

Name: _____

Unit 1 Study Guide

VOCABULARY Study the key vocabulary. It may be helpful to make vocab cards.

- boiling point
- condensation
- density
- deposition
- displacement
- evaporation
- fluid
- kinetic energy
- mass
- matter
- melting
- melting point
- solidification
- sublimation
- thermal contraction
- thermal expansion
- volume

1. Differentiate mass and volume.
2. What are the three states of matter?
3. Complete the following chart.

	MASS	VOLUME	SHAPE
SOLID			
LIQUID			
GAS			

4. In the following boxes show how the particles of a solid, liquid and gas are different according to the particle model.

SOLID	LIQUID	GAS

5. List the four points of the particle model of matter.
6. List the four points of the kinetic molecular theory.
7. Compare and contrast the particle model and kinetic molecular theory.
8. Describe thermal expansion in terms of the kinetic molecular theory.
9. Describe thermal contraction in terms of the kinetic molecular theory.
10. List and explain the 6 changes of states. Give an example of each.
11. _____
12. What changes of state occur when heat is added to matter?
13. What changes of state occur when heat is removed from matter?

14. Draw a **heating or cooling curve** for 2 of the following substances in celsius on back of study guide:

The Freezing and Boiling Points of Some Substances				
Substance	Freezing/Melting Point		Boiling Point	
	°F	°C	°F	°C
water	32	0	212	100
aluminum	1,220	660	4,473	2,467
iron	1,762	961	4,014	2,212
alcohol	-202	-130	173	78

Density Review:

1. What is a fluid? What states of matter are fluids? Why?
2. What is density?
3. According to the kinetic molecular theory, what happens to the density of a substance when it is heated? Why?
4. In what state are most substances most dense? Why? What substance is an exception to this?
5. When a substance is denser than water, will it sink or float?
6. What a substance is less dense than water, will it sink or float?
7. Why is there less oxygen available to breathe higher in the atmosphere?
8. What is the formula for finding the volume of a cube?
9. How could you use a graduated cylinder to find the volume of an irregularly shaped object?
10. What is formula for density?