4

- Describe the difference between a strong and a weak acid.

A strong acid dissociates completely in water: HA(aq) → H^+(aq)\+ A^-(aq)

A weak acid dissociates only partially: HA(aq) ⇆ H^+(aq) + A^-(aq) (favours the left hand side – undissociated acid)

Describe in qualitative terms how the percentage ionisation of a weak acid changes when an aqueous solution thereof is diluted.

The percentage ionization increases as a weak acid is diluted.

Which chemical principle can be used to explain the change in percentage ionisation of a weak acid on dilution and how?

The equilibrium of interest is HA(aq) + H_2O(l) ⇆ H_3O^+(aq) + A^-(aq). From Le Chatelier's principle, as more water is added, the equilibrium is pushed to the right: the amount of acid present does not change but more molecules dissociate.