Properties of Matter Study Guide

1. Vocabulary: Match the term to the correct definition:

___ observe	**a.** to compare something to a standard unit
___ measure	**b.** a matter made of two or more elements, such as water, oxygen, and salt
___ solubility	**c.** a measure of how fast the particles of matter are moving
___ atom	**d.** the smallest particle of a compound that has the same properties of the compound
___ molecule	**e.** to use your senses to gather information
___ compound	**f.** a particle that is the smallest and most basic part of an element
___ temperature	**g.** the amount of matter an object has
___ mass	**h.** the property of a substance that tells how well it dissolves into another material
___ volume	**i.** the amount of space an object takes up

H O H H_2O molecule has 3 atoms

O = 1 atom H = 1 atom

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Sep 26-7:05 AM

2. List as many *properties of matter* as you can that scientists can use when classifying materials:

conductivity

length, weight, mass, volume, ability to conduct heat, ability to conduct electricity, magnetism, solubility, state of matter, temperature, color, texture, hardness, malubility, bouyancy

3. In the boxes below, draw what particles would look like in each state of matter. Then write one word that describes the movement of the particles.

temperature goes up →

Solid	Liquid	Gas
vibrating	slow	fast

Sep 26-7:05 AM

Fill in the blank with the correct word:

4. Temperature will affect the speed that particles move. The higher the temperature, the faster particles will move. The lower the temperature, the slower particles will move.

Circle the correct underlined word for each statement:

5. When temperature increases (becomes warmer) particles inside of a container put **more** / **less** pressure on the container. When temperature decreases (becomes cooler) particles inside of a container put **more** / **less** pressure on the container.

Sep 26-7:06 AM

6. A. A conductor allows (1) (2) heat or electricity to be transferred through it

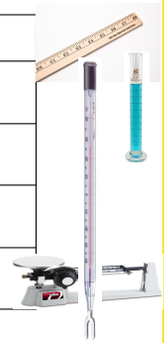
Give an example of a material that conducts heat copper, metals

Give an example of a material that doesn't conduct heat well rubber, plastic

Oct 12-11:03 AM

7. What are the 4 properties of a material that could be measured? Give the standard unit each would be measured in across the world.

Property *(ex. Volume)*	**Standard Unit** *(ex. milliliters)*
length	meters
volume	liters
temperature	degrees celcius
mass	gram



Oct 12-11:14 AM

8. Give one property of a liquid, one property of a solid, and one property of a gas.

Liquid: takes the shape of its container, definite volume, particles spread out, move moderate speed

Solid: has a definite shape, has a definite volume, particles vibrate, don't move past one another

Gas: takes the shape of its container (fills container, spreads), no definite shape (if no container), no definite volume, fast moving particles moving past one another

Sep 26-7:52 AM

Theo has four different substances. He places the same amount of each substance in a cup of hot water and in a cup of cold water. He stirs each cup of water for one minute and records his data in the table shown.

Solubility Data		
Substance	**Hot water**	**Cold water**
W	did not dissolve	did not dissolve
X	dissolved immediately	partially dissolved
Y	dissolved after 40 seconds	mostly dissolved
Z	dissolved immediately	completely dissolved

in a chart, use process of elimination

Which conclusion is supported by Theo's data?

- A. Some substances dissolve faster in warmer water.
- B. Substance X is more soluble than substance Z.
- C. Most substances do not dissolve in cold water.
- D. Substance Y is more soluble than the other three substances.

Jan 14-3:19 PM