Key to Definitions

1. **Work**: the use of force to move an object some distance. Work = Force • Distance

2. **Energy**: Is the ability of a person or an object to do work or cause a change.

3. **Power**: the rate at which you do work - used to mean a source of energy or strength.
   Power = $\frac{\text{Work}}{\text{Time}}$

4. **Joule (J)**: the standard unit used to measure work = 1 Joule of work is done when a force of 1 Newton moves an object 1 meter.

5. **Potential Energy**: is stored energy, or the energy an object has due to its position or its shape.

6. **Kinetic Energy**: is the energy of motion. $KE = \frac{1}{2}mv^2$

7. **Conservation of Energy**: (law of conservation of Energy)
   A law stating that no matter how energy is transferred or transformed, all of the energy is still present in one form or another. Energy can't be created nor destroyed; it just transfers - The total amount of energy never changes

8. **Gravitational Potential Energy**: Potential energy caused by gravity: Gravitational PE = mass • gravity • height

9. **Elastic Potential Energy**: Potential energy caused by the change in shape (compressed or stretched)

(10) Mechanical Energy: is the energy possessed by an object due to its position or motion - in other words, it is the object's combined potential energy and kinetic energy ME = KE + PE

(11) Thermal Energy: is the energy an object has due to the motion of its molecules. Faster molecules = more thermal energy (similar to heat)

(12) Chemical Energy: is the energy stored in chemical bonds that hold chemical compounds together. breaking or rearranging molecules = energy release

(13) Electrical Energy: Energy that is transferred by electric charges or current (A type of Electromagnetic energy)

(14) Nuclear Energy: the energy released when the nucleus of an atom is split apart (during fission) or combined with another nucleus (during fusion)

(15) Electromagnetic (Radiant) Energy: Energy associated with electrical and magnetic interactions. The energy carried by light, infrared waves, & x-rays.