Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_

**CLASSWORK: Defining Ionic Compounds**

**Review:**

1. Draw the Lewis dot structures for the neutral atom and the ion of:

a. K K

b. Al Al

c. Ca Ca

2. Draw the Lewis dot structures for neutral atom and the ion of:

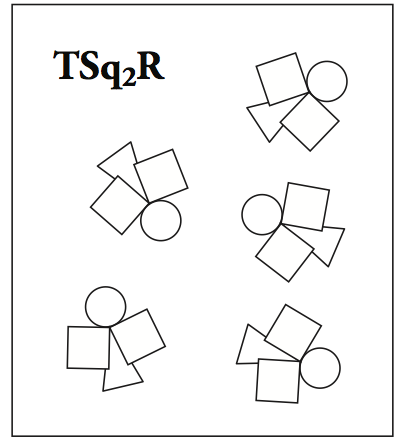
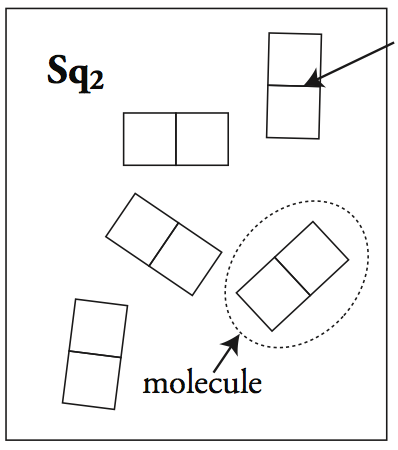
a. O O

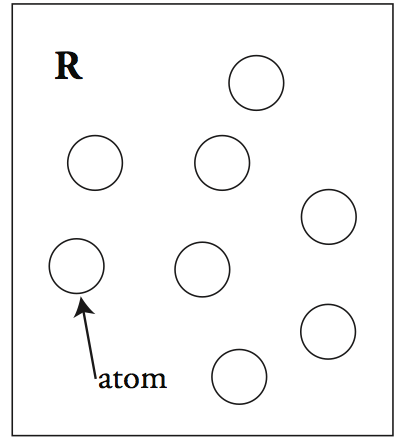
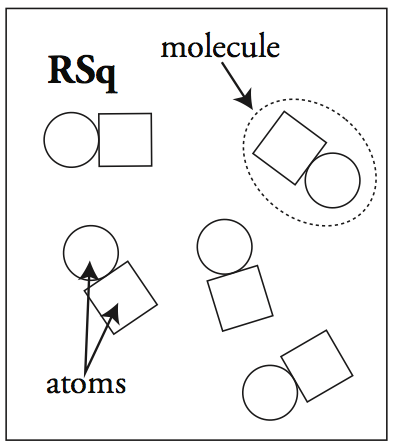
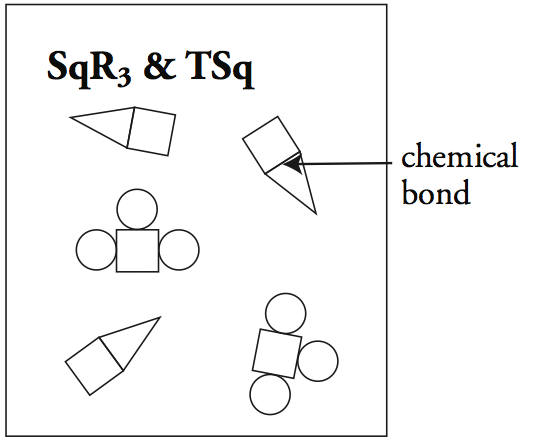
b. Cl Cl

c. N N

**Stop and Jot.**

3. What comes to mind when you hear the word “compound”? How is a compound different from an element or a mixture?

4. Review. Label the following pictures as an element, compound, or mixture:



A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ C. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ D. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ E. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A compound is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Three types of compounds: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.*

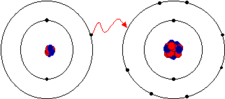
**Ionic Compound**

**Word Parts:**

An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

An **ionic compound** is formed when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |
| --- | --- |
| ***Lewis Dot Structure*** | ***Bohr Model*** |
|  |  |

****Example: Lithium Fluoride**

All ionic compounds are composed of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Ionic compounds are always \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, meaning their charges \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Example:**

**Practice.**

1. Write **ionic or not ionic** to identify if the following are ionic compounds or not. If yes, write the charges above each atom in the ionic compound.
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CO
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_NaBr
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CaCl2

|  |  |
| --- | --- |
| **Properties of Ionic Compounds** | **How we test for this property** |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |

* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Li2O
  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MgO
  3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Al2O3
  4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_PN
  5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_OF2

1. An unknown substance is discovered. The substance has a very high melting point and is solid but breaks apart easily. The substance does not conduct an electric current when dissolved in water. Can you say with certainty that this new compound is an ionic compound? Explain your answer.
2. Challenge. Write in charges above each atom and then determine if the following ionic compounds are electrically neutral. If not write in subscripts to change the number of atoms to balance the charges.
3. K\_\_Br\_\_\_
4. Na\_\_O\_\_\_
5. Mg\_\_\_Cl\_\_\_
6. Al\_\_\_N\_\_\_\_
7. Al\_\_\_F\_\_\_
8. Li\_\_\_N\_\_\_
9. Ca\_\_\_Cl\_\_\_
10. Ca\_\_\_Br\_\_\_\_
11. Mg\_\_\_P\_\_\_\_
12. Ga\_\_\_\_O\_\_\_