

Name: _____ Date: _____ Period: _____

**Unit 1 Scientific Design
QUIZ**

LT: I can identify and classify properties of matter. _____ / 7 =

Part I: Solute vs. Solvent

1. What is known as the universal solvent?
2. What is in a larger quantity solute or solvent?
3. In salt water what is the solute and what is the solvent?

Part II: Separating Mixtures

4. Match each of the following:

- | | |
|--------------------|--|
| a. Filtration | 2. Separates based on the ability of a substance to be drawn across the surface of a material (like a paper towel or tissue) |
| b. Chromatography | 3. Used to separate heterogeneous mixtures, the solid material is left behind |
| c. Crystallization | 4. Separates homogeneous mixtures by a difference in boiling point |
| d. Distillation | |
-
1. One substance evaporates and the dissolved substance comes out of solution

III. I can create a hypothesis using supporting evidence. ____/10

5. Which of the following is **not** a part of a good hypothesis?
 - a. "If..., then..., because..." statement
 - b. Procedures
 - c. Independent Variable
 - d. Dependent Variable

Chemistry 2017-2018
Unit 1: Scientific Design

Name: _____ Date: _____ Period: _____

6. Define independent variable:

7. Identify the independent variable and the dependent variable in the following hypotheses.

- a. If a sick mouse is injected with a flu vaccine, then it will get healthy 3 days faster than a sick mouse not injected with the vaccine, because vaccines help to prevent illness.

Independent Variable- _____

Dependent Variable- _____

- b. If a plant is placed in a 100°C room, then its leaves will turn brown, because high temperatures cause plants to die.

Independent Variable- _____

Dependent Variable- _____

8. Fill in the table below and write a hypothesis for the following scenario:

Scenario: A scientist places two plants in his lab. He decides to water Plant A once a day and to water Plant B twice a day. After taking measurements for two weeks, the scientist concludes that Plant B grew twice as tall as Plant A. What do you think will happen if another plant, Plant C, is watered three times a day for two weeks?

Independent Variable in initial experiment:	Dependent Variable in initial experiment:

Hypothesis: If _____ (independent variable)

then _____ (dependent variable),

Name: _____ Date: _____ Period: _____
because _____.

IV. Physical and Chemical Changes

LT: I can distinguish between physical and chemical changes. ___/6

Identify the following as a physical or chemical change:

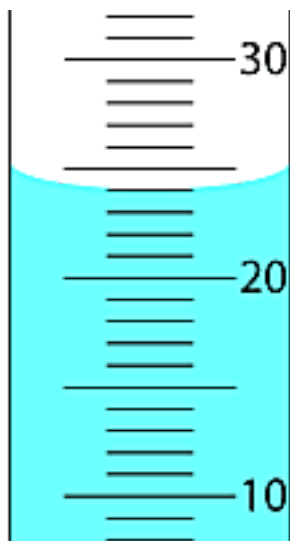
9. Cutting your hair _____
10. Burning a tree _____
11. Crumbling a piece of paper _____
12. Putting Mentos in soda _____

13. Give an example of a physical change (not listed above):

14. Give an example of a chemical change (not listed above):

LT: I can use appropriate lab equipment to measure volume, mass, distance and time accurately. ___/4 =

15.



What is the volume of the liquid?

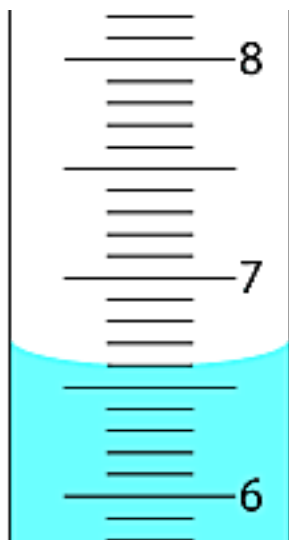
- a. 22 mL
- b. 25 mL

Chemistry 2017-2018
Unit 1: Scientific Design

Name: _____ Date: _____ Period: _____

- c. 24 mL
- d. 26 mL

16.



What is the volume of the liquid?

- a. 6.2 mL
 - b. 6.6 mL
 - c. 6.0 mL
 - d. 5.8 mL
17. An electronic balance is used to measure?
- a. mass
 - b. volume
 - c. density
 - d. length
18. A graduated cylinder is used to measure?
- a. mass
 - b. volume
 - c. density
 - d. length