

## Unit 2 Activity Sheets

Dr. Scharberg

1. Write the correct chemical symbols for the following elements.

<u>Ar</u>	a. Argon
<u>S</u>	b. Sulfur
<u>O</u>	c. Oxygen
<u>I</u>	d. Iodine
<u>Rn</u>	e. Radon
<u>B</u>	f. Boron
<u>Al</u>	g. Aluminum
<u>Fe</u>	h. Iron
<u>Pb</u>	i. Lead
<u>U</u>	j. Uranium
<u>Ni</u>	k. Nickel
<u>Hg</u>	l. Mercury
<u>Ti</u>	m. Titanium

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<u>Mg</u>	n. Magnesium
<u>Br</u>	o. Bromine
<u>Na</u>	p. Sodium
<u>Au</u>	q. Gold
<u>Sn</u>	r. Tin
<u>Cu</u>	s. Copper
<u>P</u>	t. Phosphorus
<u>K</u>	u. Potassium
<u>Co</u>	v. Cobalt
<u>C</u>	w. Carbon
<u>Ag</u>	x. Silver
<u>Si</u>	y. Silicon
<u>Si</u>	z. Silicon

2. Write the correct chemical names of the following symbols.

a. I	<u>Iodine</u>
b. Na	<u>sodium</u>
c. Al	<u>aluminum</u>
d. Ba	<u>barium</u>
e. Ne	<u>neon</u>
f. Cr	<u>chromium</u>
g. Be	<u>beryllium</u>
h. Ra	<u>radium</u>
i. N	<u>nitrogen</u>
j. Cu	<u>copper</u>
k. S	<u>sulfur</u>
l. F	<u>fluorine</u>
m. Zn	<u>zinc</u>

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n. Cl	<u>Chlorine</u>
o. Li	<u>lithium</u>
p. He	<u>helium</u>
q. H	<u>hydrogen</u>
r. Cd	<u>cadmium</u>
s. Ca	<u>calcium</u>
t. Mg	<u>magnesium</u>
u. B	<u>boron</u>
v. Pt	<u>platinum</u>
w. Pu	<u>plutonium</u>
x. K	<u>potassium</u>

3. For each compound, indicate whether it is an acid (A), base (B), salt (S), or non-electrolyte (NE).

a. KSCN	<u>S</u>	h. HClO <sub>4</sub>	<u>A</u>
b. H <sub>2</sub> SO <sub>4</sub>	<u>A</u>	i. P <sub>4</sub> O <sub>10</sub>	<u>NE</u>
c. (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	<u>S</u>	j. CO <sub>2</sub>	<u>NE</u>
d. Ba(OH) <sub>2</sub>	<u>B</u>	k. Na <sub>2</sub> CO <sub>3</sub>	<u>S</u>
e. H <sub>3</sub> PO <sub>4</sub>	<u>A</u>	l. SiO <sub>2</sub>	<u>NE</u>
f. NaC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>	<u>S</u>	m. KCl	<u>S</u>
g. Al(OH) <sub>3</sub>	<u>B</u>	n. NH <sub>4</sub> OH	<u>B</u>

Acid → begins with "H"

Base → ends with "OH"

salt → metal + non-metal

non-electrolyte → non-metal + non-metal

4. For the following compounds, write the number and symbol of each component element and the total number of atoms per molecule.

For example, a molecule of water,  $H_2O$ , contains 2 atoms of hydrogen (H) and 1 atom of oxygen (O) and a total of 3 atoms.

- a. Propane,  $C_3H_8$  3 carbon atoms; 8 hydrogen atoms; 11 total
- b. Freon,  $CCl_2F_2$  1 carbon atom; 2 Cl atoms; 2 fluorine atoms; 5 total
- c. Aluminum sulfate,  $Al_2(SO_4)_3$  2 Al; 3 S; 12 O atoms; 17 atoms total
- d. Phosphoric Acid,  $H_3PO_4$  3 H; 1 P; 4 O; 8 atoms total
- e. Sulfuric Acid,  $H_2SO_4$  2 H; 1 S; 4 O atoms; 7 atoms total
- f. Ammonium hydroxide,  $NH_4OH$  1 N; 5 H atoms; 1 O atom; 7 atoms total

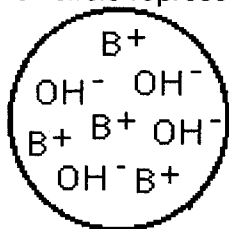
5. Practice Multiple Choice Problems.

1. Pure substances can be divided into two groups:

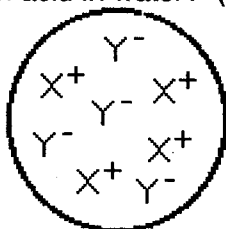
- a. molecules and mixtures  
b. compounds and mixtures  
c. molecules and compounds  
**d. elements and compounds**  
e. molecules and formula units

know your definitions here of pure substances, mixtures, elements, compounds

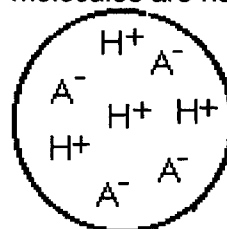
2. Which circle represents an acid in water? (water molecules are not shown)



A



B



**C**

review exercise #3

3. The number of atoms represented by the formula  $(NH_4)_2SO_4$  is

- a. 7      b. 10      c. 12      **d. 15**      e. 18

review exercise 4

4. An element which is NOT shown with its correct symbol is:

- a. Sodium (Na)  
b. Lead (Pb)  
c. Gold (Au)  
**d. Silver (S)**  
e. Calcium (Ca)

review exercises

1 & 2

5. The elements Li, Na, K, Rb, and Cs are shown as the

- a. Transition metals  
**b. Alkali metals**  
c. Alkaline earth  
d. Actinides  
e. Noble metals

know organization of periodic table