

Name _____

Period _____

Date _____ # _____

Bonding Comparison Chart

	IONIC	COVALENT	METALLIC
Types of Atoms Involved (metal or nonmetal)			
Method of Bond Formation (transfer of electrons, sharing of electrons, or sea of electrons)			
Type of Structure			
Physical State (solid, liquid, or gas)			
Melting Point (high or low)			
Soluble in Water? (yes or no)			
Conducts Electricity? (yes or no)			
Other Properties (give at least two that have NOT already been given)	1. 2.	1. 2.	1. 2.
Image of what the bonding looks like (Draw it!)			

1. In which type of bond are electrons shared between atoms?
 A. Ionic
 B. Covalent
 C. Metallic
2. Which type of bond creates a crystalline structure?
 A. Ionic
 B. Covalent
 C. Metallic
3. Which type of bond usually forms between two nonmetals?
 A. Ionic
 B. Covalent
 C. Metallic
4. Which type of bond forms a structure which is often described as an "electron sea"?
 A. Ionic
 B. Covalent
 C. Metallic
5. Which bond is characterized by the formation of oppositely charged particles?
 A. Ionic
 B. Covalent
 C. Metallic
6. In which type of bond are one or more electrons transferred from one atom to another?
 A. Ionic
 B. Covalent
 C. Metallic
7. Which of the following is NOT a characteristic of ionic substances?
 A. Conduct electricity in solution form.
 B. Have high melting points.
 C. Usually dissolve in water.
 D. Are usually gases at room temperature.
8. Which of the following is NOT a characteristic of metallic substances?
 A. Are lustrous, malleable, and ductile.
 B. Conduct electricity.
 C. Have low melting points.
 D. Are usually solids at room temperature.
9. Which of the following is NOT a characteristic of covalent substances?
 A. Have low melting points.
 B. Sometimes dissolve in water.
 C. Usually form small, individual molecules.
 D. Conduct electricity.
10. Why do atoms form chemical bonds?
 A. To increase their potential energy. B. To become more stable. C. To gain more valence electrons.
 D. To obtain a higher electronegativity.