

Chapter 4: Relationships and Patterns in Chemistry

Reading, Notes, and Review

4.1 Names and Formulas of Inorganic Compounds

1. Pg 232 - 241: Read/Notes as needed
2. **Assignment:** Practice Problems
 - Pg 234 #1 ace, #2 abc
 - Pg 235 #1 abcdef, #2 abcdf
 - Pg 236 #1 abcd, #2 acd
 - Pg 237 #1 abc, #2 abc
 - Pg 238 #1 abcd, #2 abcd

Resources

Lecture Videos

- [Ionic Bonding 2: Naming Ionic Compounds and Polyatomic Ions](#)
- [Covalent Bonding 3: Naming Molecules, Acids and Oxyacids](#)

Lecture Slides

- [Ionic Compounds - How to Write Ionic Formulas and Names](#)
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4.2 Describing Chemical Bonding

1. Pg 242-253: Read/Notes as needed
 - **Important:**
 - Pg 244 Box with "Several important points..."
 - Pg 246 Box with "Although both ionic and covalent..."
 - Pg 247 Table 4.2.3
 2. **Assignment:** Practice Problems
 - Pg 245 #1 abc, #2 abc, #3
 - Pg 249, #3 C and S, Al and O, Ca and F
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4.3 Lewis Structure Diagrams

1. Pg 254-266: Read/Notes as needed

****Important:**

- Pg 258 Box with "Criteria Governing the Octet Rule..."

2. **Assignment:** Practice Problems

- Pg 256 #2 all
- Pg 260 #1,2
- Pg 263 #1,2,3
- Pg 268 #7
 - ICl_4^- (Expanded Octet)
 - O_3 (Draw Resonance Structures)
 - NO_3^- (Draw Resonance Structures)

Resources

Video Lectures

- [Covalent Bonding 2.1: Drawing Lewis Structures - The Rules](#)
 - [Covalent Bonding 2.2: Lewis Structures of Polyatomic Ions](#)
 - [Covalent Bonding 2.3: Lewis Structures with Multiple Bonds](#)
 - [Covalent Bonding 2.4: Lewis Structures and Resonance Hybrids](#)
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4.4 The Shape and Behavior of Molecules

Pg 269-291: Read/Notes as needed

Important

- Know how to do VSEPR AXE (See [handout](#) from Chemistry 1)
- You need to be able to recognize VSEPR molecular shape and names for AP

Assignment: Practice Problems

- Pg 275 #1ab, 2abc
- Pg 279 #1, 2abc
- Pg 288 #1, 2, 3
- Pg 291 #1, 2

Resources

Video Lectures

- [Intermolecular Forces \(Professor Dave Explains\)](#)
- [VSEPR \(Khan Academy\)](#)

- [Hybridization Help](#) (ChemLibre) **I recommend this**

Handouts from Chemistry 1

- [VSEPR AXE Handout](#) (**The names of the VSEPR shapes on Page 1 need to be memorized for AP Chem!)

Lecture Slides

- [Symmetry and Polarity Lecture](#)
 - [Hybridization and Formal Charge Lecture](#)
 - [Intermolecular Forces Lecture](#)
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4.5 Molecular Orbital Theory

Pg 297-305: Read/Notes as needed

Important: Read Pg 297-298 The Valence Bond Model and Hybridization

Important: Read Pg 298-303 (all) You do not need to be able to draw Molecular Orbital Diagrams but you do need to recognize what they are and what they mean!

Read Pg 304 Paramagnetism

Read Pg 305 Molecular Models: A Summary

Assignment: Practice Problems

- Pg 302 #3 (watch the video)
- Pg 306 #3 (watch the video)
- Pg 307 #8a (watch the video)

Resources

Lecture Slides

- [Hybridization and Formal Charge Lecture](#)
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Preparation for quiz:

Go to the online book and click on Chapter 4. There are practice quizzes and flashcards for each section in the chapter. These will help prepare you for the quiz. (These will not be graded)