**Vocabulary: Energy Conversion in a System**



**Vocabulary**

* Energy – the ability to do work, or cause an object to move.
	+ Energy can be measured in joules (J).
	+ Types of energy include chemical energy, electrical energy, *heat energy*, light energy, mechanical energy, nuclear energy, and sound energy.
* Gravitational potential energy – *potential energy* that depends on an object’s position within a gravitational field such as that exerted by Earth.
	+ Gravitational potential energy is represented by several symbols: *GPE*, *PE*, or *U*.
	+ On Earth, an object’s gravitational potential energy depends on the object’s *weight* and height above Earth’s surface.
	+ The formula for gravitational potential energy is *GPE* = *wh* or *GPE* = *mgh.*
* Heat energy – the total *kinetic energy* of an object’s molecules or atoms.
	+ Heat energy is also known as thermal energy.
	+ When an object’s heat energy increases, the object becomes warmer.
* Kinetic energy – the energy of motion.
	+ Kinetic energy is represented by the symbol *KE* or simply *K*.
	+ The formula for kinetic energy is *KE* = *mv*2 ÷ 2.
* Law of conservation of energy – the principle that the total energy in a closed system remains constant.
* Specific heat capacity – the amount of energy needed to change the temperature of a substance by 1 °C.
	+ The specific heat of air is 1.020 J/g °C. This means it takes 1.020 J of energy to increase the temperature of 1 g of air by 1 °C.
	+ Sometimes a substance’s specific heat capacity is simply referred to as its “specific heat.”