

Chapter 3.3 Investigation

Energy Changes in Chemical Reactions

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Name _____ Class _8..... Date 27/10/2020

- When the temperature of a chemical reaction decreases, the reaction is called an endothermic reaction.
- When the temperature of a chemical reaction increases, the reaction is called an exothermic reaction.

Materials

- Beaker
- Glass rod
- Thermometer
- Spatula
- Hydrochloric acid
- Sodium hydroxide

PART A:

Question to Investigate (Scientific Question)



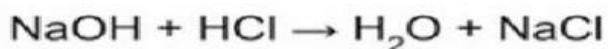
Does the temperature increase, decrease, or stay the same in the reaction between Hydrochloric acid then add Sodium hydroxide



Procedure

- Read the thermometer and record the room temperature.(1)
- Add the two mixture of Hydrochloric acid then add Sodium hydroxide
- Stir the mixture
- Record the temperature after the reaction (1)

- E. Did the temperature increase, decrease, or stay the same when you combined Hydrochloric acid then add Sodium hydroxide _____ (2)



Sodium hydroxide (NaOH) reacts with hydrochloric acid (HCl) to make water (H₂O) and sodium chloride (NaCl).

- F- Is this an endothermic or exothermic reaction? _____ (2)

PART B:



Question to Investigate (Scientific Question)

Does the temperature increase, decrease, or stay the same in the reaction between Ammonium chloride and Barium hydroxide

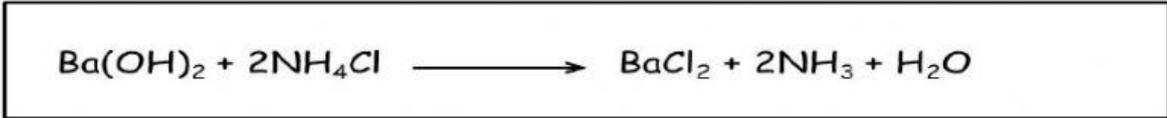


Materials

- Beaker
- Glass rod
- Thermometer
- Spatula
- Ammonium chloride
- Barium hydroxide

Procedure

- A. Read the thermometer and record the room temperature.(1)
- B. Add the two mixture Ammonium chloride Barium hydroxide
- C. Stir the mixture
- D. Record the temperature after the reaction (1)

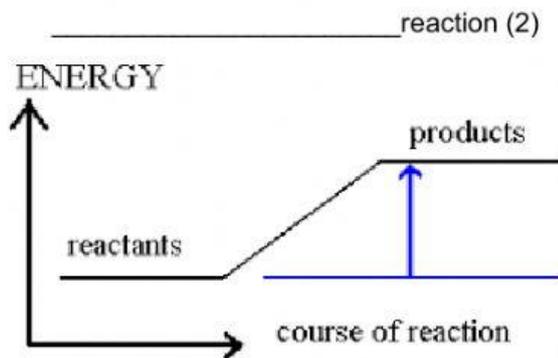


- E. Did the temperature increase, decrease, or stay the same when you combined Ammonium chloride then add Barium hydroxide _____ (2)
- F. Is this an endothermic or exothermic reaction? _____ (2)

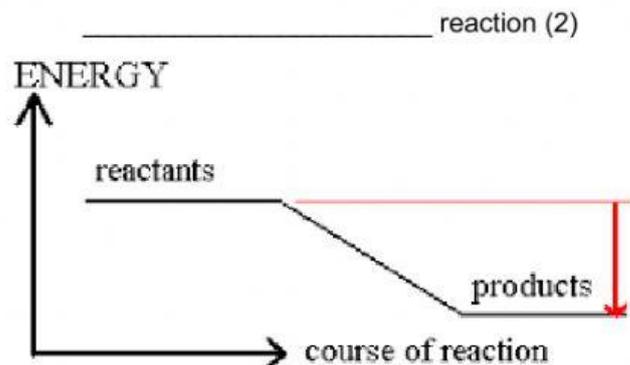
PART C: Energy Changes – Endothermic and Exothermic Reactions

Label the following diagram using the word bank to help you:

Energy released	Energy absorbed
Exothermic Reaction	Endothermic Reaction



Energy _____ (2)



Energy _____ (2)

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