

Year 12 Chemistry
Quick Quiz: Using and Controlling Reactions

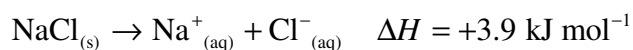
1.

(a) $E = mc_p \Delta T = 10 \times 4.18 \times (22.3 - 19.0) = 140 \text{ J} = 0.14 \text{ kJ}$

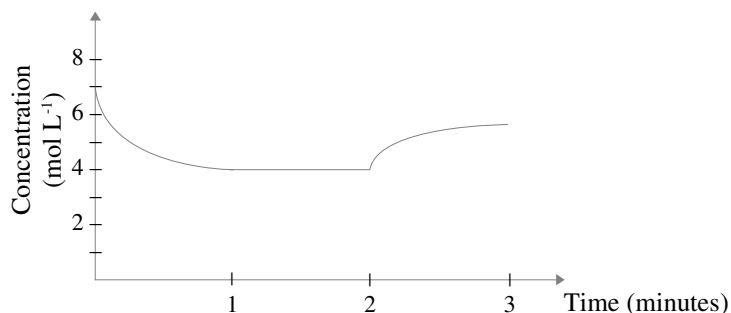
(b) $M_{\text{NaCl}} = 58.44 \text{ g mol}^{-1}$

$$n = \frac{m}{M} = \frac{2.1}{58.44} = 0.0359 \text{ mol}$$

$$\Delta H = \frac{E}{n} = \frac{0.14}{0.0359} = 3.9 \text{ kJ mol}^{-1}$$



2.



3.

(a) The reactants are in continuous supply.

(b) Advantage: Electrodes and electrolyte are not consumed.

Disadvantage: Requires fuels in high purity, which can be costly.

4.

(a) (I)

(b) (I)

5. Advantage: Energy easily obtained by combustion.

Disadvantage: Less available for use as feedstock for chemical industry.