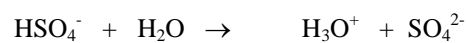
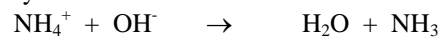


Name:

1. Identify the **acids** and the **bases** in the following processes.



2. Define a **Bronsted-Lowry base** and give an example of a strong Bronsted-Lowry base.

3. Calculate the **pH** and **pOH** of a $0.00029 \text{ mol dm}^{-3}$ solution of HCl.
Is this solution acidic, basic or neutral?

4. CO₂ is the gas that determines to a large extent the pH of rainwater. Calculate the **concentration (mmol/L)** of CO₂ inside a raindrop that is at equilibrium with air that contains a concentration of 370ppm CO₂ at 25°C at sea-level. $K_{\text{H}}\text{SO}_2 = 3.30 \times 10^{-2} \text{ mol dm}^{-3} \text{ atm}^{-1}$ at 25°C.

5. Describe the **mechanism** for the formation of **ozone** in the stratosphere.
- Draw **Lewis dot** and **VSEPR structures** for ozone.
 - Why is the presence of ozone in the stratosphere regarded as essential for the success of most life-forms on the planet and yet it is harmful to many of the same life-forms in the lower troposphere?