Announcements

To join clicker to class today (Clickers with LCD display joins automatically):

- Turn on the Clicker (the red LED comes on).
- Push "Join" button followed by "20" followed by the "Send" button (switches to flashing green LED if successful).

- Even if the weather is nice do not forget to wear appropriate clothing to lab!

- Next exam 1 week from Thursday.
- Discussion quiz on last week's material.
  - Dissolution
  - Solubility
  - Concentration Units
  - Net Ionic
  - Alkane nomenclature

Review

- Molarity = moles solute/L of solution
- Conversion between M and w/w units requires converting moles solute ➔ g solute using molar mass and L or sol'n ➔ g sol'n using density of sol'n
- Solubility vocabulary (soluble, insoluble, saturated, unsaturated, supersaturated, miscible, immiscible).
- Alkane nomenclature (special names 1-4 C, Greek prefixes for > 5 C. end in -ane).

Review

- Energy = capacity to do work
  - Standard units = J = kg•m^{2}s^{-2}
  - Energy is conserved.
  - Forms (potential, kinetic, electromagnetic)
- Thermochemistry = study of energy in chemical reactions.
  - System = what we are care about (at minimum all reactants and products).
  - If energy comes out (is produced) the process is exothermic and q <0.
  - If energy goes in (is used) the process is endothermic (q > 0).

Calorimetry

- Use insulated container to make q=0 (no heat exchange with surroundings).

- Key relationship
  - $q = 0 = \Delta H_{RXN} + C\Delta T$, where C = heat capacity of everything in calorimeter.
  - $\Rightarrow \Delta H_{RXN} = -C\Delta T$

- Research solution calorimeter: