

A.

1. Sketch the outline of the periodic table on your work sheet. Indicate where each of the following groups are in the periodic table.

- a. Noble gases
- b. Alkali metals
- c. Transition metals
- d. Halogens
- e. Alkaline Earth Metals
- f. Non-metals

2. Using letters a through f, what groups is the most reactive?

3. Using letters a through f, what is the least reactive group?

B. Organize the elements in each list based on the pattern in the heading:

1. Decreasing atomic size: Fr...Rb...K...Na...Li...H

2. Increasing metallic character: F...Ag...S...W...Zn...Fr

3. Decreasing Electronegativity: K...Br...Sc...Kr...Ca...As

4. Increasing Ionization energy: Li...O...F...Ne...C...Be

5. Decreasing Metallic character: F...S...Zn...Ag...W...Fr

6. Increasing Electronegativity: Kr...As...Br...Ca...K...Sc

C.

1. What is the Atomic symbol of Oxygen? _____
2. What is the mass number of a Oxygen-17 (^{17}O) atom? _____
3. What is the average atomic mass of Oxygen? _____
4. How many protons are there in a Oxygen-17 (^{17}O) atom? _____
5. How many neutrons are there in a Oxygen-17 (^{17}O) atom? _____
(show calculation below)

D.

1. Sketch a picture of a balanced atom of Carbon (^{13}C) to the right.
Be sure to indicate the location of the three main subatomic particles.
2. A particular Lithium atom has a total charge of +1. How many protons and electrons does it have? Why?
3. What charge do you expect a happy Oxygen atom to have? Why?

E. Fill in the Blank

1. _____ is specifically a negatively charged atom.
2. _____ is the particle with a positive charge.
3. _____ is the particle with a negative charge.
4. _____ is a charged atom.
5. _____ is the particle with no charge.
6. Carbon-13 (^{13}C) and Carbon-12 (^{12}C) are _____ of the same element.

F. Fill in the table below based on the information provided. Assume the atoms are neutrally charged.

Name	Symbol	Atomic number	Average atomic mass	Mass number	Protons	Neutrons	Electrons
		7		14			
		13				14	
	³¹ P						
					35	40	
Tin			119				

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