Scientist: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_Per:\_\_\_\_\_\_\_\_\_\_

**Forms of Energy HW**

**Part 1. The two basic types of energy**

Directions: Determine the best match between basic types of energy and the description provided. Put the correct letter in the blank.

\_\_\_\_\_\_1. A skier at the top of the mountain (a) Kinetic Energy

\_\_\_\_\_\_2. Gasoline in a storage tank (b) Potential Energy

\_\_\_\_\_\_3. A race-car traveling at its maximum speed (c) Both forms of Energy

\_\_\_\_\_\_4. Water flowing from a waterfall before it hits the pond below

\_\_\_\_\_\_5. A spring in a pinball machine before it is released

\_\_\_\_\_\_6. Burning a match

\_\_\_\_\_\_7. A running refrigerator motor

**Part 2. Definitions of Energy.**

Directions: Write down the definition for each of the following terms.

ENERGY:

KINETIC ENERGY:

POTENTIAL ENERGY:

**Part 3. Forms of Energy.**

Directions: Determine the type of energy for each form (Kinetic, Potential, or Both) and give an example.

|  |  |  |  |
| --- | --- | --- | --- |
| **Form** | **Definition** | **Type (KE, PE, or Both)** | **Example (for each type if both)** |
| Mechanical (motion) energy | An object’s movement creates energy |  |  |
| Thermal (heat) energy | The vibration and movement of molecules in heat |  |  |
| Radiant energy | Electromagnetic waves (like from the sun) |  |  |
| Electrical energy | Movement of electrons |  |  |
| Chemical energy | Stored in bonds of atoms and molecules, such as the chemicals in batteries |  |  |
| Nuclear energy | Stored in the nucleus of an atom; released when nucleus splits or combines |  |  |
| Sound energy | Vibration of waves through material |  |  |
| Gravitational energy | Energy of position or height |  |  |

**Part 4. Forms of Energy Continued**

Directions: Match the energy form(s) to the description provided. A few questions may have more than one answer.

\_\_\_\_\_\_\_\_\_\_\_\_\_1. Falling rocks from the top of a mountain (a) Mechanical

\_\_\_\_\_\_\_\_\_\_\_\_\_2. Release of energy from the Sun (b) Electrical

\_\_\_\_\_\_\_\_\_\_\_\_\_3. Energy released from food after it is eaten (c) Heat

\_\_\_\_\_\_\_\_\_\_\_\_\_4. Batteries (d) Radiant

\_\_\_\_\_\_\_\_\_\_\_\_\_5. The energy that runs a refrigerator (e) Chemical

\_\_\_\_\_\_\_\_\_\_\_\_\_6. Nuclear fission reactors (f) Nuclear

\_\_\_\_\_\_\_\_\_\_\_\_\_7. The rumble of thunder from a storm (g) Sound

\_\_\_\_\_\_\_\_\_\_\_\_\_8. Rubbing your hands together (h) Gravitational

­\_\_\_\_\_\_\_\_\_\_\_\_\_9. Gasoline

\_\_\_\_\_\_\_\_\_\_\_\_\_10. Food before it is eaten

\_\_\_\_\_\_\_\_\_\_\_\_\_11. Lightening

**Part 5. Transformation of Energy**

Directions: Use the following forms of energy to fill in the table below: **mechanical, electrical, heat, radiant, chemical, nuclear, and sound**. The first one has been done for you.

|  |  |  |
| --- | --- | --- |
|  | **ORIGINAL ENERGY FORM** | **FINAL ENERGY FORM** |
| 1. Electric motor | electrical | mechanical |
| 2. A battery that runs a moving toy |  |  |
| 3. A solar panel on the roof of a house |  |  |
| 4. A person lifting a chair |  |  |
| 5. A nuclear power plant |  |  |
| 6. A toaster |  |  |
| 7. A church bell |  |  |
| 8. Gasoline powering a car |  |  |
| 9. A light bulb |  |  |
| 10. Photosynthesis |  |  |