PH < 7 is acidity PH = 7 neutral PH > 7 is basic $PH = -log[H^+]$ PH= -log Same as concentration of hydroxide ions

Acid Deposition

 $PH = 1 \times 7 = 7$

Wet deposition – acid rain (including fog, snow and dew)

Dry deposition – acidic gases and particles

From Notesale.co.uk heposition: 0 3 of 4 PH of rainwater = 5.65 Slightly acidic due to dissolved carbon dioxide $CO_2 + H_2O \propto H_2CO_3$ $H_2CO_3 \propto HCO_3^- + H^+$ $HCO_{3}^{-} \propto CO_{3}^{2-} + H^{+}$ Main gases on england deposition: O di le of Sulphur Oxides of nitrogen SO₂ : volcanoes

Combustion of Sulphur containing fossil fuels Smelting of sulphide ores $SO_2 + H_2O \rightarrow H_2SO_3$

 NO_x

Occurs in electrical storms and bacterial action

 $4NO_2 + O_2 + 2H_2O \rightarrow 4HNO_3$

Effects of acid rain:

- 1. Vegetation Many trees have been affected by the rain
- 2. Lakes and rivers Below ph4 lakes are dead Presence of nitrates present in acid rain can also lead to eutrophication
- 3. Buildings: $CaCO_3 + H_2SO_4 \rightarrow CaSO_4 + CO_2 + H_2O$