CONCEPT: ENDOTHERMIC & EXOTHERMIC REACTIONS

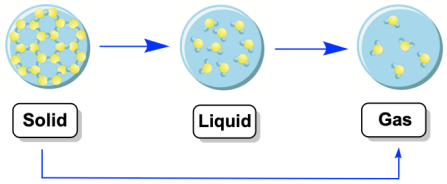
Endothermic Reactions

- Involve absorbing thermal energy by the _____ from the _____.
  - □ As molecules absorb heat they speed up and with enough energy gained they _____ bonds.

Endothermic Reactions

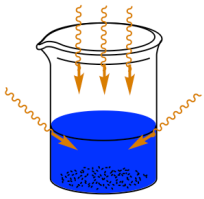
Phase Changes

□ Absorbing heat spreads molecules apart



Real World Application

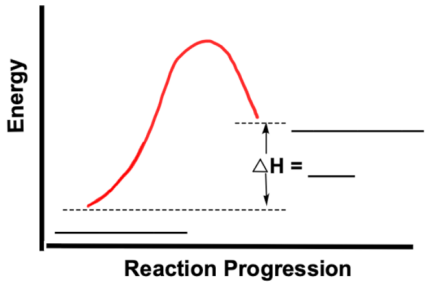
□ Absorbing heat from the surroundings



Feels _____ to the touch.

Energy Diagram

□ Relative energies of reactants and products



EXAMPLE: Which of the following processes represents an endothermic reaction?

a) Steam condensing b) Molten lava solidifying c) Water boiling d) Water freezing

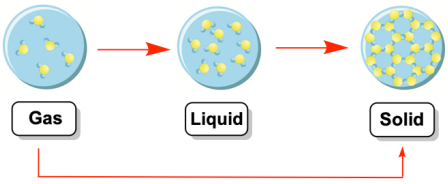
Exothermic Reactions

- Involve releasing thermal energy by the _____ from the _____.
  - □ As molecules release heat they slow down and with enough energy lost they _____ bonds.

Exothermic Reactions

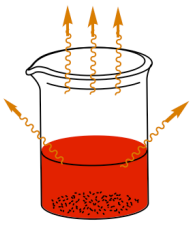
Phase Changes

□ Releasing heat pulls molecules closer



Real World Application

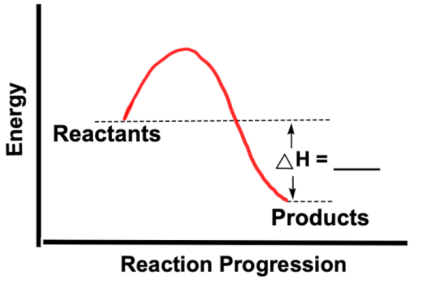
□ Releasing heat to the surroundings.



Feels _____ to the touch.

Energy Diagram

□ Relative energies of reactants and products



EXAMPLE: Determine which of the following is an exothermic reaction.

a) CO_2 burning b) Reaction in a cold pack c) Dry ice subliming d) Steam