

Chemistry Fall Final Study Guide Concepts

1. Know the polyatomic ions and their charges.
2. Know the chemical formulas for the diatomic gases.
3. What is the Law of Conservation of Matter?
4. Parts of the atom and their size and charges.
5. Know the difference between atomic number and atomic mass.
6. Know the difference between what makes a polar vs. nonpolar compound and whether they will dissolve in water, be attracted to a **negatively** charged wand, how it will behave on wax paper.
7. What is an isotope?
8. Know the intermolecular forces, which is the weakest/strongest.
9. Know how to identify the correct formula/name for ionic and covalent compounds.
10. What kind of elements conduct electricity? Which ones don't?
11. Know the trends on the periodic table for atomic mass, atomic radii, reactivity, and electronegativity.
12. What are valence electrons? Which subshells do they involve? Be able to identify the number of valence electrons for an atom and how many bonds it will make.
13. What is the Octet rule? HONC1234? Be able to apply them to identify stable molecules.
14. Know the difference between the 4 different bond types and whether they will conduct electricity and/or dissolve in water. Which ones have a high/low boiling point?
15. Know the electronegativity scale and how it relates to ionic, polar covalent, and nonpolar covalent bonds. Know how to use the electronegativity chart to determine the bond type between two atoms. How are electrons shared/ not shared in these different bonds?
16. Know the different kinds of molecular shapes.
17. What is an electron domain? Know the difference between lone pairs and bonded pairs.
18. Know the different functional groups, the smells associated for each, and what their common names end with.
19. Be able to draw Lewis Dot Structures to determine which molecules are stable (legit) ones.
20. Be able to use the electronegativity scale and chart as well as molecular shape to determine whether a molecular is polar or nonpolar.
21. Know how to write an electron configuration for an element and/or identify an element from an electron configuration.
22. How many valence electrons do ions have?
23. What is a catalyst? What does it do? Name an example of a catalyst.
24. Know the difference between molecular formula, structural formula, Lewis Dot structure, and ball-and-stick formulas.