

Name \_\_\_\_\_

Date \_\_\_\_\_

# CHEMISTRY REVIEW

## PROPERTIES OF MATTER

1. Fill in the chart below.

	BASE UNIT	SCIENTIFIC TOOL
LENGTH		
VOLUME		
MASS		

2. Density = \_\_\_\_\_

2. The density of water is \_\_\_\_\_

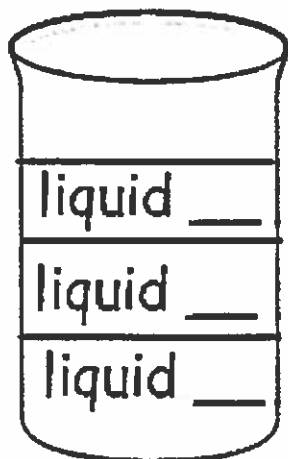
3. Three liquids have the following densities.

Liquid A = 1.0 g/ml

Liquid B = 0.84 g/ml

Liquid C = 1.18 g/ml

If you put these liquids into a container how would they separate? Label the diagram below.



4. In a \_\_\_\_\_ change, no new substances are created. Examples include \_\_\_\_\_

5. In a \_\_\_\_\_ change, substances are changed into new substances.  
Examples \_\_\_\_\_

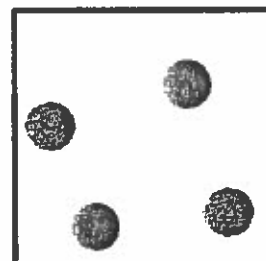
### STATES OF MATTER

6. Place the following words or comments under the appropriate diagram.

Solid  
Liquid  
Gas  
Most energy

Least energy  
Particles closest together  
Particles farthest apart

Particles can slide past  
another  
Hottest  
Coolest



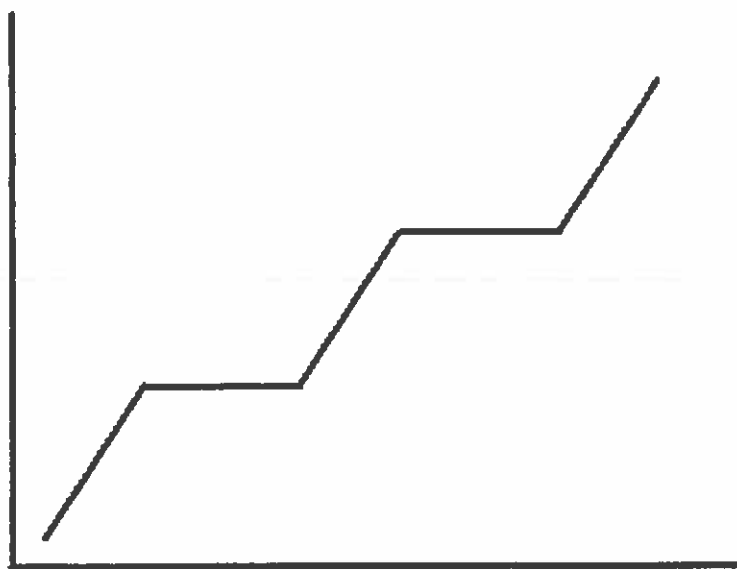
7. Label the phase change diagram using the following words

Solid  
Liquid

Gas  
Condensation

Freezing  
Vaporization

Melting



## CLASSIFICATION OF MATTER

8. \_\_\_\_\_ are substances made up of only one type of atom.

Examples \_\_\_\_\_

9. \_\_\_\_\_ are made up of two or more types of atoms chemically combined.

Examples \_\_\_\_\_

9a. Count the number of atoms in the following compounds.



10. \_\_\_\_\_ are made up of two or more substances that are not chemically combined. Examples \_\_\_\_\_

10a. These can be separated easily

\_\_\_\_\_ - separates a metal from a non-metal

\_\_\_\_\_ - separates by boiling points

\_\_\_\_\_ - separates by size

## ATOMS and BONDING

11. Atoms are made up of

A. \_\_\_\_\_ having a negative charge. These are located \_\_\_\_\_  
the nucleus

B. \_\_\_\_\_ having a positive charge. These are located \_\_\_\_\_  
the nucleus

C. \_\_\_\_\_ having no charge (neutral). These are located \_\_\_\_\_  
the nucleus

12. Neutral atoms will always have equal numbers of \_\_\_\_\_ and \_\_\_\_\_

13. Atoms bond with one another in order to \_\_\_\_\_ their valence electron shell.

14. \_\_\_\_\_ bonds form between two non-metals. The atoms \_\_\_\_\_  
their valence electrons.

15. When forming ionic bonds

- metal atoms \_\_\_\_\_ electrons and form \_\_\_\_\_ ions.
- Non-metals atoms \_\_\_\_\_ electrons and form \_\_\_\_\_ ions.

16. You can use the oxidation number of atoms to determine how they will bond with others. The oxidation numbers must always balance out to \_\_\_\_\_

Element	Symbol	# of Valence e-	Oxidation #
Sodium			
Magnesium			
Oxygen			
Fluorine			

### USING THE PERIODIC TABLE

17. The periodic table is arranged by \_\_\_\_\_. This tells you the number of \_\_\_\_\_ in the nucleus of the atom.

18. The \_\_\_\_\_ is the average mass of the isotopes of an element found in nature. If you round this number you will know the number of \_\_\_\_\_ and \_\_\_\_\_ in an atom.

19. The rows going across the table are called \_\_\_\_\_. This will tell you the number of \_\_\_\_\_ an atom has.

20. The columns of the periodic table are called \_\_\_\_\_. This can help you find the number of \_\_\_\_\_ the atoms of an element have.

21. Fill in the following chart.

ELEMENT	ATOMIC NUMBER	ATOMIC MASS	# of protons	# of electrons	# of neutrons
Carbon					
Magnesium					
Gold					
Chlorine					