

Name: _____ Date: _____ Class: _____

“REVIEW OF ENERGY” Required Assessment for Test on Friday Jan 17

Part 1. The two basic States of Energy

Directions: Determine the best match between basic states 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 states 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:

POTENTIAL ENERGY:

KINETIC ENERGY:

UNIT FOR 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
Thermal (heat) energy	The energy contained in the _____ of an object's particles.		
Radiant energy	Energy of vibration of _____ charged particles. Form of energy that can travel through a _____.		
Electrical energy	Energy of the flow of moving _____.		
Chemical energy	Energy stored in bonds of atoms and molecules: released through _____ reactions.		
Nuclear energy	Stored in the _____ of an atom; released when nucleus splits or combines>		
Sound energy	Energy carried on waves that causes the molecules of a material to _____. Sound is a special form of _____ energy.		
Mechanical	Energy in an object due to is _____ or _____.		

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 contained in food | (c) Thermal |
| _____ 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. Lightning | |

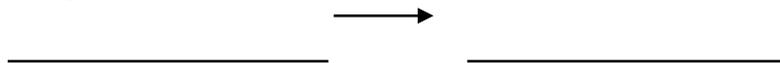
Part 5. Transformation of Energy

Directions: Use the following forms of energy to fill in the transformations below: **mechanical, electrical, thermal, radiant, chemical, nuclear, and sound.**



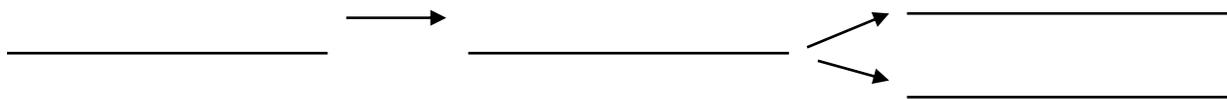
1) Windmill

Energy Transformation:



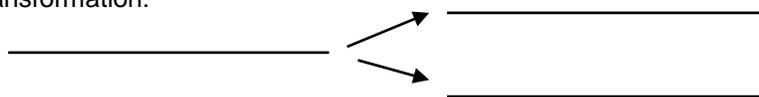
2) Battery powered Flashlight

Energy Transformation:



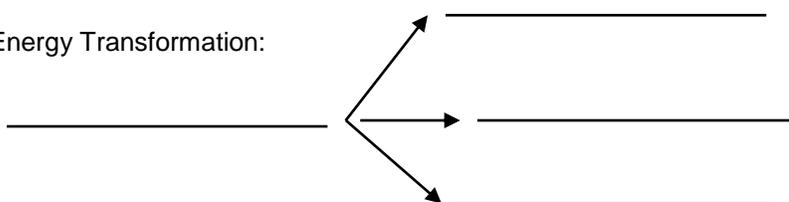
3) Microwave

Energy Transformation:



4) Firecracker

Energy Transformation:

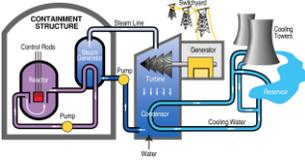




5) Riding a Bicycle

Energy Transformation:

_____ → _____ → _____



6) Nuclear fuel power plant

Energy Transformation:

_____ → _____ → _____

Part 6. Transformation of Energy

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

Description:	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		

Name: **Answer Key** Date: _____ Class: _____

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- B** 1. A skier at the top of the mountain (a) Kinetic Energy
- B** 2. Gasoline in a storage tank (b) Potential Energy
- A** 3. A race-car traveling at its maximum speed (c) Both states of Energy
- C** 4. Water flowing from a waterfall before it hits the pond below
- B** 5. A spring in a pinball machine before it is released
- A or C** 6. Burning a match
- A** 7. A running refrigerator motor

Part 2. Definitions of Energy.

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

ENERGY: **the ability to do work or cause change**

POTENTIAL ENERGY: **the energy stored in object by location or position**

KINETIC ENERGY: **the energy of motion**

UNIT FOR ENERGY: **Joules (J)**

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
			VARIES
Thermal (heat) energy	The energy contained in the MOVEMENT of an object's particles.	KE	HAND WARMER
Radiant energy	Energy of vibration of ELECTRICALLY charged particles. Form of energy that can travel through a VACUUM(EMPTY SPACE)	KE	LIGHT BULB SHINING
Electrical energy	Energy of the flow of moving ELECTRONS	KE	PLUG IN AN IRON
Chemical energy	Energy stored in bonds of atoms and molecules: released through CHEMICAL reactions.	PE	FOOD/BATTERIES
Nuclear energy	Stored in the NUCLEUS of an atom; released when nucleus splits or combines> FISSION/FUSION	PE	NUCLEAR POWER PLANT
Sound energy	Energy carried on waves that causes the molecules of a material to VIBRATE Sound is a special form of MECHANICAL energy.	KE	YELLING
Mechanical	Energy in an object due to is MOTION or POSITION	BOTH	WIND UP TOY

5) Riding a Bicycle

Energy Transformation:

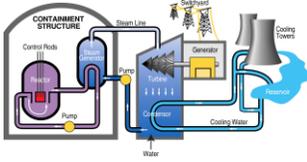
CHEMICAL



MECHANICAL



THERMAL



6) Nuclear fuel power plant

Energy Transformation:

NUCLEAR



THERMAL



MECHANICAL



ELECTRICAL

Part 6. Transformation of Energy

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

Description:	ORIGINAL ENERGY FORM	FINAL ENERGY FORM
1. Electric motor	ELECTRICAL	MECHANICAL
2. A battery that runs a moving toy	CHEMICAL	MECHANICAL
3. A solar panel on the roof of a house	RADIANT	ELECTRICAL
4. A person lifting a chair	CHEMICAL	MECHANICAL
5. A nuclear power plant	NUCLEAR	ELECTRICAL
6. A toaster	ELECTRICAL	THERMAL
7. A church bell	MECHANICAL	SOUND
8. Gasoline powering a car	CHEMICAL	MECHANICAL
9. A light bulb	ELECTRICAL	RADIANT
10. Photosynthesis	RADIANT	CHEMICAL