Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_ Objectives: 7.P.2.1 and 7.P.2.2

***Types of Energy, Law of Conservation and Energy Transformations***

**7. P.2.1** \_\_\_\_\_\_\_\_\_\_\_\_\_ how kinetic and potential energy contribute to the mechanical energy of an object.
**7. P.2.2** \_\_\_\_\_\_\_\_\_\_\_\_\_ how energy can be transformed from one form to another (specifically potential energy and kinetic energy) using a model or a diagram of a moving object.

***What is Energy?***

\_\_\_\_\_\_\_\_\_\_\_\_ is the ability to do \_\_\_\_\_\_\_\_. Energy is anything that can make matter \_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Work is the use of \_\_\_\_\_\_\_\_\_ to move an object. The amount of work done depends on the amount of \_\_\_\_\_\_\_\_\_\_ exerted and the \_\_\_\_\_\_\_\_\_\_\_\_\_ the object traveled.

***Law of Conservation of Energy***

The Law of conservation of \_\_\_\_\_\_\_\_\_\_ states that energy \_\_\_\_\_\_\_\_\_\_\_ be \_\_\_\_\_\_\_\_\_\_ nor \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Instead, it must be \_\_\_\_\_\_\_\_\_\_\_\_\_ from one type to another.

***Types of energy***

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Energy = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy

It is the energy that an object has because of its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or condition. There are several types of Potential energy

1. Gravitational Potential- Energy due to your height above ground. This Dog has \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Potential Energy because of his position above ground.

Elastic Potential: \_\_\_\_\_\_\_\_\_\_\_ energy due \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_ of an \_\_\_\_\_\_\_\_\_\_\_\_\_ object.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Energy: Energy an object has due to its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The amount of kinetic energy an object has is influenced by its \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

As long as it’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ it has Kinetic Energy.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_= Mechanical Energy.

Mechanical Energy due to an object’s \_\_\_\_\_\_\_\_\_\_\_ (kinetic) or \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (potential). The bowling ball has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy.

When the ball strikes the pins, \_\_\_\_\_\_\_\_\_\_\_\_\_\_energy is transferred to the pins and causes them to \_\_\_\_\_\_\_\_\_\_\_\_\_!

Examples of Mechanical Energy: A rocket Launching, a swimmer swimming and A skier skiing.

Electromagnetic Energy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy includes energy from gamma rays, XRays, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rays, \_\_\_\_\_\_\_\_\_ light, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rays, \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ bands.

 Electrical Energy: Energy caused by the movement of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Easily transported through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lines and converted into \_\_\_\_\_\_\_\_ forms of energy.

Chemical Energy: A form of \_\_\_\_\_\_\_\_\_\_\_\_ Energy that is available for release from chemical \_\_\_\_\_\_\_\_\_\_\_\_\_\_. The chemical \_\_\_\_\_\_\_\_\_\_ in a matchstick store energy that is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Heat) energy when the match is struck.

Examples of Chemical Energy, coal, any form of food, batteries.

Thermal Energy= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy. The heat energy of an object determines how active its atoms are.



A \_\_\_\_\_\_\_ object is one whose atoms and molecules are excited and show rapid \_\_\_\_\_\_\_\_\_\_\_\_\_. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ object's molecules and atoms will show \_\_\_\_\_\_\_\_\_\_ movement.

***QUIZ TIME!***

What type of energy cooks food in a microwave oven? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What type of energy is the spinning plate inside of a microwave oven? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Electrical energy is transported to your house through power lines. When you plug an electric fan to a power outlet, electrical energy is transformed into what type of energy? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What energy transformation occurs when an electric lamp is turned on? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Energy is converted to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

What types of energy are shown below?



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Don’t forget friction)

What type of energy does the tree represent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

What types of energy are shown below?



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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.





Study Jams- Energy

Watch the video and write down 3 things that it helped you to understand more clearly.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_