

Name _____ Date _____ Period _____

Chemistry Foundations Ws #3: Elements, Atoms and Ions

1. What is an element? **Pure substance made up of one type of atoms - cannot be decomposed into simpler substance**
2. How many elements are presently known?
3. How many of these occur naturally and how many are man-made? **88 occur naturally, 27 human-made. Some scientists will give a different number because it depends on the definition of "naturally"**
4. Which elements are most abundant on the earth?
5. Which elements are most abundant in the human body? **oxygen**
6. What are the three fundamental particles that compose all atoms?
7. Indicate the electrical charge and relative mass of each of these particles. **Protons (+), electrons (-), and neutrons (no charge). Protons & neutrons close to same mass. Electrons insignificant mass**
8. Where is each type of particle found in the atom?
9. Which general area of the periodic table contain the metallic elements? **left**
10. Which general area of the periodic table contain the nonmetallic elements?
11. What are ions? **A charged particle. Due to an excess or deficiency of electrons**
12. How are ions formed from atoms?
13. To what do the terms cation and anion refer? **Cations; positive ions Anions; negative ions**
14. Write the name of each of the following elements.
He Se P B Ba Sr
15. What simple ion does each of the following elements most commonly form?
Mg Ba O F Na Cl
Mg²⁺ Ba²⁺ O²⁻ F¹⁻ Na¹⁺ Cl¹⁻
16. How do we know that substances such as sodium chloride consist of positively and negatively charged particles?

Use the following list for questions 17 & 18.

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|----------------------------|---|
| a. Spaghetti and meatballs | e. Chocolate pudding with chocolate chips |
| b. Cesar salad | f. The contents of the human body |
| c. Jello | g. The contents of a glass of water |
| d. Chocolate pudding | h. Apple juice |
17. Which letters represent Heterogeneous mixtures? **a, b, e, f**
 18. Which letters represent Homogeneous mixtures?