Ionic Bonding

*Review of Stability*

*Noble gas electron configuration* is stable b/c they have \_\_\_ electrons in the outer energy level.

\_\_\_\_ electrons in the outer energy level compose a *stable helium structure* for period 1 elements.

Atoms react and bond together to become **\_\_\_\_\_\_\_\_\_**!

*Chemical Bond*

A chemical bond is a \_\_\_\_\_\_ that holds atoms or ions together in a compound

*There are 3 kinds of chemical bonds!*

* ***Ionic Bonds***– force of attraction b/w opposite charges of ions (the **\_\_\_\_\_\_\_\_\_\_** of electrons)

*Ionic Bonds in Detail*

When atoms form an \_\_\_\_\_\_ bond, their electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (lost or gained) to the other atom

You need a :

\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_ and an \_\_\_\_\_\_\_\_\_\_

The *overall* # of protons & electrons of the combined atoms remains equal and unchanged therefore, the compound is neutral!

Crystals

Crystals are solids whose particles are arranged in a \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

Ionic compounds have a \_\_\_\_\_\_\_\_\_\_\_ structure.

Draw a lattice structure here:

Properties of Ionic Compounds

Solids--

High melting/boiling points

Good \_\_\_\_\_\_\_\_\_\_\_ of electric current when \_\_\_\_\_\_\_\_

Often \_\_\_\_\_\_\_\_ when struck w/ hammer due to very strong bonds

Review Questions

1. Describe how an ionic bond forms.

3. What type of structure do ionic bonds create?

4. What kind of charge (positive or negative) do metal ions tend to have? What kind of charge do nonmetal ions have?

Chemical Formula