

Chemistry – Unit 8 Worksheet 4

Representing Chemical Potential Energy in Change

For each of the reactions below, write the balanced chemical equation, including the energy term on the correct side of the equation. Then represent the energy storage and transfer using the bar graphs. Below the bar graph diagram for 1 and 2, sketch a standard chemical potential energy curve for the reaction.

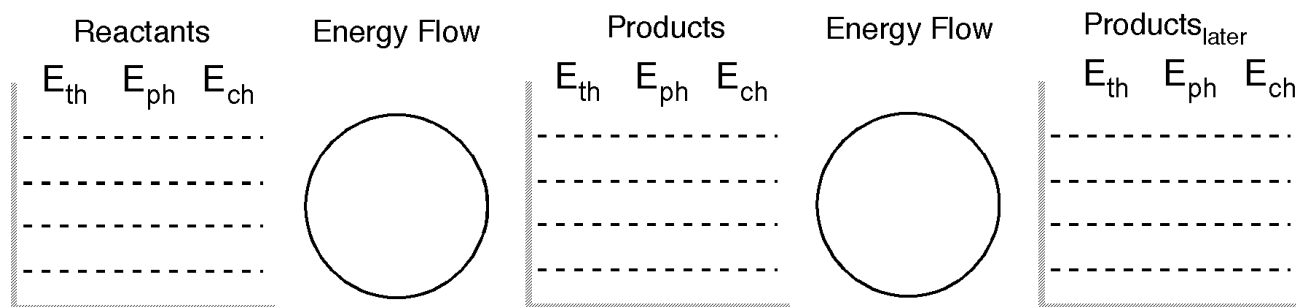
- When you heated sodium hydrogen carbonate, you decomposed it into sodium carbonate, water vapor, and gaseous carbon dioxide.

Reactants _{cold} E_{th} E_{ph} E_{ch}	Energy Flow	Reactants _{hot} E_{th} E_{ph} E_{ch}	Energy Flow	Products E_{th} E_{ph} E_{ch}

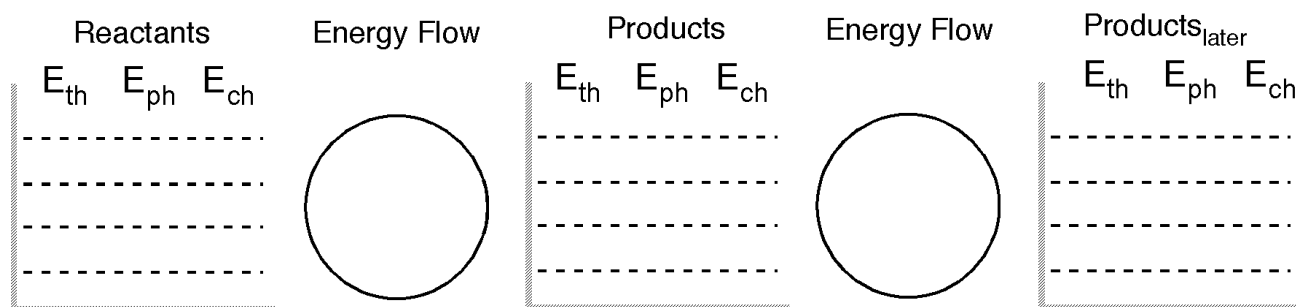
- When solid zinc was added to hydrochloric acid, the products were hydrogen gas and an aqueous solution of zinc chloride. You could feel the test tube get hotter.

Reactants E_{th} E_{ph} E_{ch}	Energy Flow	Products E_{th} E_{ph} E_{ch}	Energy Flow	Products _{later} E_{th} E_{ph} E_{ch}

3. Isopropyl alcohol (C_3H_7OH) burns in air to produce carbon dioxide and water vapor.



4. In chemical cold packs, solid ammonium chloride dissolves in water forming aqueous ammonium and chloride ions. As a result of this solvation reaction, the pack feels cold on your injured ankle.



5. In chemical hot packs, solid sodium acetate crystallizes from a supersaturated solution of sodium acetate. The pack feels warm to the touch for 30 minutes or longer.

