***TYPES OF ENERGY: Mechanical, Electromagnetic, Electrical,***

***Chemical, Thermal and Nuclear***

***What is Energy?***

* Energy is the ability to do \_\_\_\_\_\_\_\_\_\_.
* Energy is the ability to cause a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Energy can change an object’s:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , shape, temperature , \_\_\_\_\_\_\_\_\_\_\_\_

***Energy cannot be created nor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

* + You can \_\_\_\_\_\_\_\_\_ energy as light from the sun or a lamp.
  + You can \_\_\_\_\_\_\_\_\_ it as heat warms things up.
  + You can see \_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy every time you move.

***You use energy when you:***

* + Take a \_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_ a book
  + Throw a \_\_\_\_\_\_\_\_\_\_\_\_\_\_

***What is Mechanical Energy?***

* Energy due to a object’s \_\_\_\_\_\_\_\_\_\_\_\_\_ (kinetic) or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (potential).
* The bowling ball has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy.
* When the ball strikes the pins, mechanical energy is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the pins!

***What is Electromagnetic Energy?***

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy
* Includes energy from gamma rays, \_\_\_\_\_\_\_\_\_\_\_, ultraviolet rays, \_\_\_\_\_\_\_\_\_ light, infrared rays, microwave and \_\_\_\_\_\_\_\_\_\_\_\_\_ bands

***What is Electrical Energy?***

* Energy caused by the movement of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Easily transported through power lines and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into other \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of energy

***What is Chemical Energy?***

* Energy that is available for release from \_\_\_\_\_\_\_\_\_\_\_\_\_\_ reactions.
* The chemical bonds in a match stick \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy that is transformed into \_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy when the match is struck.

***What is Thermal Energy?***

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy
* The heat energy of an object determines how \_\_\_\_\_\_\_\_ its atoms are.
* A hot object is one whose atoms and molecules are excited and show \_\_\_\_\_\_\_\_\_\_\_\_\_\_ movement.
* A cooler object's molecules and atoms will show \_\_\_\_\_\_\_ movement.

***Nuclear Energy***

* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an atom is the source of nuclear energy.
* When the nucleus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (fission), nuclear energy is released in the form of \_\_\_\_\_\_\_\_ energy and \_\_\_\_\_\_\_\_\_\_\_\_ energy.
* Nuclear energy is also released when nuclei \_\_\_\_\_\_\_\_\_\_\_\_\_\_ at high speeds and \_\_\_\_\_\_\_\_\_\_\_ (fusion).
* The sun’s energy is produced from a nuclear fusion reaction in which hydrogen nuclei \_\_\_\_\_\_\_\_\_\_\_\_ to form helium nuclei.
* Nuclear energy is the most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form of energy.

***QUIZ TIME!***

1. What type of energy cooks food in a microwave oven?
2. What type of energy is the spinning plate inside of a microwave oven?
3. Electrical energy is transported to your house through power lines.
4. When you plug an electric fan to a power outlet, electrical energy is transform into what type of energy?
5. What energy transformation occurs when an electric lamp is turned on?
6. What type of energy in involved when pushing the box?
7. What type of energy is in a tree?
8. What type of energy is in a remote control?
9. What type of energy is in a tomato?
10. What type of energy is in a stove top?

* Draw a flow map showing the flow of energy transformations in a car from starting vehicle to driving. You should have 5 different types of energy.