

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

## Types of Energy Activity

### Background Info:

Energy is defined as the ability to do work, causing displacement. The force of work in the form of energy has allowed for society to learn, change and grow through the continued improvements of converting energy to do more efficient work.

The Law of Conservation of Energy states that all available energy in the world is never changing, meaning the total amount of energy cannot be added to or taken away from. Instead, energy is convertible and can be used in one form, and then converted into another.

The types of energy being converted are kinetic and potential energy. Moving energy or kinetic energy is energy that is in motion. When that energy stops moving it converts to stored energy or potential energy. Both kinetic and potential energy are measured in the unit of joules. The number of joules tells scientists how much work is being done on or by an object.

| Kinetic Energy |       |            | Potential Energy |            |         |
|----------------|-------|------------|------------------|------------|---------|
| Heat           | Light | Motion     | Chemical         | Electrical | Elastic |
| Electrical     | Sound | Mechanical | Gravitational    | Mechanical | Nuclear |

### Types of Energy:

Label the Following Examples as Being Stored (PE) or Motion (KE) Energy

- 1.) Burning wood in a campfire \_\_\_\_\_
- 2.) A pitcher throwing a baseball across home plate \_\_\_\_\_
- 3.) The force binding protons and neutrons together in the nucleus \_\_\_\_\_
- 4.) Listening to music play through headphones \_\_\_\_\_
- 5.) Turning a door knob \_\_\_\_\_
- 6.) A bicyclist riding his bike down a hill \_\_\_\_\_
- 7.) An archer with their bow drawn \_\_\_\_\_
- 8.) Stretching a rubber band \_\_\_\_\_
- 9.) Sitting in a car on top of a hill \_\_\_\_\_

**Directions:**

Around the classroom are 15 different energy scenarios. Using each card, explain the scenario, the type of energy, and if the energy is in motion (KE) or being stored (PE).

| Card # | Explain the Scenario                                 | Type of Energy | Stored or Moving? | Circle One |
|--------|--|----------------|-------------------|------------|
| 1      | Lightning strike in the evening sky                  |                |                   | KE or PE   |
| 2      | A cheeseburger                                       |                |                   | KE or PE   |
| 3      | Protons and neutrons inside the nucleus of an atom   |                |                   | KE or PE   |
| 4      | A woman running                                      |                |                   | KE or PE   |
| 5      | A campfire   |                |                   | KE or PE   |
| 6      | A guitar playing music                               |                |                   | KE or PE   |
| 7      | The rays of the sun causing a sunburn                |                |                   | KE or PE   |
| 8      | An archer with their bow drawn                       |                |                   | KE or PE   |
| 9      | Two Batteries  |                |                   | KE or PE   |
| 10     | A person pushing a lawnmower over grass              |                |                   | KE or PE   |
| 11     | A basketball bouncing                                |                |                   | KE or PE   |
| 12     | Apples sitting in a tree, the ground and in a bucket |                |                   | KE or PE   |
| 13     | A stretched spring                                   |                |                   | KE or PE   |
| 14     | A radio producing radio waves                        |                |                   | KE or PE   |

|    |   |  |  |          |
|----|---|--|--|----------|
| 15 | A large boulder balancing<br>on another boulder |  |  | KE or PE |
|----|---|--|--|----------|