

Physics Vocabulary ~ Chapter 5

- **Conservation of mechanical energy** ~ in the absence of friction, the total mechanical energy remains the same.
- **Elastic Potential Energy** ~ the energy available for use when an elastic body returns to its original configuration
- **Gravitational Potential Energy** ~ the potential energy stored in the gravitational fields of interacting bodies
- **Horizontal Component** ~ the portion of the force along the x axis.
- **Kinetic Energy** ~ the energy of an object that is due to the object's motion
- **Mechanical Energy** ~ the amount of work an object can do because of the object's kinetic and potential energies
- **Negative Work** ~ the work done by the force and the force are in opposing directions, i.e. 180° difference between their directions.
- **Non-mechanical energy** ~ forms of energy that are difficult to account for, therefore they are considered to be “lost”.
- **Positive Work** ~ the work done by the force and the force are in the same direction, i.e. 0° difference between their directions.
- **Potential Energy** ~ the energy that an object has because of the position, shape, or condition of the object
- **Power** ~ a quantity that measures the rate at which work is done or energy is transformed
- **Relaxed Length** ~ the length of a spring when no external forces are acting on it.
- **Spring Constant** ~ an expression of the ratio of force to displacement for a spring or other elastic material
- **Vertical Component** ~ the portion of the force along the y axis.
- **Work** ~ the transfer of energy to a body by the application of a force that causes the body to move in the direction of the force; it is equal to the product of the magnitude of the component of a force along the direction of displacement and the magnitude of the displacement
- **Work-kinetic energy theorem** ~ the theorem that states that the change in kinetic energy of a moving particle is equal to the work done by all of the forces acting on the particle