

Science Unit Map – Grade 3– Trimesters 2 and 3

Trimester Focus:

- Changes in Motion

Big Ideas:

- The position of the observer and object affect the description of motion.
- Forces are pushes and pulls.
- Gravity is the force that pulls objects to the Earth.
- Motion is affected by the strength of the force and the mass of the object.

GLCEs	Vocabulary	Resources (See Curriculum Calendar for Details)	Assessment
<p>- Identify the force that pulls objects towards the Earth. (P.FM.03.22)</p> <p>- Describe how a push or a pull is a force. (P.FM.03.35)</p> <p>- Relate a change in motion of an object to the force that caused the change in motion. (P.FM.03.36)</p> <p>- Demonstrate how the change in motion of an object is related to the strength of the force acting upon the object and to the weight of the object. (P.FM.03.37)</p> <p>- Demonstrate when an object does not move in response to a force, it is because another force is acting on it. (P.FM.03.38)</p> <p>- Describe the motion of objects in terms of the path and direction. (P.FM.03.41)</p> <p>- Identify changes in motion (change direction, speeding up, slowing down). (P.FM.03.42)</p> <p>- Relate the speed of an object to the distance it travels in standard amount of time. (P.FM.03.43)</p> <p>*See inquiry and reflection GLCE's*</p>	<p>force force strength push pull gravity weight motion position speed speeding up slowing down faster slower stop start change of motion change of direction moving away from toward around above below behind between through centimeters meters kilometers seconds minutes hours compare and contrast cause stop watches timers clocks with a second hand meter sticks rulers measuring tapes</p>	<p>Textbook: National Geographic - Physical Science</p> <ul style="list-style-type: none"> - Chapter 3 Lesson 3, 4 (Motion, Speed & Force) - Chapter 3 Lesson 5, 6 (Gravity, Magnetism) <p>Inquiry Book</p> <ul style="list-style-type: none"> - See Inquiry Book for student investigations <p>Suggested Trade Books:</p> <ul style="list-style-type: none"> - <i>Forces and Motion</i> by Catherine A. Welch - <i>Forces Make Things Move</i> by Kimberly Brubaker Bradley - <i>Mr. Grumpy's Motor Car</i> by John Burningham - <i>The Magic School Bus Plays Ball</i> by Joanna Cole - <i>What Is Friction?</i> by Lisa Trumbauer - <i>Why Can't I Jump Very High?</i> by Kamal Prasad - <i>Why Doesn't the Earth Fall Up?</i> by Vicki Cobb <p>Websites, Video Streaming, & Smart Board Activities:</p> <ul style="list-style-type: none"> - myNGconnect.com - See grade level resource packet <p>Grade Level Resource Packet: See unit: Changes in Motion</p>	<p>Formative:</p> <ul style="list-style-type: none"> -Compare and contrast definitions (with pictures) for the terms <i>gravity, motion, force, direction, and speed.</i> -Draw a diagram of the motion of objects in games; label the forces and change in motion. -Construct simple charts and bar graphs from data on speed investigations. <p>Summative:</p> <ul style="list-style-type: none"> -Explain and illustrate the forces that are causing the motion in a dropped ball, a rolling ball, a stationary object such as a large boulder, a ball changing direction, and a ball slowing down to a stop. -Create a drawing or performance to identify and explain the similarities and differences in the motion of objects in terms of path and direction. -After analyzing the data, students summarize the information on their charts and graphs to answer the question, "How can we measure the speed of a toy car?" Through purposeful conversation, collaborative groups of students develop a shared understanding of speed utilizing the data gathered as evidence to support their ideas, rather than expressing an opinion. Students use the writing process to summarize their findings in an organized format. <p>*Refer to companion document for more "Evaluate Student Understanding" information.</p>