Notes– Potential Energy

Potential Energy– The _____ energy of an object due to its _____

Types of Potential Energy:

1. _____– Potential energy stored as a result of _____ of an elastic object.

Examples of ELASTIC Potential Energy:
- A compressed or stretched _____
- A stretched _____
- A bent _____ board just before a diver jumps
- Stretching a _____ _____ to flip at your friend

2. _____– Energy stored in the chemical _____ of a substance.

Examples of CHEMICAL Potential Energy
- Energy stored in _____ for a car
- Energy stored in _____
- Energy stored in the _____ we eat

3. _____– Any object that can _____ because gravity _____ on it.

- _____ objects have more energy because they can fall further.
- Objects with more _____ have also have higher potential energy.

Examples of GRAVITATIONAL Potential Energy
- A _____ in a tree.
- A _____ setting at the _____ of a ramp.
- A book _____ on a bookshelf.

When is Potential Energy The Highest?
- When the bow is _____
- At the _____ point of the pendulum swing.
- When the cannon ball is _____

Kinetic Vs. Potential Energy
- Kinetic energy can be _____ to potential energy and then back again depending on the object's _____ and _____.

The equation for gravitational potential energy is _____
- GPE– measured in _____ (J)
- m= –_____ of the object (kg)
- g= gravitational _____ (10 m/s2)
- h= _____ the object is dropped from (m)

Let's Try It!

Remember: GPE=mgh (mass)(gravity)(height)
g= gravity (10 m/s)

1. Your science class does a lab where they drop a 1 kg mass from a height of 2 meters. What is the GPE?

2. A leopard with a mass of 55 kg climbs 12 meters up a tree? What is his GPE?

3. A tennis ball has a mass of 0.3 kg. If you hold the ball above the ground at a height of 2.0 m to serve, what is its GPE?

4. Determine the gain in potential energy when a 4kg rock is raised 18m?

5. Calculate the increase in potential energy when a crane lifts a 2000kg car a vertical distance of 10m.