Kinetic and Potential Energy
Potential energy is that energy which an object has because of its position. It is called potential energy because it has the potential to be converted into other forms of energy, such as kinetic energy.

Definition: Potential energy is energy that is stored in a system because of its position or chemistry.
Position Examples:

Wound-Up Spring

Baseball Pitcher
When you lift up a yo-yo, its position is altered. It now has the ability (or potential) to do work.
Potential Energy

Rubber Bands and a Target?
More Examples of (Position) Potential Energy:

- Stretching a rubber band.
  - Stores energy

- Water at the top of a waterfall.
  - Stores energy

- Yo-Yo held in your hand.
  - Stores energy because of position

- Drawing a Bow.
  - Stores energy because of position
Chemistry Examples:

- Wood
- Coal
- Oil
- Gas
How does “chemistry” create energy?

Take that pile of wood. Let’s make a fire.

So – How is this wood an example of potential energy?
How does chemistry create energy?

Imagine you are next to that fire. You get warm and the logs change from wood to ash (it's a chemical reaction - remember that?)

But how does wood have potential energy?

Wood has stored energy that is released when burned. What is stored energy called again?

Stored energy = potential energy!!
When I say stored...

You say potential!
Potential Energy Converted to Kinetic Energy…

When stored energy begins to move, the object now transfers from potential energy into kinetic energy.
Kinetic Energy

Definition: Kinetic Energy is energy in motion or the energy of a moving object.
Examples of Kinetic Energy

- Running
- Wood Burning
- Rock Falling
How does burning wood have kinetic energy?

Back to that fire…

When the wood is burning it is releasing that stored energy, that released energy is known as Kinetic Energy!

Released energy = Kinetic energy!!
More Examples of Kinetic Energy

- Shooting a rubber band
- Water falling over the fall
- A Yo-Yo in motion
- Releasing the arrow from the bow
Summary of What You’ve Learned…

Let’s go through some ideas:

• **Holding bowling ball in your hand.**

• **A coin sitting on paper over a cup.**

• Remember: Energy can be transformed from potential energy to kinetic energy. Kinetic energy can be transformed into potential energy.
When I say MOVING...

You say KINETIC!
Potential and Kinetic Energy Together

http://www.teachersdomain.org/asset/mck05_int_rollercoaster/
Kinetic and Potential Energy Together

Maximum potential energy, minimum kinetic energy

Maximum kinetic energy, minimum potential energy