

Name: _____

Block: _____

Date: _____

Chemistry 11

Elements and Compounds Worksheet

Assignment

1. Fill in the blanks in the following chart.

Element Name	Element Symbol	Common Ions Formed
a. Sodium	Na	+1
b. Copper	Cu	+2, +1
c. Tungsten	W	+6
d. Iron	Fe	+3, +2
e. Tin	Sn	+4, +2
f. Potassium	K	+1
g. Gold	Au	+3, +1
h. Silver	Ag	+1

2. Complete the following sentences by filling in the appropriate word from the list below.

Atomic number

Elements

Mixtures

Compound

Symbols

Properties

Carbon

Pure

Periodic table

Letters

Carbon dioxide

- a. Elements cannot be separated by physical or chemical means.
- b. Elements are abbreviated with symbols, which consist of one or two letters.
- c. Elements are organized on the periodic table according to their atomic number.
- d. Two or more elements chemically combined make up a compound.
- e. Carbon is an example of an element and carbon dioxide is an example of a compound.
- f. Elements and compounds are called pure substances because they have a unique set of chemical and physical properties.

3. Identify each of the following as either an element (E) or a compound (C).
- | | |
|-------------------------------|--|
| <u> E </u> a. carbon | <u> C </u> f. silicon dioxide |
| <u> C </u> b. water | <u> E </u> g. helium |
| <u> E </u> c. aluminum foil | <u> E </u> h. arsenic |
| <u> C </u> d. plastic | <u> C </u> i. carbon dioxide |
| <u> E </u> e. tin | <u> C </u> j. sodium chloride (table salt) |

4. Classify each of the following as one of an Atom (A), a Molecule (M) or an Ion (I).
- | | |
|---------------------------|---------------------------|
| a. P^{3-} <u> I </u> | e. Ge <u> A </u> |
| b. H_2O <u> M </u> | f. O <u> A </u> |
| c. O_2 <u> M </u> | g. Ca^{2+} <u> I </u> |
| d. Au^{3+} <u> I </u> | h. NH_3 <u> M </u> |

5. When fossil fuels are burned, carbon dioxide and water are produced. What elements must be contained in fossil fuels? (assume the oxygen comes from the air)

 Fossil fuels contain the elements carbon and hydrogen

6. List three elements that are named for famous scientists.

 Nobelium, mendelevium, Einsteinium, Curium, Seaborgium

7. Two substances were tested and were found to have the following chemical compositions.

Substance A
73% oxygen
27% carbon

Substance B
57% oxygen
43% carbon

Are these the same compound? Explain.

 These substances are not the same because they are composed of different amounts of each element. This violates the "Law of Definite Composition"
