

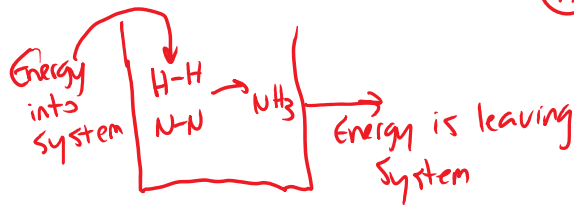
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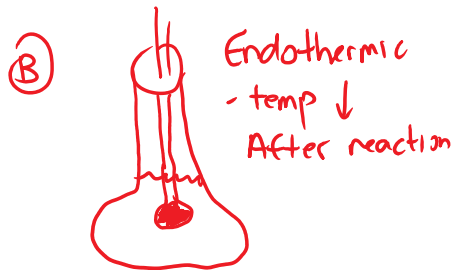
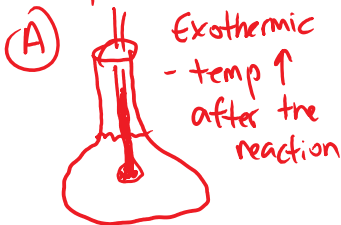
**Chemical Reactions:**  
Lesson 14 – Exothermic vs Endothermic Reactions

- Energy must be absorbed to break chemical bonds  
- Energy is released when bonds are formed

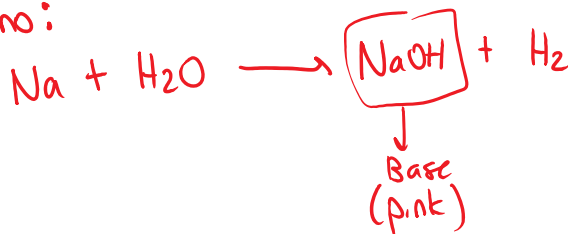


- When overall, more energy is released into surrounding than absorbed by the system  $\rightarrow$  Exothermic reaction
- When overall, more energy is absorbed into the system, than released into surroundings  $\rightarrow$  Endothermic reaction

Example:



Demo:



Phenolphthalein  
Colorless  $\rightarrow$  pink (basic)

Exo / Endo ??