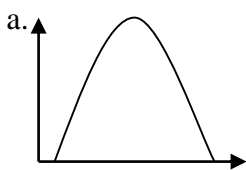
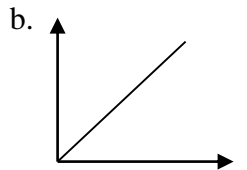
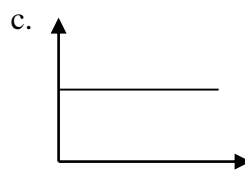
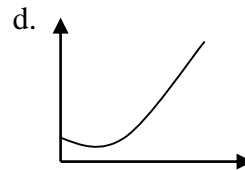


Name: _____
Date: _____
Period: _____

MAP Prep – Physical Science

1. What energy transformation occurs when an electric lamp is turned on?
 - a. Electrical energy to light and heat energy.
 - b. Light energy to electrical and mechanical energy.
 - c. Heat energy to light and electrical energy.
 - d. Electrical energy to mechanical and heat energy.
2. A scientist combines hydrogen and oxygen to form water. The combination illustrates that water is
 - a. An atom
 - b. An element
 - c. A mixture
 - d. A compound
3. Copper is an element that is used in electrical wires. What is the smallest unit of copper that still maintains the characteristics of copper?
 - a. The atom
 - b. The electron
 - c. The nucleus
 - d. The proton
4. A container is filled with 100 ml. of water and placed in a freezer. The water in the container freezes at 0°C . A second container filled with 90 ml. of water is placed in a second freezer. At what temperature does the second container of water freeze?
 - a. -10°C
 - b. -1°C
 - c. 0°C
 - d. 10°C
5. Kendra's mom is purchasing a car, but cannot decide what color to get. Kendra advises her mom that a car with a black exterior will be uncomfortable in the summer. This observation is correct because dark objects, as compared to lighter colored objects,
 - a. Reduce heat transfer
 - b. Are generally more dense
 - c. Absorb more of the sun's energy.
 - d. Reflect sunlight more efficiently.
6. An engineer designing a suspension bridge discovers it will need to carry twice the load that was initially estimated. One change the engineer must make to her original design to maintain safety is to increase the
 - a. Length of wires in tension
 - b. Diameter of wires in tension
 - c. Height of support towers
 - d. Length of the bridge.
7. Which of the following graphs represents a train moving with constant speed?
 - a. 
 - b. 
 - c. 
 - d. 
8. Lemon juice turns litmus paper red, is corrosive and tastes sour. Lemon juice is classified as
 - a. An acid
 - b. A base
 - c. An element
 - d. More information is needed to classify lemon juice.

9. Study the chart below carefully, which of the substances shown could be sugar?
- a. Substance W b. Substance X c. Substance Y d. Substance Z

Property	Substance W	Substance X	Substance Y	Substance Z
State	Solid	Solid	Solid	Liquid
Attracted to magnet	Yes	No	No	Yes
Dissolves in water	Yes	No	Yes	No
Color	White	White	White	Silver

10. A can is filled with crushed ice, sealed, and massed. The ice was melted by slowly warming the can and its contents. No water vapor escaped and no air entered. If the can is then massed again, what is the **best** prediction of its mass.
- a. The mass would be the same. c. The mass would be less.
b. The mass would be more. d. It is impossible to predict without more information.
11. Linda traveled the same distance walking, riding a bike, and driving a car. For each mode of travel, the table shows her average speed and the amount of time required to travel the distance. As Linda's speed increased, how did the amount of time change?
- a. Time increased proportionally c. Time increased randomly
b. Time decreased proportionally d. Time decreased randomly

Mode	Speed (km/hr)	Time (minutes)
Walking	5	120
Riding a Bike	10	60
Driving a Car	60	10

12. The ratio of an object's mass to its volume is its
- a. Area b. Perimeter c. Density d. Weight
13. Because sulfur cannot be decomposed by simple chemical methods into two or more different substances, it is classified as
- a. An element b. A compound c. A mixture d. A molecule
14. When coal is burned to produce electricity, the electrical energy produced is less than the potential energy of the coal. Which **best** explains this observation?
- a. As coal is heated, some of the molecules move so fast that they are destroyed.
b. Some of the energy in coal is destroyed by the intense heat required to release its potential energy.
c. Some of the potential energy in coal is converted into forms of energy other than electricity.
d. The amount of potential energy in fuels is overestimated.
15. Suppose 20g of liquid hydrogen peroxide is heated so it completely breaks down into liquid water and oxygen gas. Which **best** describes the total mass of the water and oxygen produced?
- a. More than 20g because of the additional heat.
b. More than 20g because there are now two substances.
c. Less than 20g because oxygen gas is very light
d. 20g because no matter is added or removed.
16. A metal block is hanging from a string and is not moving. Gravity pulls on the block with a force of 10 Newtons. How much force does the spring exert on the block?
- a. 0 Newtons c. More than 0 Newtons, but less than 10 Newtons
b. 10 Newtons d. More than 10 Newtons