Marietta City Schools

District Unit Planner

Kindergarten Science

Theme	*Unit 2 Motion*	**Unit duration**	*7 Weeks*

Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?*

GaDoE Standards/3D Science Elements

SKP2. Obtain, evaluate, and communicate information to compare and describe different types of motion.
a. Plan and carry out an investigation to determine the relationship between an object's physical attributes and its resulting motion (straight, circular, back and forth, fast and slow, and motionless) when a force is applied. (Examples could include toss, drop, push, and pull.)
b. Construct an argument as to the best way to move an object based on its physical attributes.

Unit Objectives:
Students will explore various types of motion due to an object's physical attributes.
Students will classify objects based on how they move when tossed, dropped, pushed, and/or pulled.
Students will determine which is the best way to put an object in motion based on its physical features.

Unit Phenomena: Roller Coaster ride / Motion Animation
Have students describe the various types of movement they observe. With support, help students identify examples of pull/push in the video.

Page Keeley Probes: These probes can be used as phenomena. They are intended to elicit student understanding about science concepts. Starting a unit or lesson with a probe will help you uncover misconceptions and see what students already know about a topic. Using a probe at the beginning of a lesson and then at the end of the lesson serve the purposes of pretesting and then formatively evaluating student thinking. **Below is a list of probes from Page Keeley's book *Uncovering Student Ideas in Primary Science,* that are appropriate for this unit**. This book has been purchased for your grade level by the Office of Academic Achievement and can be found in your media center. · **Back and Forth / Marble Roll / Do the Waves Move the Boat?**

Science & Engineering Practices:	**Disciplinary Core Ideas:**	**Crosscutting Concepts:**
• Asking questions and defining problems	• Motion	• Patterns

• Planning and carrying out investigation • Engaging in argument from evidence • Obtaining, evaluating, and communicating	• Force • Movement	• Cause and Effect • Energy and Matter

Misconceptions: Students often think of motion as a property of an object. Students often believe that gravity exists in certain places and situations and not in others or that it goes "on" and "off.

Math/ELA Connections/STEM Connections
ELAGSEKW8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
ELAGSEKW2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.
ELAGSEKW3 Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened. MGSEK.MD.1 Describe several measurable attributes of an object, such as length or weight. For example, a student may describe a shoe as, "This shoe is heavy! It is also really long!"
MGSEK.MD.2 Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.
DE Science Techbook STEM Project Starters

Discovery Education Science Techbook Resources: (*You will need to be logged into Discovery Education using your Google credentials to access these resources*) You will find center activities on the **Engage** page of each Techbook unit.

DE Science Techbook Motion Lessons Menu

Hands-on Activities
Bumper Cars
Ker-plunk!
Crazy Contraptions

Essential Questions

Factual—

What is a force?
What is the difference between a push and a pull?

Inferential—

How do objects move?
Does a force change the speed of a moving object? How?

Critical Thinking-

Does the surface affect speed?

Tier II Words- High Frequency Multiple Meaning	**Tier III Words-** Subject/ Content Related Words
movement, push, pull, object, straight, motionless, toss, drop, physical attributes, change	force, speed, motion

Assessments

Primary Assessment: Moving Things Constructed Response
Push and Pull Venn Diagram
Push and Pull Sort Activity

Teachers may access assessment documents in the OAA Course in the grade level folder.

Objective or Content	Learning Experiences	Differentiation Consideration
CLE 1: SKP2. Obtain, evaluate, and communicate information to compare and describe different types of motion.	Objects In Motion In this 5E instructional segment, students will explore how physical attributes contribute to an object's motion and apply this knowledge to build a car.	Student Choice Performance Tasks Reflection and Goal Setting Learning Stations Choice Boards Formative Probes Science Journaling Multi-sensory activities Assistive Technology Flexible Grouping Multiple Means of Representation
CLE 2: SKP2. Obtain, evaluate, and communicate information to compare and describe different types of motion.	Push and Pull Explorations Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	

Recommended High Quality Complex Text By Lexile Band
Move It! Motion, Forces, and You by Adrienne Mason *Motion: Push & Pull, Fast & Slow* by Darlene Stille *And Everyone Shouted "Pull!" A First Look at Forces & Motion* by Claire Llewellyn *Oscar & the Cricket: A Book About Moving & Rolling* by Geoff Waring