the actual placement of something. Have the kids identify their own positions in general and in relation to other students. Have them stand up and

observe their positions, have them wiggle around again and then yell, “FREEZE!” Have them notice the difference in their positions. Lastly discuss speed and the concept that speed is how fast something is moving. You may use pictures of racers and discuss how they know who has more speed. With each topic, when discussing, you may find it useful to either write their observations on the board or have them fill in charts.

Procedure:

A great way to incorporate all of these ideas is to have a class race. It takes about an hour and all the students can be involved. Have all the students come up with different ways to be in motion and record them on the board. Some ideas are hopping on one foot, rolling, crawling, etc. Pick two students to be “the motions.” These will be the students to race first. Either let the “motions” chose, or assign them a motion. Mark their initial position with tape. Pick one student to control the stopwatch, and one to be the “starter” and yell, “ready, set, go!” Have the other students be predictors. Have the “predictors” make hypotheses about which “motion” will travel farther (more speed) and why. Also ask them how far the “motions” will travel after 15 seconds (position). (You may want to explain what a hypothesis is) Mark their predictions with masking tape. Once everyone is in place and has a job to do, have the ‘starter” and the timer start the race. Rotate, assign new positions, and repeat.

Assessment:

Between the races discuss initial and final position, which had more speed and how they know, and the direction of the motion. You can have them sketch the direction of the motion on the board. Discuss how direction can affect speed and thus the winner.

- What is something that moves faster than a car?
- Does a car always move faster than a bike?
- How can you tell if something is in motion?
- How can you tell if one thing in motion has more speed than another object in motion

Materials Needed (Type and Quantity):

- masking tape
- stopwatch
- spacey area
- board (dry eraser)
- willing participants

Notes and Tips (suggested changes, alternative methods, cautions):

Make sure the students are not too rambunctious to do this acitivity to prevent injuries. Also, outside is the best venue for conducting this activity.

Sources/References:

- 1)
- 2)
- 3)

