Name Date

Worksheet 12.1: Enthalpy change zinc + copper sulfate practical

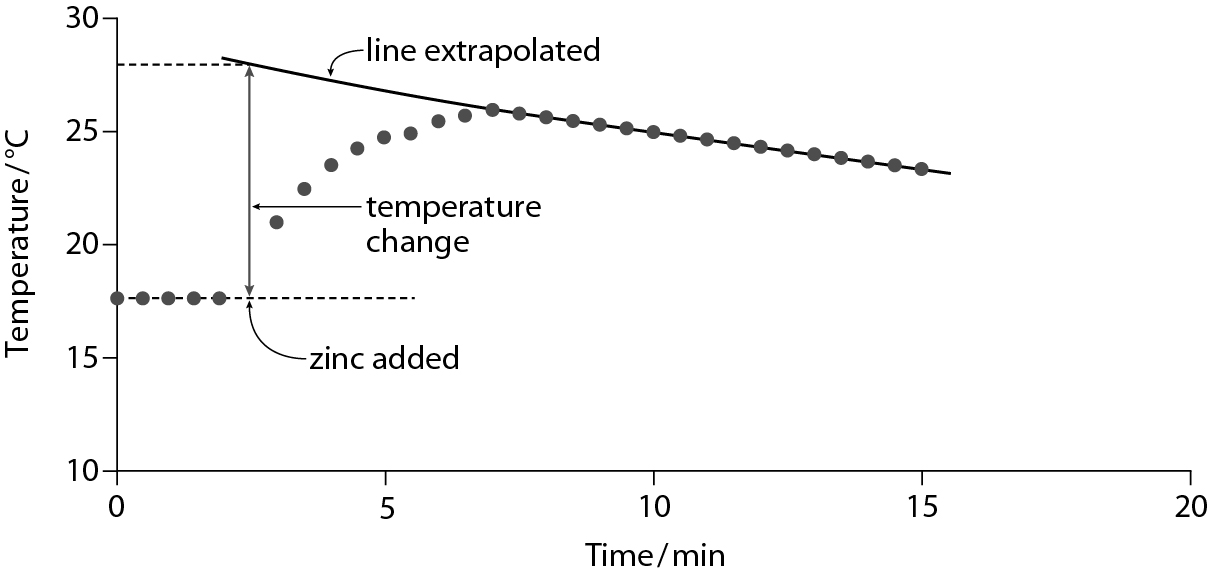
Analysis of results

**1** Record your observations from the experiment, including those which could be evaluated as sources of errors.

**2** Record raw quantitative data in a table. You need to include units and absolute uncertainties   
where appropriate.

**3** Draw a graph of temperature against time.

**4** Extrapolate what the highest temperature would have been when the zinc was added   
(see graph below).



<insert IB\_Chem\_Figure WS12.1>

**5** Calculate the energy released, *q*, using *q* = *mc*D*T*, using the temperature calculate above.

**6** Work out which reactant was in excess and then work out the moles of the limiting reactant.

**7** Calculate the enthalpy change for this reaction.

Evaluation of the experiment

**8** Why did you extrapolate the highest temperature from the graph rather than use the actual highest temperature reached?

**9** What assumptions did you make when calculating the enthalpy change for this reaction?