**Acids as proton donors**

An acid will always donate a proton to water to give an oxonium ion (H3O+)

Complete the following equations to show how acids react with water

|  |  |
| --- | --- |
| Acid | Equation |
| HCl (hydrochloric acid) | HCl + H2O 🡪 H3O+ + Cl- |
| HNO3 (nitric acid) |  |
| H~~2~~SO4 (sulphuric acid) |  |
| HF (hydrofluoric acid) |  |
| HClO3  (chloric acid) |  |

**Bases as proton acceptors**

An alkali will always accept a proton from water to give a hydroxide ion (OH-)

Complete the following equations to show how bases react with water

|  |  |
| --- | --- |
| Acid | Equation |
| NaOH (sodium hydroxide) |  |
| NH4 (ammonia) |  |
|  |  |
|  |  |
|  |  |