

Name _____ Date _____ Period _____

Guided Notes on Chemical Bonding

Standard: Investigate chemical bonding 3221.3.1

Objective: The learner will investigate and distinguish between ionic and covalent bonds.

Questions	Answers
What is a chemical bond?	
What are the two types of bonding?	
What is an ionic bond?	
What is a covalent bond?	
What is a non-polar covalent bonding?	
What is a polar covalent bonding?	
How do we determine if a bond is polar, non-polar or ionic?	

Electronegativity Scale	Percentage Ionic Character	Bond Type

Write examples here.

Covalent Bonding and Molecular Compounds

Standard: Investigate chemical bonding 3221.3.1

Objective: The learner will investigate covalent bonding and molecular compounds. The learner will draw Lewis dot structures for molecules.

Questions	Answers
What is a molecule?	
What is a molecular compound?	

What is a chemical formula?	
What is endothermic energy?	
What is exothermic energy?	
What is bond energy?	
What is bond length?	

1. What is the relationship between bond energy and bond length?
2. What are covalent compounds?
3. What are the characteristics of covalent compounds?
4. Who discovered covalent bonds?
5. What is Lewis electron dot structure?

Drawings

6. What are lone pairs (unshared pair)?
7. What are single bonds, double bonds, and triple bonds?
8. What is the octet rule for covalent compounds?

LET'S DRAW

Resonance Structures and Polyatomic Ions

Standard: Investigate chemical bonding 3221.3.1

Objective: The learner will draw resonance structures and polyatomic ions.

1. What is a resonance structure?
2. What are polyatomic ions?

Ionic Compounds

Standard: Investigate chemical bonding 3221.3.1

Objective: The learner will investigate and draw ionic compounds.

1. What are ionic compounds?
2. What are characteristics of ionic compounds?
3. What is a lattice structure?
4. What is lattice energy?
5. What is the octet rule for ionic compounds?

Drawings

Metallic Bonding/Compounds

Standard: Investigate chemical bonding 3221.3.1

Objective: The learner will explore metallic bonding.

1. What is metallic bonding?

2. What are the characteristics of metallic bonding?

3. What is an alloy?

Name _____ Date _____ Period _____

Molecular Geometry

Standard: Investigate chemical bonding 3221.3.1

Objective: The learner will explore hybridization intermolecular forces.

1. What is hybridization?

2. What are hybrid orbitals?

3. What are intermolecular forces?

4. In intermolecular forces the _____ the boiling point, the _____ the forces.
5. The _____ intermolecular forces occur between _____ molecules.
6. What are dipole-dipole attractions?
7. What is polarity?
8. Identify the molecules as non-polar, polar, or ionic compounds and draw the dipole-dipole forces for the polar molecules.
- a. H_2O _____
- b. HF _____
- c. Cl_2 _____
- d. O_2 _____

e. NH_3 _____

f. MgF_2 _____

g. CaO _____

9. What are London Dispersion Forces?

10. What is hydrogen bonding?

11. What is the relationship between bond strength, bond length, and intermolecular forces?

12. List the intermolecular forces from strongest to weakest.