What is energy?

- By definition, energy *is* *the ability to do work.*

(In physics, doing work means causing change or action to occur.)

- Often, energy is associated with power. Power simply means *the ability to produce an effect.*

Energy in two states

Potential Energy

- Stored Energy. A system possesses Potential Energy as a result of it's position or state. For example, a bike at the top of a hill has the potential to roll downhill.
- Potential energy is stored until it can be converted into some form of kinetic energy.
- 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 is often described as *energy in use*.
- 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 or transferred from one system to another.

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 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.