

FORMS OF ENERGY:

Chemical Energy is energy stored in the bonds of atoms and molecules. Batteries, biomass, petroleum, natural gas, and coal are examples of stored chemical energy. Chemical energy is converted to thermal energy when we burn wood in a fireplace or burn gasoline in a car's engine.

Mechanical Energy or Kinetic energy is energy in motion. Anything that moves is showing kinetic or mechanical energy. Wind is an example of motion energy.

Nuclear Energy is energy stored in the nucleus of an atom — the energy that holds the nucleus together. Very large amounts of energy can be released when the nuclei are combined or split apart. A process called **fission**.

Gravitational Energy is energy stored in an object's height. The higher and heavier the object, the more gravitational energy is stored. When you ride a bicycle down a steep hill and pick up speed, the gravitational energy is being converted to motion energy.

Electromagnetic Energy includes visible light, Colors of the Rainbow, x-rays, microwaves, infrared, gamma rays and radio waves. All of these forms travel in WAVES.

Thermal Energy, or heat, is the vibration and movement of the atoms and molecules within substances. As an object is heated up, its atoms and molecules move and collide faster.

Potential Energy is energy stored before the movement of objects. It takes energy to get an object moving, and energy is released when an object slows down. Gravity and Elastic potential energy is used before an object is set in motion.

Sound is the movement of energy through substances in longitudinal (compression/rarefaction) waves. Sound is produced when a force causes an object or substance to vibrate — the energy is transferred through the substance in a wave. Typically, the energy in sound is far less than other forms of energy.

Electrical Energy - The energy associated with the separation and movement of charged particles called electrons. Many appliances must be powered using electrical energy by plugging them into an **electrical socket**. Electrical energy is also associated with the force of attraction or repulsion between positively and negatively charged particles which can do work. This can be seen through the force caused by "static cling" or rubbing a balloon on your head and watching it move toward the wall. Batteries convert chemical energy into electrical energy.