

FORCE, MOTION, AND ENERGY

MOTION...

Motion is the process of an object changing place or position.

Speed refers to the rate an object changes position. When you are in motion you might speed up, go the same speed, or slow down.

To **accelerate** means to go faster; **decelerate** means to slow down.



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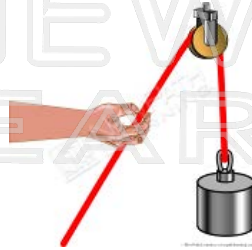
Gravity is an attracting force that tries to pull two or more objects together. Gravity depends on two things: the mass of the objects and the distance between them.



Objects don't move by themselves...

Inertia is a property of matter referring to the way an object remains at rest and doesn't move unless someone or something forces it to move.

Work is the ability to move an object. An object **MUST** move in order for work to have been done.



Work can be made easier by the help of simple machines....

Simple machines can make work easier, but do not make less work.

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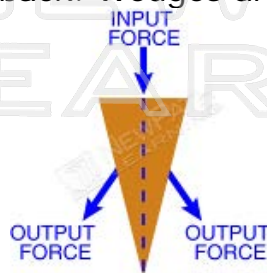
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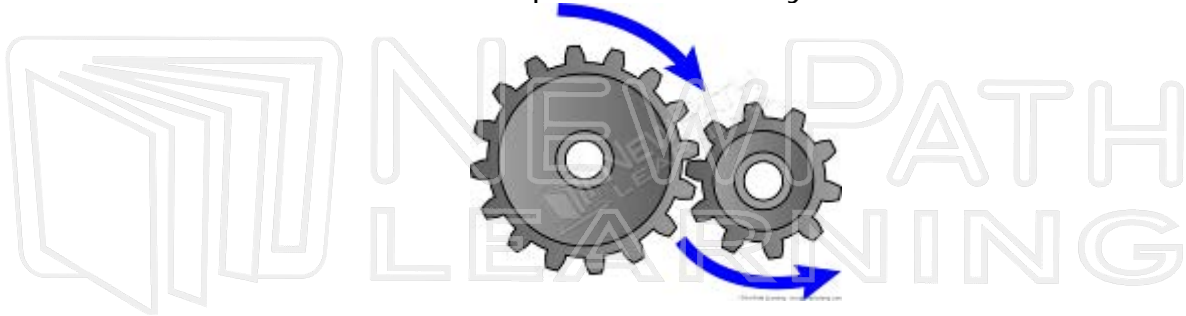
fixed point, called a fulcrum, and can be used to move an object up or down.



- A **wedge** is simple machine that is actually two inclined planes joined together back to back. Wedges are used to split wood.



- A **gear** is made of two wheels that have notches that fit together either directly or by a chain or belt which allows one wheel to turn the other wheel. Gears help clocks and bicycles move.



Lesson Checkpoint:
Give one example of a simple machine

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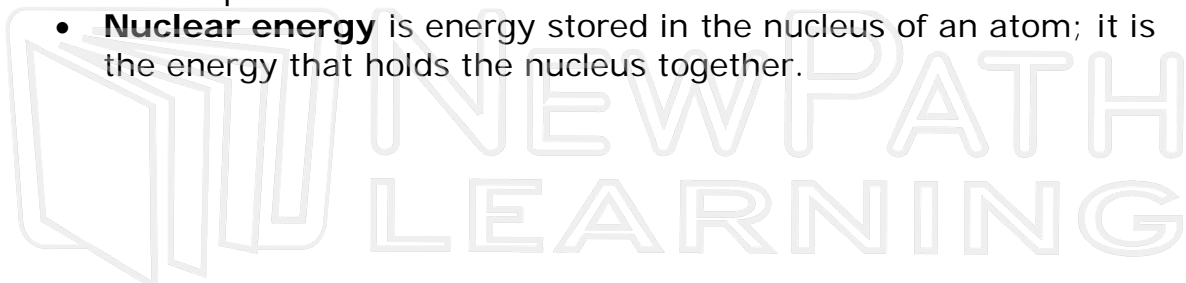


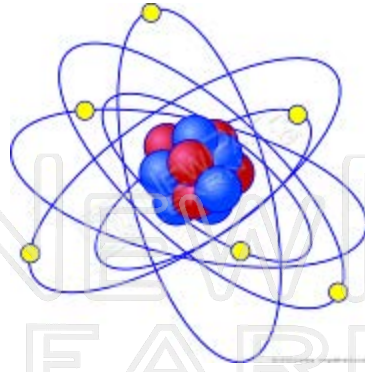
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- **Electrical energy** is the movement of electrical charges. Electrical charges moving through a wire is called electricity.
- **Light and sound** energy are forms of energy that travel in waves.
- **Thermal energy** is created by the movement of the particles that make up matter.
- **Nuclear energy** is energy stored in the nucleus of an atom; it is the energy that holds the nucleus together.





- **Radiation** is energy that is given off in the form of particles or rays. This form of energy can be used for research and for medical reasons as well. Radiation can be used to fight against certain cancers in humans.

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