

Chemistry
Chapter 9 Practice Test

- How can you determine if a substance is held together by ionic bonds?
- Once you know that it is an ionic bond, how do you name the substance?
- How do you name Cations of Representative Metals?
- How do you name Cations of Transition Metals?
- How do you name Anions of Representative Non-Metals?
- How do you name Anions of Polyatomic Ions?
- Name the following Ionic Compounds
 - NaCl
 - MgF₂
 - AlBr₃
 - Li₂O
 - CaS
 - Fe₂O
 - FeO
 - Fe₂O₃
 - FeO₂
 - MnO
 - Mn₂O₅
 - Mn₂O₇
- Give the formula of the following Ionic Compounds
 - Barium Nitride
 - Aluminum Oxide
 - Cobalt (III) Sulfate
 - Magnesium Nitrate
 - Potassium Phosphate
 - Nickel (II) Cyanide
- How can you determine if a substance is held together by covalent bonds?
- How can you determine if a substance is held together by polar covalent bonds?
- Name the prefixes for the following numbers
 - 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10
- Name the following Covalent Molecules
 - CO
 - CO₂
 - N₂O
 - CCl₄
 - PCl₅
 - SF₆
 - Cl₂O₇
 - S₃F₈
- How can you determine if a substance is an Acid?
- How do you name an Acid that is made from an Anion ending in *-ide*?
- Name or give the formula for the following acids
 - Hydrochloric Acid
 - Hydroiodic Acid
 - HCN
 - HBr
- How do you name and Acid that is made from an Anion ending in *-ite*?
- Name or give the formula for the following acids
 - Sulfurous Acid
 - Nitrous Acid
 - HClO₂
 - HBrO₂
- How do you name and Acid that is made from an Anion ending in *-ate*?
- Name or give the formula for the following acids
 - Phosphoric Acid
 - Sulfuric Acid
 - HNO₃
 - HIO₃
- How can you determine if a substance is a Base?
- How do you name a Base?

Answers

1. Metal and a Non-Metal.
2. Place the name of the Cation 1st and Anion 2nd (Cation Anion).
3. Just use the element name followed by the word Ion.
4. Use a Roman Numeral to indicate the charge of the metal followed by the word Ion.
5. Change the ending of the atom to ide.
6. Memorize the formulas, charges, and names.
7. Name the following Ionic Compounds
 - a. Sodium Chloride
 - b. Magnesium Fluoride
 - c. Aluminum Bromide
 - d. Lithium Oxide
 - e. Calcium Sulfide
 - f. Iron (I) Oxide
 - g. Iron (II) Oxide
 - h. Iron (III) Oxide
 - i. Iron (IV) Oxide
 - j. Manganese (II) Oxide
 - k. Manganese (V) Oxide
 - l. Manganese (VII) Oxide
8. Give the formula of the following Ionic Compounds
 - a. Ba_3N_2
 - b. Al_2O_3
 - c. $\text{Co}_2(\text{SO}_4)_3$
 - d. $\text{Mg}(\text{NO}_3)_2$
 - e. K_3PO_4
 - f. $\text{Ni}(\text{CN})_2$
9. Non-Metal and a Non-Metal.
10. Strong electronegativity Non-Metal and Weak electronegativity Non-Metal.
11. Name the prefixes for the following numbers
 - a. Mono
 - b. Di
 - c. Tri
 - d. Tetra
 - e. Penta
 - f. Hexa
 - g. Hepta
 - h. Octa
 - i. Nona
 - j. Deca
12. Name the following Covalent Molecules
 - a. Carbon Monoxide
 - b. Carbon Dioxide
 - c. Dinitrogen Oxide
 - d. Carbon Tetrachloride
 - e. Phosphorous Pentachloride
 - f. Sulfur Hexafluoride
 - g. Dichlorine Heptaoxide
 - h. Trisulfur Octafluoride
13. Begins with H and produces H^+ in solution.
14. Hydro____ic Acid
15. Name or give the formula for the following acids
 - a. HCl
 - b. HI
 - c. Hydrocyanic Acid
 - d. Hydrobromic Acid
16. ____ous Acid
17. Name or give the formula for the following acids
 - a. H_2SO_3
 - b. HNO_2
 - c. Chlorous Acid
 - d. Bromous Acid
18. ____ic Acid
19. Name or give the formula for the following acids
 - a. H_3PO_4
 - b. H_2SO_4
 - c. Nitric Acid
 - d. Iodic Acid
20. Contains Hydroxide and produces OH^- in solution.
21. Same way as all other Ionic Compounds.