

Name _____ Period _____

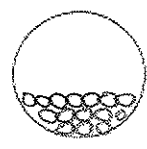
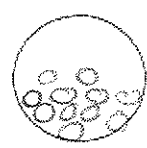

LTHS: Chemistry

Unit 2 Review - Matter

I can identify what matter is

I can differentiate between solid, liquid, and gas

1. Complete the following table by placing descriptions in each box.

	Draw the particles	Kinetic Energy	Spacing of the Particles	Shape	Volume	Compressibility
Solid		low energy vibrates in place	closely packed	fixed shape	fixed volume	none
Liquid		medium energy flows	loosely grouped room to move	variable shape	fixed volume	barely
Gas		high energy moves randomly	very far apart	variable shape	variable volume	easily

2. Identify each of the following as a property of a solid, liquid or gas. Some answers will include more than one state of matter.

g

a. Always occupies the entire space of its container.

g

b. Particles are fast moving with no attraction between them.

L

c. Particles are moving, but are not spread far apart.

S

d. Particles have very low kinetic energy

L

e. Has a definite volume but not a definite shape.

L, S

f. Has a constant volume

I can explain what physical and chemical properties are and list examples

3. Define physical property and chemical property

Physical property - properties that do not change chemical nature

Chemical property - properties that do change chemical nature

4. Identify each of the following as an example of a physical property or a chemical property.

P

a. color

P

e. mass

C

b. tendency to rust

C

f. ability to burn

P

c. boiling point

P

g. malleability

P

d. density

I can explain what happens to matter during a chemical or physical change.

5. What is the difference between a chemical change and a physical change?

physical change - doesn't change chemical structure

Chemical change - changes chemical structure
creates a new chemical substance

6. What are some indications that a chemical change is taking place?

color change

formation of a gas

formation of a solid

change in energy (heat/light)

7. Identify each of the following as an example of a chemical change or a physical change.

P

a. Breaking a pencil

C

e. cooking an egg

C

b. Wood burning

P

f. grinding coffee beans

C

c. silver tarnishing

C

g. burning gasoline

P

d. ice melting

I can classify matter as an element, compound, or mixture

8. What is the difference between a pure substance and a mixture?

pure substances are made of one type of particle
mixtures contain multiple particles (pure substances)

9. What are the differences between elements and compounds?

elements have only 1 kind of atom
compounds are made of more than one type of atom bonded together

10. What are the properties of a homogeneous mixture? What's another term for homogeneous mixture?

homogeneous mixture you cannot see individual parts. Another term is solution

11. What are the properties of a heterogeneous mixture?

heterogeneous mixtures you can visibly see the different components.

12. Classify each of the following as an element, compound, heterogeneous mixture or homogeneous mixture.

- | | | | |
|-----------|-------------------------|-----------|-----------------------------|
| <u>Ho</u> | a. gasoline | <u>He</u> | k. wild bird seed |
| <u>E</u> | b. aluminum | <u>C</u> | l. calcium chloride pellets |
| <u>He</u> | c. dirt | <u>Ho</u> | m. 14 Karat Gold |
| <u>Ho</u> | d. hand lotion | <u>Ho</u> | n. blood |
| <u>C</u> | e. baking soda | <u>C</u> | o. sucrose (table sugar) |
| <u>He</u> | f. granite | <u>E</u> | p. helium in a balloon |
| <u>E</u> | g. gold | <u>Ho</u> | q. stainless steel |
| <u>He</u> | h. chunky peanut butter | <u>E</u> | r. mercury in a thermometer |
| <u>C</u> | i. aspirin | <u>Ho</u> | s. air |
| <u>He</u> | j. oil and water | <u>C</u> | t. magnesium hydroxide |

I can apply different separation techniques

13. Complete the table for the following separation techniques.

Technique	How does it work?
sifting	Separates based on particle size
filtration	Separates insoluble solid from a liquid or solution
distillation	Separates based on boiling points
chromatography	separates based on solubility