Name: Date: Pd:

Unit 5: Chemical Bonding Webquest

IONIC BONDS: https://pbslm-contrib.s3.amazonaws.com/WGBH/arct15/SimBucket/Simulations/chemthink-ionicbonding/content/index.html

1. As the name implies, Ionic Bonds are formed between _____. The typical definition of an ionic bond tells us that it involves the **transfer** of _____ (protons, neutrons, electrons) **Choose one**.

2. Describe what happens when two negatively charged particles interact with one another. (you can draw a diagram to help illustrate your ideas)

3. When will oppositely charged atoms stick together?

4. Atoms on the _____ side of the periodic table form positive ions.

5. Since _____ easily lose electrons the positive ion will usually be a _____.

6. Atoms on the _____ side of the periodic table form negative ions.

7. Since _____ easily gain electrons the negative ion will usually be a _____.

8. Take a look at the ionic bond formed between Sodium and Chlorine atoms.
    a. When a sodium atom loses an electron, it becomes a _____ charged sodium ion. The chlorine atom gains the electron and becomes a _____ charged ion.
    b. *Draw* each atom below as it looks like in the final NaCl on the website (progress 11/27). Label the Na and Cl as either + or -. And label each as either Cation or Anion.

9. Describe how ionic compounds form crystals (Progress 16-20/27- Stop @ Progress 20):

Name: Date: Pd:

COVALENT BONDS :

https://pbslm-contrib.s3.amazonaws.com/WGBH/arct15/SimBucket/Simulations/chemthink-covalentbonding/content/index.html

1. Covalent bonding is typically explained as a bond that forms when atoms are _____ electrons.
2. If an atom, such as hydrogen, is able to form a covalent bond, describe what happens when the electron clouds of two atoms overlap:
    a. What happens when the two atoms are fairly close?

    b. What happens when the two atoms are TOO close?

3. What does the nucleus of an atom want to do to its **own** electrons?

4. What does the nucleus of one atom want to do to the electrons of a nearby atom?

5. Are the atoms really "sharing" electrons? Explain using information on Progress 5-8/35

6. What type of atoms form covalent bonds? Why do the others not form covalent bonds? (Click on them to find out!)

****Stop after Progress 13****

9. In the boxes below, draw quick diagrams to help remember the difference between how Ionic Bonds and Covalent Bonds form:

Ionic Bonds	Covalent Bonds