

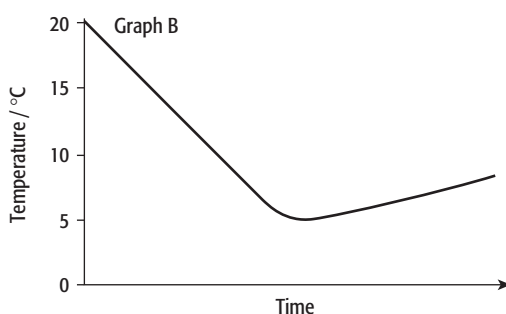
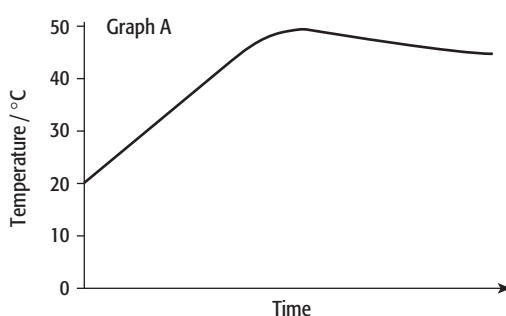
Worksheet 7.1

Thermochemistry

1 In an exothermic reaction, energy is 'given out' (i.e. transferred) to the surroundings.

In an endothermic reaction, energy is 'taken in' from the surroundings.

Consider these graphs (A and B) showing the temperature change in two different experiments.



a Does graph A show an endothermic or an exothermic reaction? Explain your answer.

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b Does graph B show an endothermic or an exothermic reaction? Explain your answer.

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c Which of the following changes or chemical reactions are exothermic and which are endothermic?

i a candle burning:

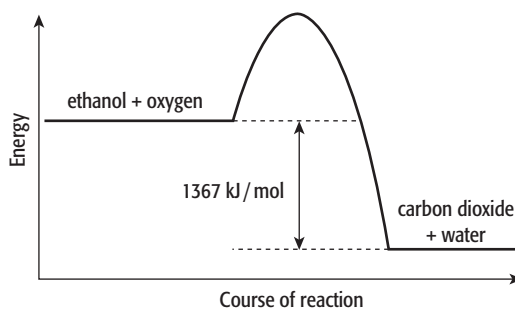
ii ammonium chloride dissolving, producing a decrease in temperature:

iii dynamite exploding:

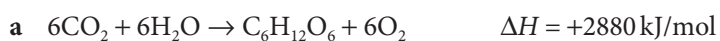
iv respiration:

v photosynthesis

2 The following is an energy level diagram for the reaction between ethanol and oxygen.



Draw energy diagrams for the following two reactions.



3 a In any chemical reaction, energy must first be supplied in order to make the chemical reaction start to happen. How is this energy used to start the reaction?

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b During a chemical reaction some energy is released. What is happening to cause this energy to be released?

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c What is happening to the balance of these energy changes in:

i an exothermic reaction?

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ii an endothermic reaction?

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