Heat of Formation of Candle Wax – Determination
SCH 4U – Thermodynamics

Purpose: To determine the heat of formation of candle wax through a measured calorimetric combustion reaction

Create a nice date table that shows all appropriate data
- mass of candle before
- mass of candle after
- mass of empty pop can
- mass of pop can with water
- initial temperature
- final temperature

Show a very nice calculation to determine the experimental heat of formation for candle wax – use the formula $C_{31}H_{64}$ (please note that this is a saturated alkane!). You should include the following:

- combustion reaction with ΔH° = ?
- mass of candle wax combusted (three line calculation)
- mass of water that was warmed (three line calculation)
- $Q = mc\Delta T$ calculation
- conversion factor line predict heat per mole of candle wax
- $\Delta H^\circ = -Q$
- rewrite combustion reaction with ΔH° = ###.### kJ
- Heat summation calculation to determine the heat of formation for candle wax

$$\Delta H^\circ_{C_{31}H_{64}(s)} = ?$$

- compare your value with the "actual value" include a reference (% error calculation)
- please include three experimental problems or difficulties that lead to inaccurate values

For Bonus: rethink this calculation to take into consideration the pop can itself.