Topic 8 – Acids, Bases, and Salts

Lesson 2 – Reactions of Acids and Bases

Terms to Know

Acid-Metal Reactions –

Neutralization Reactions –

Titration –

Relating pH to H+ -

 

Neutralization is a reaction between an acid and a base to produce water and a salt. It is a double replacement reaction.

During neutralization reactions

* Equal moles of H+ and OH- combine to neutralize each other and form H2O
* Water and salt are the products of all neutralization reactions
* The salt formula formed depends on the formulas of the acid and the base

acid + base 🡪 water + salt **General equation**

HCl + NaOH 🡪 H2O NaCl **Example**

H+ OH- 🡪 H2O **Net ionic equation**

 

pH is defined as the – log of H+ ion concentration of a solution

pH is a measure of the concentration of H+ or H3O+ in a solution

When the [H+] or [H3O+] of a solution is given in the form of 1 x 10-x M; the pH of the solution is X

Example If [H+] of a solution = 1 x 10-4

 pH of the solution = 4

H3O+ concentration pH value type of solution

1 x 10-2 M 2 acidic

1 x 10-8 M 8 basic

