PH < 7 is acidity
PH = 7 neutral
PH > 7 is basic
PH = -log[H⁺]

PH= -log

Same as concentration of hydroxide ions
PH = 1 x 7 = 7

**Acid Deposition**

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

Dry deposition – acidic gases and particles

PH of rainwater = 5.65
Slightly acidic due to dissolved carbon dioxide
CO₂ + H₂O ≈ H₂CO₃
H₂CO₃ ≈ HCO₃⁻ + H⁺
HCO₃⁻ ≈ CO₃²⁻ + H⁺

Main gases causing acid deposition:
- Oxides of Sulphur
- Oxides of nitrogen

SO₂: volcanoes
Combustion of Sulphur containing fossil fuels
Smelting of sulphide ores
SO₂ + H₂O → H₂SO₃

NOₓ

Occurs in electrical storms and bacterial action

4NO₂ + O₂ + 2H₂O → 4HNO₃

**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:
   CaCO₃ + H₂SO₄ → CaSO₄ + CO₂ + H₂O