

Name: _____

Date: _____

Science 9 – Chemistry Assignment

A

1. Draw a model of a helium atom. Label the nucleus, the electron cloud and the three types of subatomic particles.

2. Read pages 152-153 in your textbook. Briefly explain the contributions of Dalton, Thomson, Rutherford and Bohr that led to the quantum mechanical model of the atom, which is the currently accepted atomic theory. For each, include a picture.

Scientist	Contribution	Picture
Dalton		
Thomson		
Rutherford		
Bohr		

3. Write the full name the element being described below:

a. 37 protons

b. Mass of 107.87 amu

c. No neutrons

d. The halogen in the third period

e. Sn

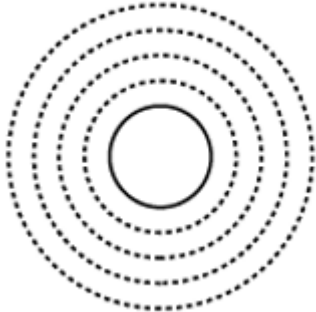
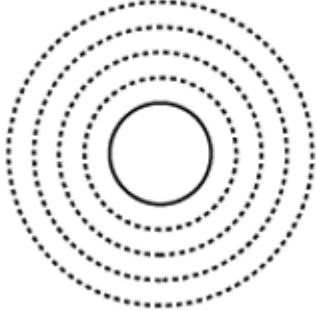
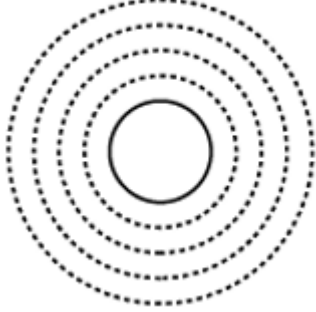
Name: _____

Date: _____

4. How many protons, neutrons and electrons does an atom of xenon have?

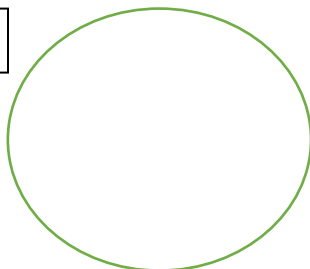
Protons	Neutrons	Electrons

5. Fill in the following chart.

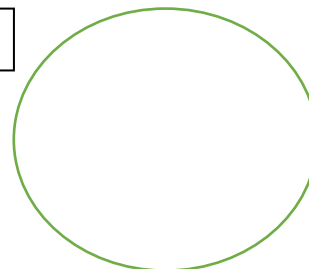
Element	Bohr Diagram	Lewis Diagram	Ion Notation
Fluorine			
Sodium			
Argon			

6. If you had atomic vision, draw what you would see for a pure substance and a mixture. Briefly explain how they are different.

Pure Substance



Mixture



Name: _____

Date: _____

7. Classify each of the following as an element, compound, mechanical mixture, solution or suspension.

- a. Muddy water _____
- b. Air _____
- c. Graphite _____
- d. Iron oxide (rust) _____

8. List four physical properties of water. Include two qualitative and two quantitative properties.

9. List the five indicators (signs) of a chemical change.

10. State whether each is chemical or physical change, and briefly explain how you know.

a. Two clear liquids are mixed together and a bright yellow solid forms.

b. Dry ice (carbon dioxide) evaporates (turns into a gas).

c. Blue paint and red paint are mixed together to make purple paint.

d. A white solid is dissolved in water, which heats up to 40°C.

Name: _____

Date: _____

Science 9 – Chemistry Assignment

B

1. Draw a model of a lithium atom. Label the nucleus, the electron cloud and the three types of subatomic particles.

2. Read pages 152-153 in your textbook. Briefly explain the contributions of Dalton, Thomson, Rutherford and Bohr that led to the quantum mechanical model of the atom, which is the currently accepted atomic theory. For each, include a picture.

Scientist	Contribution	Picture
Dalton		
Thomson		
Rutherford		
Bohr		

3. Write the full name the element being described below:

a. 42 protons

b. Mass of 40.08 amu

c. The lightest noble gas

d. W

e. The semi-metal in group 13

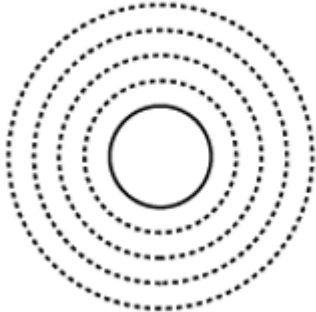
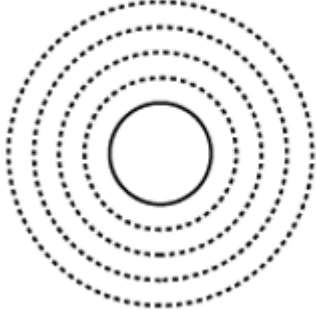
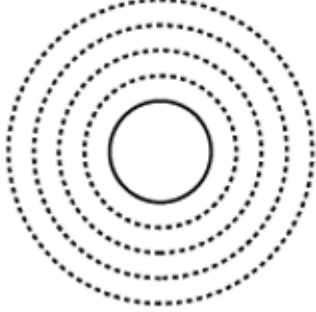
Name: _____

Date: _____

4. How many protons, neutrons and electrons does an atom of zinc have?

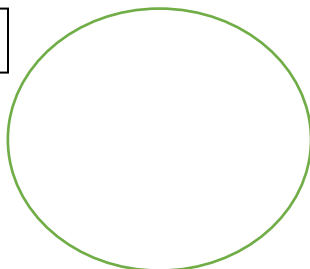
Protons	Neutrons	Electrons

5. Fill in the following chart.

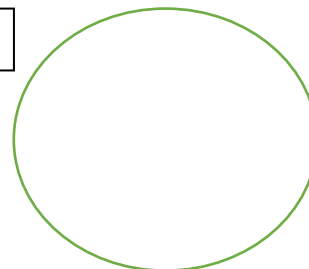
Element	Bohr Diagram	Lewis Diagram	Ion Notation
Oxygen			
Sulfur			
Potassium			

6. If you had atomic vision, draw what you would see for a pure substance and a mixture. Briefly explain how they are different.

Pure Substance



Mixture



Name: _____

Date: _____

7. Classify each of the following as an element, compound, mechanical mixture, solution or suspension.

- a. Sand _____
- b. Salt water _____
- c. Carbon dioxide _____
- d. Uranium _____

8. List four physical properties of copper. Include two qualitative and two quantitative properties.

9. List the five indicators (signs) of a chemical change.

10. State whether each is chemical or physical change, and briefly explain how you know.

- a. Liquid nitrogen evaporates (turns into a gas) at -195°C .

- b. A silver metal and a clear liquid are mixed together. Bubbles form and the test tube feels warm.

- c. An electric current is run through liquid water making is separate into hydrogen gas and oxygen gas.

- d. A shiny metal is put in a flame and it produces a bright white light. After the light goes out, the metal is black and dull.