***Enthalpy and Rates Unit Review***

* use appropriate terminology when discussing energy changes and rates of reaction such as: enthalpy, activation energy, endothermic, exothermic, potential energy, specific heat capacity, etc
* solve problems involving analysis of heat transfer in a chemical reaction, using the equation q=mc∆T
* use bond enthalpies to determine the enthalpy of a chemical, and determine if the reaction is endothermic or exothermic
* write thermochemical equations, expressing the energy change as a ∆H value or as a heat term in the equation
* describe simple potential energy diagrams of chemical reactions
* state Hess's law, and explain how it is applied to find the enthalpy of a reaction
* calculate the heat of reaction, using a table of standard enthalpies of formation and applying Hess's law
* explain, using collision theory and potential energy diagrams, how factors such as temperature, the surface area of the reactants, the nature of the reactants, the addition of catalysts, and the concentration of the solution control the rate of a chemical reaction
* determine the rate law expression of a reaction by comparing experimental data to determine the order of the reaction with respect to all reactants.

Suggested Review Questions:

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