

1. Identify the different types of energy, (hint) SCREAM-T
ENERGY UNIT

2. What are the **two** major categories of energy?
(the 2 forms by which all energy can be categorized)
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3. Use the word kinetic energy in a sentence.
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4. What is a factor needed to increase or decrease PE?
(Consider GPE Gravitational Potential Energy)
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5. What 2 things determine the amount of kinetic energy an object has?
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- a. Mass and speed
- b. Weight and mass
- c. Speed and position
- d. Position and mass

6. How might you increase or decrease KE?
think back to ->ENERGY UNIT

7. Which position has the greatest KE?



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8. A rollercoaster is moving along a track. It eventually comes to a stop.
This is due to what? _____



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9. Identify and provide an example of an energy transformation?

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10. Identify the energy transformations in a flashlight?

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List three or more in order:

11. Why is a coal a nonrenewable resource?

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12. State an alternative to burning fossil fuels?

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13. Which of the following statements describes a conversion from chemical energy to thermal energy?

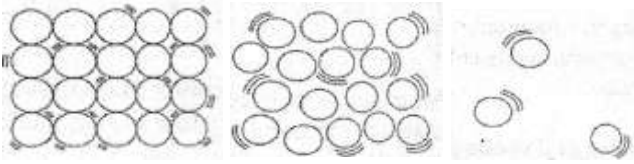
- a. Food is digested and used to regulate body temperature
- b. Charcoal is burned in a barbecue pit
- c. Coal is burned to produce steam
- d. All of the above

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14. Can you list three types of potential energy?

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1. List what the above diagrams represent regarding the phases of matter



MATTER UNIT

2. The forces of attraction between molecules in this *state of matter* are strong enough to keep molecules together, but not strong enough to keep them in their fixed positions. Which **state** of matter is this?

MATTER UNIT

3. This *state of matter* has strong forces of attraction between atoms. There is only enough kinetic energy for them to vibrate in place. Which **state** of matter is this?

MATTER UNIT

4. In this *phase of matter*, molecules are too weak to bring themselves together. They tend to simply bounce off one another and have high kinetic energy. Which *phase* of matter is this?

MATTER UNIT

5. When a gas is cooled this happens to the volume of the matter.

MATTER UNIT

6. When a solid is heated up this happens to its volume.

MATTER UNIT

7. If the pressure is increased on a substance, this will tend to occur to the volume of the substance.

MATTER UNIT

8. What are the two big idea behind the kinetic theory of matter?

MATTER UNIT

9. What type of change (physical or chemical) is a change in the *state* of a sample of matter?

MATTER UNIT

10. In a distillation apparatus, (*a distiller*) liquid water is first boiled and then cooled later in a condenser. What two phase changes occur here?

MATTER UNIT

11. What happens to energy as matter goes from a gas to a liquid?
What about from a gas to a solid?

MATTER UNIT

12. If substances can be separated by physical means then they must be a _____ . (*compound or mixture*)

MATTER UNIT

13. When substances have been combined chemically, like when hydrogen combines with oxygen to form water, the two elements are said to be a _____ .
(*compound or mixture*)

MATTER UNIT

1. Thermal energy flows in only this direction. Can you describe how heat energy flows?

Thermodynamics **HEAT UNIT**

2. Is there technically such a thing as a *measure* of cold?

Thermodynamics **HEAT UNIT**

3. This method of thermal energy occurs by direct contact only. Name it.

HEAT UNIT

4. This method of thermal energy is spread by changing density in fluids. It is responsible for many weather related patterns.

HEAT UNIT

5. This type of thermal energy is the source of all energy on earth. It travels in waves and comes from the sun.

HEAT UNIT

1. A statement regarding a scientific problem or investigation which makes a prediction about possible experimental outcomes is called a _____.
control / independent var. / dependent var. / hypothesis
Scientific Method
2. The variable that is measured, recorded, observed and/or studied during an experiment is referred to as the _____ variable.
control / independent / dependent / hypothesis
Scientific Method
3. In an experiment we control as many factors as possible that might influence experimental results. We limit one variable _____ between the experimental group and the control group which _____ is called the _____ variable.
control / independent / dependent / experimental
Scientific Method
4. Use the words ***experiment*** and ***control*** in a sentence.
Scientific Method
5. Answer the following: In an experiment, the control is important because....
Scientific Method