WHAT ARE WE GOING TO STUDY THE WEEK OF FEBRUARY  13 TO FEBRUARY 17, 2017

SCIENCE:​  *STUDENTS WILL DEMONSTRATE THE RELATIONSHIP BETWEEN THE APPLICATION OF A FORCE AND THE RESULTING CHANGE IN POSITION AND MOTION ON AN OBJECT.
A. IDENTIFY SIMPLE MACHINES.
B. USING DIFFERENT SIZE OBJECTS, OBSERVE HOW FORCE AFFECTS SPEED AND MOTION.
C. EXPLAIN WHAT HAPPENS TO THE SPEED OR DIRECTION OF AN OBJECT WHEN A GREATER FORCE THAN THE INITIAL ONE IS APPLIED.*STUDENTS WILL DEMONSTRATE THE RELATIONSHIP BETWEEN THE APPLICATION OF A FORCE AND THE RESULTING CHANGE IN POSITION AND MOTION ON AN OBJECT. ​
*​D. DEMONSTRATE THE EFFECT OF A GRAVITATIONAL FORCE ON THE MOTION OF AN OBJECT.*

**ESSENTIAL QUESTIONS:**How can forces be used to make objects move, change direction, or stop? How is the motion of an object related to the size of the object and the amount of force that is applied to the object? What is gravity and how does it affect things on the earth? How do simple machines make work easier for people?

 Students learn that the harder that they throw a ball, the farther it will travel, and that big moving objects are harder to stop than small moving objects.

​Forces are pushes or pulls on objects that are needed to make an object change its motion. An object at rest will remain at rest unless a force acts on it and an object in motion will remain in motion unless a force acts on it.

Gravity is the earth’s pull on things. Things on or near the earth are pulled toward it by the earth's gravity. Gravity is always present.

Simple machines are tools that help us do work but they don’t do it for us. Simple machines make work easier for us changing the amount of force (pushing or pulling) needed to do certain kinds of work.
 CONCEPTS TO KNOW: Forces, motion of objects, gravity, simple machines.

VOCABULARY TO KNOW:
force, pull, motion, gravity, speed, position, direction, pull, mass, simple machines, lever, pulley, inclined plane, wheel and axle, wedge, screw

**What is force?**
A force is a push or pull upon an object resulting from the object's *interaction* with another object. Whenever there is an *interaction* between two objects, there is a force upon each of the objects. When the *interaction* ceases, the two objects no longer experience the force. Forces only exist as a result of an interaction.

**How can forces be used to make objects move, change direction, or stop?**
To do work, an effort or force greater than the resisting force of the object being moved must be applied.

**How is the motion of an object related to the size of the object and the amount of force that is applied to the object?**

* *The greater a force, the more it changes the motion of something.*
* *The smaller a force, the less it changes the motion of something.*
* *The more mass something has, the less a force will change its motion.*
* *The less mass something has, the more a force will change its motion.*

**What is gravity and how does it affect things on the earth?**
The force of gravity is an attraction between any two things made of matter.

**What is friction?**
Friction is a force which causes the motion between two surfaces to be reduced.

[studyjams.scholastic.com/studyjams/jams/science/forces-and-motion/force-and-motion.htm](http://studyjams.scholastic.com/studyjams/jams/science/forces-and-motion/force-and-motion.htm)
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[studyjams.scholastic.com/studyjams/jams/science/forces-and-motion/fgravity-and-inertia.htm](http://studyjams.scholastic.com/studyjams/jams/science/forces-and-motion/fgravity-and-inertia.htm)
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​[sciencenetlinks.com/interactives/gravity.html](http://sciencenetlinks.com/interactives/gravity.html)​

[idahoptv.org/sciencetrek/topics/force\_and\_motion/facts.cfm](http://idahoptv.org/sciencetrek/topics/force_and_motion/facts.cfm)​

[www.learner.org/interactives/parkphysics/coaster/result.php3](http://www.learner.org/interactives/parkphysics/coaster/result.php3)​​

[www.buzzle.com/articles/how-to-build-a-toy-car-from-scratch.html](http://www.buzzle.com/articles/how-to-build-a-toy-car-from-scratch.html)

[quizlet.com/831950/4th-grade-unit-4-science-forces-and-motion-flash-cards/](https://quizlet.com/831950/4th-grade-unit-4-science-forces-and-motion-flash-cards/)

[loomisk.weebly.com/unit-6-force--motion.html](http://loomisk.weebly.com/unit-6-force--motion.html)​

[quizlet.com/21275155/simple-machines-grade-4-study-guide-flash-cards/](https://quizlet.com/21275155/simple-machines-grade-4-study-guide-flash-cards/)
**MATH:**  ​
4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

**LEARNING TARGETS:**

* *I can draw and describe the following (using correct notation):*

                                      Points
                                      Lines (parallel and perpendicular)
                                      Line segments
                                      Rays
                                      Angles (right, acute, obtuse and straight)

* *I can identify the following in two-dimensional figures:*

                                      Points
                                      Lines (parallel and perpendicular)
                                      Line segments
                                      Rays
                                      Angles (right, acute, obtuse and straight)

* *I can explain the difference between a line, a line segment, and a ray.*

**ESSENTIAL QUESTION:**

How do we draw and distinguish lines and angles from one another? What geometric elements work together to create shapes? Which properties distinguish one polygon from another?

Point, line segments, and angles can be classified by their properties as well as basic foundations of geometric shapes.  Polygons can have similar features and still be unique because of the characteristics of the elements that were used to create them.
​
**BE A DISTINGUISHED LEARNER**

Draws, defines, and interprets points, lines, line segments, rays, angles, and parallel and perpendicular lines and represents them in two-dimensional shapes; classifies two-dimensional figures based on the presence or absence of geometric characteristics; identifies and generalizes right triangles; interprets symmetry as a characteristic of two-dimensional shapes; and provides non-examples of two-dimensional shapes, given specific characteristics.

[www.mathantics.com/section/lesson-video/points-lines-planes](https://www.mathantics.com/section/lesson-video/angle-basics)

 [learnzillion.com/lesson\_plans/6851](http://www.mathsisfun.com/geometry/protractor-using.html)

http://www.mathsisfun.com/geometry/protractor-using.html​[​](http://www.mathsisfun.com/geometry/protractor-using.html)

quizlet.com/172094621/lines-line-segments-points-and-rays-flash-cards/

[quizlet.com/180015422/classifying-triangles-flash-cards/](https://quizlet.com/180015422/classifying-triangles-flash-cards/)​