

Science 1206
Chemistry - Study Guide 2



Terms:

molecular compounds
melting point
Electrical Conductivity
pH scale
chemical Reaction
hydrocarbon
conservation of mass

ionic compounds
solubility
electrolytic solutions
acid
reactants
precipitate
Subscript

state of matter
aqueous Solution
nonelectrolytic solutions
base
products
effervescent
Coefficient

Know the following:

1. Know material from study guide #1.
2. define aqueous solution (aq)
3. define electrolyte and nonelectrolyte (electrolytic and nonelectrolytic solution)
4. From the given information, determine whether the substance described is ionic or molecular. Briefly explain your reasoning.
 - (a) Substance X is a bright green powder. It dissolves easily in water, and the resulting clear green solution is an excellent conductor of electricity.
 - (b) Substance Y is a clear colourless liquid with a odour similar to gasoline. When placed in water, the substance sits atop the water, and does not conduct electricity.
 - (c) Substance Z is a white solid which dissolves easily in water, but the resulting clear colourless solution does not conduct electricity.
5. define acids as molecules that ionize in water to produce hydrogen ions (H⁺)
6. identify the physical properties of acids
7. define bases as ionic compounds that contain the hydroxide ion
8. name and write formulas for some common acids and bases, using the periodic table, a list of ions, and rules for naming acids

1. hydrogen ____ide	becomes hydro ____ic acid
Ex: hydrogen <u>chloride</u>	becomes hydro <u>chloric</u> acid
HCl	HCl(aq)

2. hydrogen ____ate	becomes ____ic acid
Ex: hydrogen <u>sulfate</u>	becomes <u>sulfuric</u> acid
H ₂ SO ₄	H ₂ SO ₄ (aq)

3. hydrogen ____ite	becomes ____ous acid
Ex: hydrogen <u>nitrite</u>	becomes <u>nitrous</u> acid
HNO ₂	HNO ₂ (aq)

9. define pH scale in terms of a measure of acidity or alkalinity or neutrality.
10. define acids and bases operationally in terms of their effect on litmus paper, pH, sour and bitter taste, reaction with active metals, and reaction with each other
11. define the law of conservation of mass

12. Know the main types of reactions:

1. Combustion,
2. Synthesis
3. Decomposition Reactions
4. Single Displacement
5. Double Displacement Reactions

13. list the four pieces of evidence for a chemical reaction

- Colour / Odour Change
- Formation of a solid (precipitate)
- Gas Formation(effervescent)
- Release/Absorption of Energy (heat)

14. Identify and balance the following skeleton equations.

