

Unit 2

NAME

Class Work

10/10/13

2.4/2.5 Review and Particle Diagrams

SPARK

1. Steam is sometimes used to melt ice. Is this a physical or chemical change?
2. When you are chewing your food, are there chemical changes or physical changes taking place?
3. Why do liquids and gases both not have permanent shapes?

Agenda:

- SPARK
- Objective
- Review
- Analogy
- Homework



Objectives

SWBAT draw particle diagrams and compare properties of a solid, liquid and gas in terms of energy and intermolecular distance

Review HW 2.1 assignments

Name: _____ Date: _____
Chemistry ~ Ms. Hart Class: Anions or Cations

|2.1 Physical and Chemical Change

1. Circle the correct response to classify the following (P for physical and C for chemical):

- a. breaking a pencil in two –
- b. water freezing and forming ice -
- c. frying an egg -
- d. burning wood -
- e. leaves changing colors in the fall -
- f. crushing an aluminum can -
- g. recycling used aluminum cans to make new aluminum cans -
- h. aluminum combining with oxygen to form aluminum oxide -

2. List four indicators that a chemical change has occurred.

- 1.
- 2.
- 3.
- 4.

3. Describe in your own words, the difference between a physical and chemical change.

Review HW 2.2 assignments

- 1) Which of the 3 phases of matter have an indefinite shape?
- 2) Which have an indefinite volume?
- 3) Matching: Draw a line from each phase change to the definition.

Phase change of Solid to liquid

Freezing

Phase change from liquid to gas

Melting

Phase change from gas to liquid

Evaporation

Phase change from liquid to solid

Condensation

4. A gas changes directly to a solid during

a. fusion

b. deposition

c. saponification

Review HW 2.2 assignments

5. At which Celsius temperature does lead change from a solid to a liquid?

- a. 874°C
- b. 601°C
- c. 328°C
- d. 0°C

6. What state of matter will oxygen be at 298K (room temperature)?

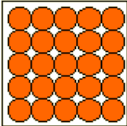
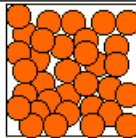
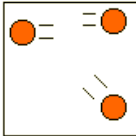
7. What state of matter will oxygen be at 20K?

8. What state of matter will calcium be at 298K (room temperature)?

9. What state of matter will copper be at 3000K?

Update glossary:

- | | | |
|----------------------|-------------------|----------------|
| • Matter | • Chemical Change | • Condensation |
| • Physical Property | • Melting Point | • Melting |
| • Malleable | • Freezing Point | • Fusion |
| • Chemical Property | • Boiling | • Sublimation |
| • Extensive Property | • Vaporization | • Deposition |
| • Intensive Property | • Evaporation | |
| • Physical Change | • Freezing | |

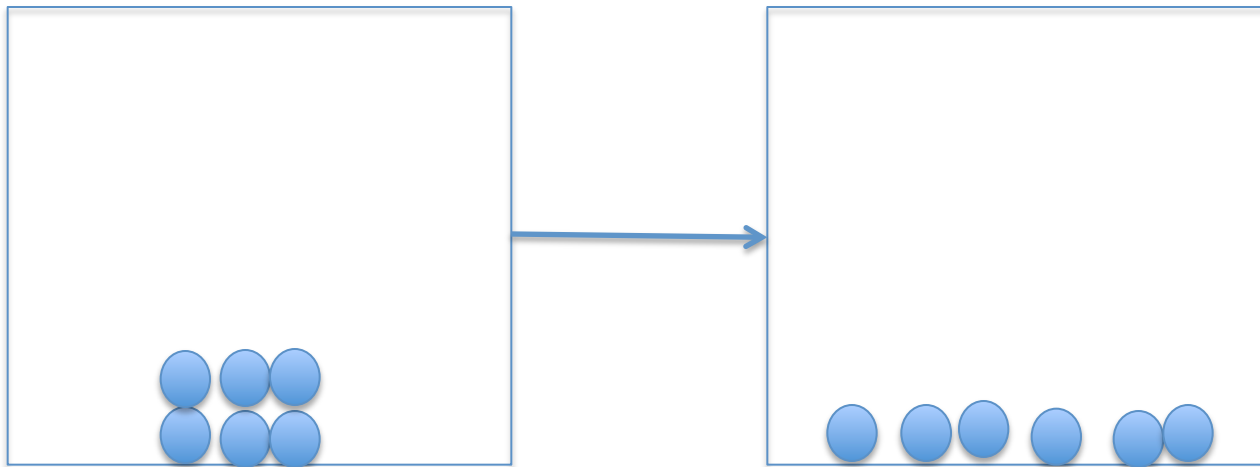
Compressibility	Not compressible	Barely Compressible	Highly compressible
Structure	Particles are packed together in fixed position; rigid shape	Individual molecules do not stick together (but packed more closely than gas)	Gas particles are spread apart
Particle Diagram			
Shape	Definite shape	Indefinite Shape (takes the shape of its container)	Indefinite Shape (takes the shape of its container)
Volume	Definite volume	Definite Volume	Indefinite Volume; gases expand to fill whatever volume is available
Attractive Forces	Strong forces keep the structure closely packed	Weaker than solids stronger than gases	Very Weak
Energy and Motion	Low energy; particles vibrate	More energy than solids and less energy than gases; particles move – liquids flow	High energy; particles move around quickly

Phase Change Analogies

- Let's say I wanted to compare solids, liquids and gases to...

Particle Diagram Practice

What phase change does this particle diagram represent? (draw the particle diagrams)



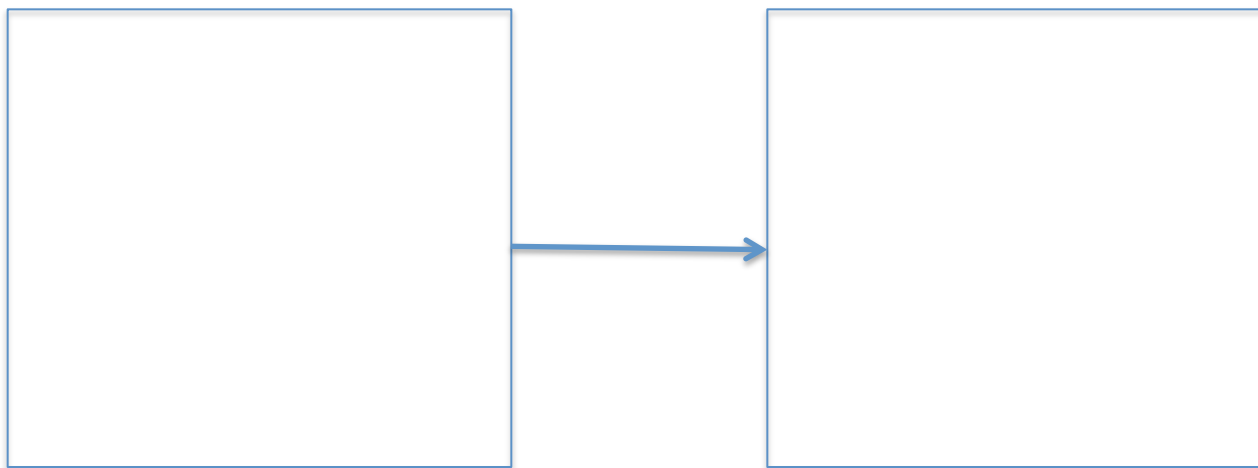
1. Freezing
2. Evaporating
3. Melting

Hands up on 1!

Particle Diagram Practice

Draw a particle diagram showing the change from liquid water to vapor. Use “•” for particles of water.

Draw separate diagrams for the liquid and the gaseous states.



PRACTICE

On a sheet of loose leaf:

Draw a particle diagram for each state of matter. Explain the key distinctions in the drawing and why it represents that state.

Complete questions #1-13 and 19 on page 26 of your textbook.

Exit Ticket!

- Complete exit ticket (3 minutes)

HOMEWORK

- Make cheat sheet for RETAKE test
- Complete NEW draft of argumentative paper
- Get in missing work!
- Study for quiz TOMORROW!