

## EXERCISE: ACID-BASE TITRATIONS

A chemist tasked with determining the molarity of an unknown hydrochloric acid (HCl) solution by titration with a 0.75 M potassium hydroxide (KOH) solution. During the titration, 15.00 mL of the HCl solution is completely neutralized by 18.50 mL of the KOH solution.

1. Calculate the molarity of the hydrochloric acid solution.
2. Draw a particle diagram of the contents of the Erlenmeyer flask **just before** the neutralization point.
3. After further analysis the unknown sample was found not to be HCl but rather H<sub>2</sub>SO<sub>4</sub>. Calculate the molarity of the acid sample with this updated information.