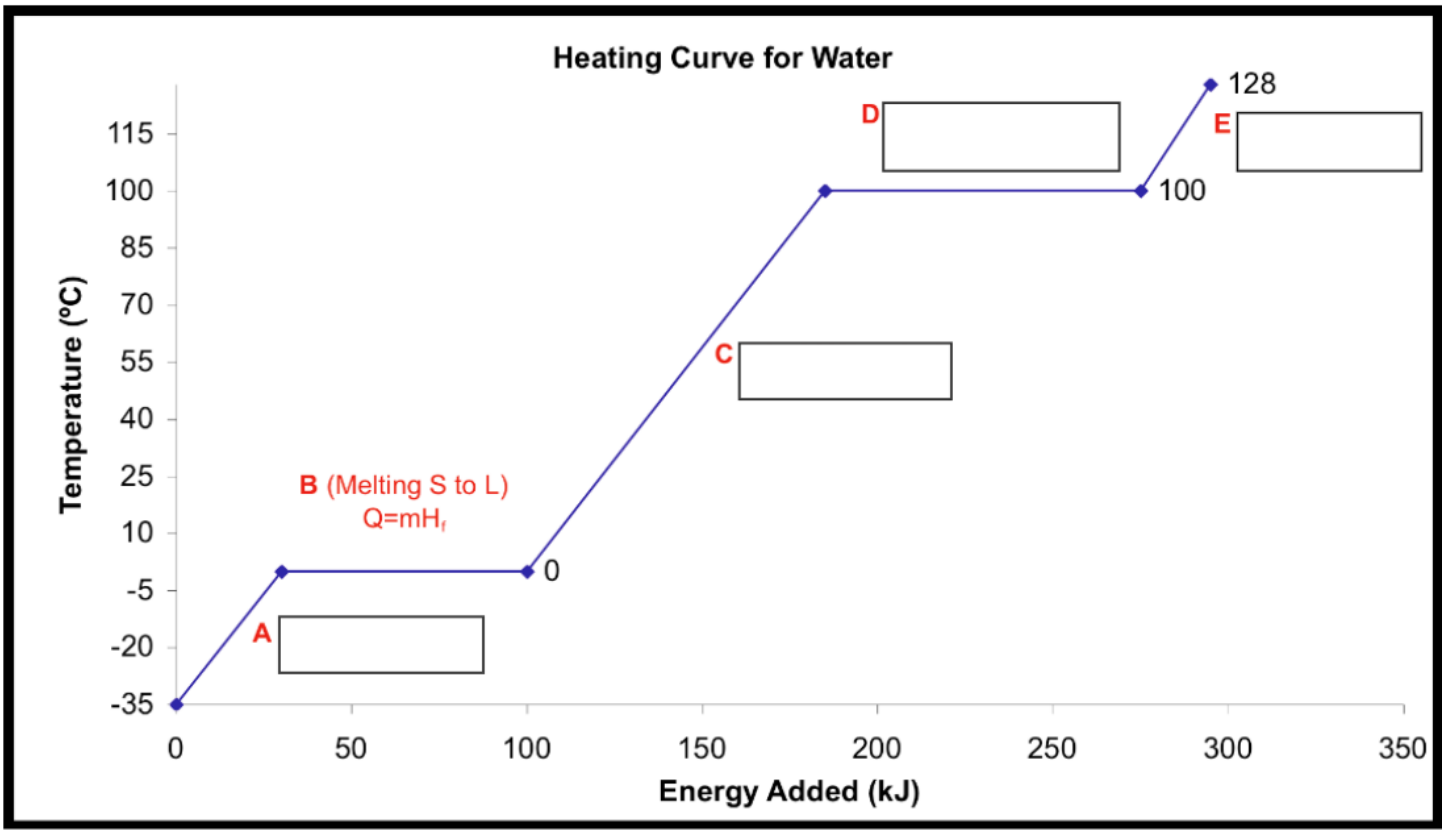
Dougherty Valley HS AP Chemistry
IMF – Heating Curve Practice

WORKSHEET #3

Name: **Date:** **Period:** **Seat #:**

A heating curve for ice at -35ºC being converted to steam at 128ºC:



[2] Label the following on the graph above:	Write the formula used:
Warming	q =
Melting	q =
Vaporizing	q =

[3] What are the following values for water include both J/g and KJ/mol (include units):		
H_{fus} =	J/g	kJ/mol
H_{vap} =	J/g	kJ/mol

[4] How many calories are needed to convert 312.0g of ice at -35.0°C to liquid water at 25.0°C: (HINT: Use the graph above to determine the formula(s) needed). 38220 cal

[5] How many joules (J) of energy are released when 6.80E3 g of steam at 100.0°C are completely frozen to ice at 0.0°C: 2.05E7J

[6] How much energy (in J) is required to completely melt 205.0 mol of ice at 0.0°C: 1.235E6J

Substance	C (solid) $\left(\frac{J}{g \cdot K}\right)$	M.P. (°C)	ΔH_{fus} $\left(\frac{J}{g}\right)$	C (liquid) $\left(\frac{J}{g \cdot K}\right)$	B.P. (°C)	ΔH_{vap} $\left(\frac{J}{g}\right)$	C (gas) $\left(\frac{J}{g \cdot K}\right)$
K	0.560	62	61.4	1.070	760	2025	0.671
Hg	----	-39	11	0.138	357	294	0.104

How much heat is needed to raise the temperature of 85 g of potassium from 25° C to 2,500°C? 3.41E5 J