Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Energy Energy Energy Notes**

Pages 395 to 403 in Eureka!

What is Energy??

Scientific definition: The\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_to do\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is work??

Scientific definition: What happens when \_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ on an \_\_\_\_\_\_\_\_\_\_\_\_\_ and is \_\_\_\_\_\_\_\_\_\_\_\_\_ a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Energy

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + No\_\_\_\_\_\_\_\_\_\_\_\_\_\_, no \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Life on \_\_\_\_\_\_\_\_\_\_\_\_, both \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_, is made possible due to \_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_ ability to \_\_\_\_\_\_\_\_\_\_\_\_ from forms of \_\_\_\_\_\_\_\_\_\_\_\_ allow for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Forms of Energy

* There are many \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, but there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Potential Energy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Kinetic Energy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* All other forms are either \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_ energy, or a \_\_\_\_\_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_

**Potential Energy:** energy stored in an object; due to the object itself or its position

**Kinetic Energy:** energy of objects in motion (objects being waves, electrons, molecules, substance, etc.)

**Radiant Energy:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, visible light is a form of it.

**Magnetic Energy:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Electrical Energy:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Thermal Energy:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, results in the temperature of a system

**Acoustic Energy:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Chemical Energy:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Nuclear Energy:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Elastic Energy:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_or compression

Law of Conservation of Energy; Part of the 1st Law of Thermodynamics

"Energy can be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. However, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ can \_\_\_\_\_\_\_\_\_\_\_\_\_ forms, and \_\_\_\_\_\_\_\_\_\_\_\_\_ can \_\_\_\_\_\_\_\_\_\_\_\_ from \_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_."

* We never "loose" energy; it \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the universe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Examples of the Transformation of Energy

* Radiant Energy to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the sun's energy (radiant energy) and \_\_\_\_\_\_\_\_\_\_\_ it into \_\_\_\_\_\_\_\_\_\_\_\_ (electrical energy) using \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (photovoltaic cells)
* Kinetic Energy to Electrical Energy
  + Wind Generated Energy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (kinetic energy) turns \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which spins a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, converting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (electrical energy)
* Chemical Energy to Kinetic Energy
  + Car Engine: \_\_\_\_\_\_\_\_\_\_ (diesel or gasoline; chemical energy) is \_\_\_\_\_\_\_\_\_\_\_\_\_\_, resulting in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_ (kinetic energy), running the \_\_\_\_\_\_\_\_\_\_\_\_\_ and allowing the vehicle to \_\_\_\_\_\_\_\_\_\_\_
* Nuclear Energy to Thermal Energy
  + Nuclear Power Plant: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (nuclear energy) of a fissile material (an element which can undergo nuclear fission) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ large quantities of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which is used to \_\_\_\_\_\_\_\_\_\_\_ up water to \_\_\_\_\_\_\_\_\_\_\_\_ steam
* Thermal Energy to Electrical Energy
  + Steam Generator: Water is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ up and is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ into \_\_\_\_\_\_\_\_\_\_\_\_ (thermal energy), which is used to \_\_\_\_\_\_\_\_\_\_\_\_ a \_\_\_\_\_\_\_\_\_\_\_, creating \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (electrical energy)
* Potential Energy to Kinetic Energy to Electrical Energy
  + Hydroelectric Dam: Water is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a \_\_\_\_\_\_\_\_\_\_\_ (potential energy) and is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (kinetic energy), which \_\_\_\_\_\_\_\_\_ a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, generating \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (electrical energy)