OPTIONAL REVIEW GUIDE FOR FORMS OF ENERGY QUIZ: Use your study guide, your foldable and/or the powerpoint notes shared with you in google classroom to complete the following:

1. What is energy? Define and explain.
   1. Define: The ability to do work, exert a force or cause change.

Measured in Joules

* 1. Explain: It takes energy for anything to happen or change. When you do work on an object by exerting a force over a distance to cause motion in the direction of the force, you are transferring energy to the object.

1. What are the two main categories under which we can sort all forms of energy?

Kinetic and Potential

**Define each of the following and give one specific example of each:**

1. Kinetic Energy
   1. Definition - This is energy of motion.
   2. Example – A roller coaster going down a track
2. Potential Energy
   1. Definition – Stored Energy
   2. Example – A boulder on the edge of a cliff
3. Electrical Energy
   1. Definition - Is the movement of electrons.
   2. Example – Lightning, outlet
4. Chemical Energy
   1. Definition – Energy stored in the bonds of atoms and molecules (involves electrons only)
   2. Example – fireworks, gasoline, alka-seltzer and water
5. Nuclear Energy
   1. Definition - Energy that is stored in the nucleus of an atom. Released by combining (fusion) or splitting (fission) the nucleus of atoms.
   2. Example – sun, hydrogen bomb (fusion) nuclear power plant, atomic bomb (fission)
6. Thermal Energy
   1. Definition – Heat. The internal energy of substances. (Vibration and movement of atoms and molecules within substances.)
   2. Example

Geothermal energy, fire

1. Stored Mechanical
   1. Definition - Energy that is stored in objects by application of a force.
   2. Example- Compressed springs, Stretched rubber bands, Bow (drawn and ready to release)
2. Gravitational Potential Energy
   1. Definition - Energy of place or position.
   2. Example

When I hold a ball in the air, if I let it drop gravity will act on it

1. Motion Energy
   1. Definition - Movement of objects or substances from one place to another.
   2. Example – Wind, waves, ball dropping, any moving object
2. Sound Energy
   1. Definition - Movement of energy through objects in longitudinal (compression) waves. Requires a medium for transmission.
   2. Example – tuning fork
3. Light Energy
   1. Definition - Movement of energy through transverse waves. Can travel through a vacuum.
   2. Example – solar energy, radio waves, X-rays

**Sort the above energy forms into the proper category below. Write each form of energy in a box under the category to which they belong. There will be one box left open.**

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| FORMS OF POTENTIAL ENERGY | FORMS OF KINETIC ENERGY |
| Chemical | Radiant |
| Nuclear | Thermal |
| Gravitational Potential | Motion |
| Stored Mechanical | Sound |
|  | Electrical |

1. Write the Law of Conservation of Energy:

Energy cannot be created or destroyed, it changes from one form to another.