Energy

* Energy exists in different forms
* Different forms of energy have different uses
  + What are some examples of energy and energy usage that you see in our world?
  + What are some examples of different forms of energy that you can think of?
* All forms of energy cause changes to occur
* **Energy**: the ability to cause change

Forms of Energy

* *Mechanical Energy*: energy that moves an object
* *Sound Energy*: results from vibration of particles in the various phases of matter (what are they?)
* *Chemical Energy*: energy stored in chemical composition of matter
* *Thermal Energy*: total energy resulting from movement of particles in matter
* *Electromagnetic Energy*: transmitted in waves, can travel through empty space (UV rays, X-rays, microwaves)
* *Nuclear Energy*: center of the atom is a source of energy

Kinetic Energy

* Energy in motion
* Increases as mass increases
  + Bowling ball and a soccer ball moving at same speed, which one has more kinetic energy?
  + Why?
* Increases as speed increases
  + Two identical bowling balls, different speeds, which one has more kinetic energy?
  + Why?

Potential energy

* Stored energy in an object due to its *position* or *chemical* *composition*
  + Gravity is the most obvious form
  + Stretching or compressing
  + Chemical energy (stored in food)
  + Fuel in a rocket / car
* What is gravity?
* Not as easy to determine as kinetic energy