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 Curriculum Support Information

**Terminology (make flashcards and practice them for 15 minutes each night):**

**Position:** The location of an object

**Motion:** The change of position of an object

**Speed:** How far something moves over a certain amount of time

**Velocity:** The speed and direction of an object

**Acceleration:** Any change in the speed or the direction of an object in motion

**Force:** A push or pull

**Inertia:** The property of matter that keeps an object from changing speed or direction unless a force acts on it

**Gravity:** A force that pulls everything toward Earth

**Gravitation:** A force that acts between all objects and causes them to pull on each other

**Weight:** The gravitational force that pulls on an object

**Friction:** A force that slows down or stops motion between objects that are touching

**Work:** The use of force to move an object from one place to another

**Simple machine:** A machine that has only a few or no moving parts

**Lever:** A bar that pivots, or turns, on a point that does not move

**Fulcrum:** The fixed point of a lever

**Wheel-and-Axle:** A simple machine that has a wheel and an axle that turn together

**Pulley:** A wheel with a line around it

**Inclined plane:** A slanted surface, such as a ramp

**Screw:** A post with an ***inclined plane*** wrapped around it

**Wedge:** Two ***inclined planes*** put back-to-back

Simple Machines and Force & Motion

**Students will:**  **Fourth Grade 3 of 5**

* Identify simple machines and explain their uses
* Observe how different forces affect speed and motion
* Explain what happens to the speed or direction of an object when a greater force than the first one is applied to it
* Explain the effect that gravitational force has on the motion of an object

**Classroom Cases:**

* Match the letter of each picture to the name of the simple machine it is an example of in the chart below.

|  |  |  |
| --- | --- | --- |
| **Simple machine** | **Picture** | **Examples** |
| **Lever***Amount & direction* | **F** | **Broom, wheelbarrow, hand truck, hockey stick, see-saw, scissors (the handle)** |
| **Pulley***Amount & direction* | **D** | **Flagpole, blinds on a window** |
| **Wedge***Amount & direction* | **E** | **Knife, axe, door holder, scissors (the blades)** |
| **Inclined Plane***Amount & direction* | **A** | **Boat ramp, hill, the ramp outside of Ms. Peterson’s classroom** |
| **Screw***Amount* | **C** | **Nuts, bolts, bottle caps** |
| **Wheel-and-axle***Amount* | **B** | **Salad spinner, manual pencil sharpener (like in the picture), the handle of a faucet** |

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 **Further Investigations**

 Remember to check out Ms. Peterson’s website

 at <http://mspetersonsroom.weebly.com>. Here, you

 will find the Investigations for this unit.

**C**

**A**

**B**

**F**

**E**

**D**