

6 Types of
Energy
Every 6th
Grader
Should
Know

What is energy?

- By definition, energy is *the ability to cause change or action to occur.*
- Often, energy is associated with power. Power simply means *the ability to produce an effect.*

Where does energy come from?

This is a tricky question because energy is not “created” so it doesn’t really come from any one location.

Most scientists believe that the original source of energy is the sun. The sun’s original light and heat (2 different forms of energy) provide the power for other actions to take place.



Energy in two states

Potential Energy

- Stored Energy. A system possesses Potential Energy as a result of its position or state. For example, a bike at the top of a hill has the potential to roll downhill.
- Potential energy cannot be transferred.

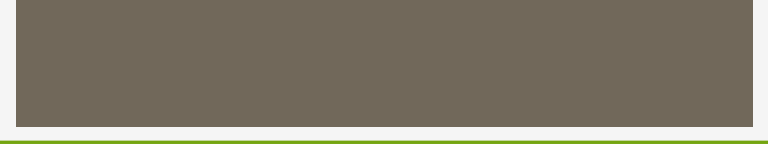
Kinetic Energy

- Energy in action. A system possesses kinetic energy as a result of its movement or action. For example, once the bike is rolling downhill, the energy is kinetic.
- Kinetic energy can be transferred.



Law of Conservation of Energy

- Energy can neither be created nor destroyed. It can only be transformed from one type to another.



Energy cannot be created or destroyed but it can be transformed and transferred.

Transform:

To Change
from one
thing into
another

Transfer:

To Move from
one location
to another.

What's Energy?

- Remember that energy is the ability to cause change or action.
- The types of energy tell us what makes the change or action occur.



Mechanical Energy

Change or action caused by movement

- *Mechanical* means of or having to do with machines or machinery (an object with individual moving parts)



Chemical Energy

Change or action caused by a chemical reaction

- Chemical Reactions include: Burning objects, rust, digestion, and combinations of everyday chemicals (like soap and water)




Electrical Energy

Change or action caused by the movement of electrons (i.e. an electrical current)

- Often, we call objects that use this type of energy electronics or electrical



 Remember, if it requires a battery or needs to be plugged in, it uses electrical energy.

Thermal Energy

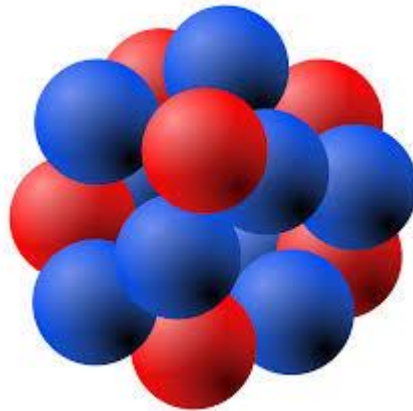
Change or action caused by the presence or absence of heat


- Phase changes are examples of thermal energy at work



Nuclear Energy

- Change or action caused by the bonding or separation of the nuclei of atoms
- *Typically not harnessed by individuals, but instead in a power plant or lab.



 Remember, **Fission** is when nuclei are separated and **Fusion** is when they are bonded together.

Radiant Energy

Change or action caused by the transfer of rays (uv-rays, x-rays, gamma rays, visible light, etc.)

- Evidenced by emitting light

