

Dear Parent,

Your child is beginning a unit created at the Battle Creek Area Mathematics and Science Center. This unit was designed to promote science and engineering literacy and integrate reading and writing skills into high-interest science content. During the next eight weeks, your child will be actively involved with the Kindergarten Motion: Pushes and Pulls. This unit is geared for kindergarten students and focuses on the "big ideas" of describing motion and exploring motion in terms of the forces that affect motion.

1. Describe and compare an object's position in relation to other objects around it.
2. Describe an object's motion from different observers' views.
3. Plan and conduct investigations into different strengths of forces that change motion of objects.
4. Analyze data to determine that objects initially at rest will move in the direction of the push or pull.
5. Analyze data to determine how pushes and pulls can change the speed and direction of moving objects.
6. Plan and conduct an investigation to determine how the shape, size, and weight of an object can affect motion.
7. Analyze observations to determine that objects fall toward the earth.

Kindergarten students are also encouraged to think and act like scientists and engineers and begin to develop observation and communication skills in science.

1. Make purposeful observation of motion and forces.
2. Generate questions based on their observations.
3. Plan and conduct simple investigations into how things move.
4. Manipulate simple tools that aid observation and data collection.
5. Construct simple charts from data and observations of moving objects.
6. Share ideas about forces and motion through purposeful conversation.
7. Communicate and present findings of observations.
8. Develop strategies for information gathering.
9. Demonstrate scientific concepts through illustrations, performances, models, exhibits, and/or activities.

In this unit the activities are geared to build on the inherent knowledge and experience that five-year-olds have already acquired and use their knowledge in a wider range of tasks. Students will be given the opportunity to examine, measure, reflect upon, describe, and discuss how forces of various origins are used to produce and affect motion. Within the content of motion students begin to recognize and apply the nature of science.

Suggestions for activities to do at home are included with this letter. These activities will reinforce the concepts taught during this unit's instruction.

May you enjoy quality time with your child while discussing the concepts involved with the Kindergarten Motion unit. Let us know if we may be of assistance.

The Outreach Staff

Battle Creek Area Mathematics and Science Center

(269) 213-3904 or (269) 213-3905

ACTIVITIES TO DO AT HOME

Activities To Do At Home

1. Take your child for a walk around the neighborhood to find different examples of things that are moving. Have your child describe the motion of the moving object (fast, slow, up, down, around, etc.) and the position of the objects in relation to where he/she is observing (ahead of, behind, toward, away from, between, etc.).
2. Play games with your child that require movement, such as acting out how different animals move, guessing what animal, then describing its motion.
3. Help your child find pictures of moving objects in magazines and glue them into a notebook. Assist your child in labeling the moving objects with descriptions of the motion.
4. Visit the school playground or a local park and have your child describe the motion in using the playground equipment. Ask him/her to identify when they use a push or a pull to start the motion of the playground equipment.
5. Play a "What would happen if..." game with your child. Possible question: What would happen if I dropped a spoon off the counter? Have your child predict what would happen, and then investigate and describe the motion of the spoon.
6. Test the way different objects fall from the same height. Does a tennis ball drop the same way as a spoon? Find different household items and toys that are safe for your child to investigate.
7. Encourage your child to make ramps out of different boxes and cardboard and test the speed of balls and different objects rolling down the ramp.
8. Go to the library and check out books about motion:
Forces Make Things Move, Kimberly Brubaker Bradley
Gravity is a Mystery, Franklyn M. Branley
Forces and Motion, Catherine A. Welch
Forces and Motion, Clint Twist