

Unit 5 Study Guide - Chemical Bonding - Honors

By the end of this unit, you should achieve these learning targets:

Learning Target	How am I doing with this? Write down evidence!
I can identify the types of elements that undergo metallic, ionic, and covalent bonding.	
I can explain and/or draw a diagram of what metallic bonding looks like on the particle level.	
I can explain why metallic bonding leads to properties of metals such as: <ul style="list-style-type: none">- Conductivity- Malleability- Ductility	
I can draw an electron dot diagram for a single element by memorizing # of valence electrons of each periodic group.	
I can draw an electron dot diagram showing the transfer of electrons in ionic compounds.	
I can explain the properties of ionic compounds at the particle level such as: <ul style="list-style-type: none">- Solubility- Conductivity- Brittleness	
I can explain the "ion effect" with the correlation of ions produced to conductivity level.	
I can identify a structural formula unit of an ionic compound from the formula or the crystal lattice structure.	
I can explain why ionic compounds conduct electricity in solution, but not as a solid.	

I can explain what covalent bonding is and why it occurs only between nonmetals.	
I can explain at the particle level the properties of covalent bonding such as: <ul style="list-style-type: none"> - Solubility - Conductivity 	
I can identify the type of bonds present in a compound when given the name or formula.	
I can explain the “ion effect” with the correlation of ions produced to conductivity level.	
I can draw electron dot diagrams for covalent compounds.	
I can calculate the electronegativity difference of a bond to determine BOND polarity.	
I can draw dipole vectors on a covalent electron dot diagrams to determine locations of partial charges.	
I can interpret dipole vectors of bonds to determine the existence of a net dipole and subsequent molecular polarity.	
I can explain the role polarity has in dissolution of substances.	
I can explain what resonance is and why it occurs in certain molecules (especially polyatomic ions)	

10-15% of this exam may consist of questions and topics from previous unit exams:

- **Unit 1 - Fundamentals of Chemistry**
- **Unit 2 - Atomic Structure and Nuclear Chemistry**
- **Unit 3 - Electrons and Energy**
- **Unit 4 - Periodic Table and Nomenclature**