WKS - Chemistry 1
Elements, Compounds & Mixtures

Name Answer Key
Period _____ Date _____

**I. Pure Materials**

1. How are elements and compounds similar? How are they different?
   Compounds and elements are both pure materials. Compounds are composed of elements and can be broken down by chemical means. Elements cannot be broken down by chemical means.
2. What does it mean for a material to be pure?
   It is composed of only one kind of atom or molecule and cannot be broken down physically.

3. What is the smallest representative particle of an element? Of a compound?
   An atom is the smallest particle of an element; a molecule is the smallest particle of a compound.

**II. Elements, Compounds & Mixtures**

4. Classify each of the following substances as; an element (E), a compound (C), a homogeneous mixture (hom), or a heterogeneous mixture (het).

| | | | |
|---|---|---|---|
| a. Air | Hom | b. Carbon Dioxide | C |
| c. Potassium | E | d. Caesar Salad | Het |
| e. Oxygen | E | f. Vegetable Soup | Het |
| g. Kool Aid | Hom | h. Hydrogen Peroxide | C |
| i. Steel (an alloy) | Hom | j. Carbon | E |
| k. Salt | C | l. Copper | E |
| m. Pure Water | C | n. Calcium Nitrate | C |
| o. Salt Water | Hom | p. Tylenol (acetaminophen) | C |
| q. Apple Pie | Het | r. Neon | E |
| s. Sugar Wate | Hom | t. Selenium | E |
| u. Coffee | Hom | v. Lead | E |
| w. Raisin Bran | Het | x. Apple Juice | Hom |

**III. The Periodic Table**

5. What is the property by which the periodic table is ordered?
   All elements are listed in order of increasing atomic number (the integer # in the box).

6. What are the columns in the periodic table called? What are the rows called?
   Columns are called groups or families. Rows are periods.

7. What is the basic organizing feature of the columns in the periodic table of the elements?
   It is organized in columns of elements grouped by similarities in physical and chemical properties.

8. Name two elements that have properties similar to those of the element potassium (K). To those of krypton (Kr).
   Elements in group 1 (Li, Na, Rb, Cs, Fr) have properties similar to K. Elements in group 18 (He, Ne, Ar, Xe, Rn) have properties similar to Kr.