FLINN SCIENTIFIC

Name_____

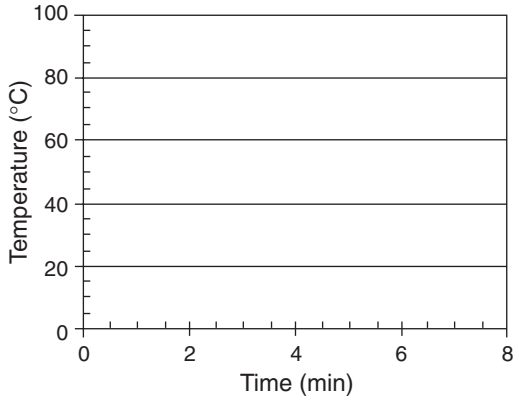
Hot Wax Demonstration Worksheet

Data Table

Part A. Melting Point of Paraffin			
Time (min)	**Temperature (°C)**	**Time (min)**	**Temperature (°C)**
0		4.0	
0.5		4.5	
1.0		5.0	
1.5		5.5	
2.0		6.0	
2.5		6.5	
3.0		7.0	
3.5		7.5	
Part B. Calorimetry Data			
Mass of Paraffin			
Mass of Water			
Water Temperature (initial)			
Water Temperature (final)			

Data Analysis

1. The temperature of a pure substance will remain constant at the melting point as long as both solid and liquid are present. Graph the cooling curve data (Part A) and estimate the melting point of paraffin.



2. Calculate the heat absorbed by the *cold water bath* as the hot wax solidified:

   Q = (Mass of water) × (Temperature change) × (1 cal/g·°C)

3. Calculate the heat of fusion of paraffin.

$$\Delta H_{fusion} = \frac{Q \text{ (cal)}}{\text{Mass of paraffin (g)}}$$