

Unit 8: Energy

Activity 1: Types of Energy Practice Problems

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.

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| _____ 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.

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		
Radiant energy	Electromagnetic waves		
Electrical energy	Movement of electrons		
Chemical energy	Stored in bonds of atoms and molecules		
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.

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| _____ 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 | |
| _____ 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		