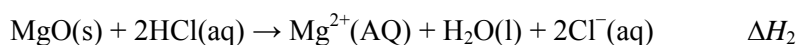
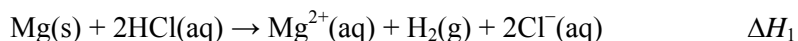


## Guidance for Practical 3 – Chapter 5

### Enthalpy change of formation of magnesium oxide

In order to work out the enthalpy change of formation of magnesium oxide the students will also need to look up or be given the enthalpy change of formation of water.

For the calculation, students will have to work out the amount of heat energy given out when 1 mol Mg ( $\Delta H_1$ ) and 1 mol MgO ( $\Delta H_2$ ) react with hydrochloric acid. Using these values and the enthalpy change of formation of water ( $\Delta H_3$ ) they must construct a Hess's Law cycle or rearrange the appropriate equations to work out the enthalpy change of formation of MgO. The equations involved are:



$$\Delta H_f = \Delta H_1 - \Delta H_2 + \Delta H_3$$