Molar Fusion of Ice

-Q_{hot} ("hot" water) =	+ Q_{cold} (cold ice)
m_{hot} = You decide	m_{cold} = to be determined in procedure
C_{Hot} = specific heat capacity of water	C_{cold}
T_{ih} = room temp	T_{ic} =
T_f =	T_f =

- Q_{hot} = + Q_{cold}

$-m_c c_c \Delta T_c = +m\cancel{c\Delta T}$

$-m_c c_c \Delta T_c = +n\Delta H$

Since you cannot determine the amount of heat absorbed by the ice cubes by using ΔT, you must use Q = n x ΔH, where n is the moles of ice and ΔH is the molar heat of ice. How would you calculate the number of moles of ice MELTED if you don't have a balance to measure the ice? Remember the density of H_2O is ρ = 1.0 g/ mL

n→ moles

ΔH →molar heat (Amount of energy needed to raise 1 mol of substance 1 Kelvin)

Accepted value of ΔH_{ice} = 6.01 kJ / mol

Materials needed:

- *3 graduated cylinders (25 mL, 50 mL, 75 mL)*
- *Calorimeter*
- *2 thermometers*
- *Pipette*
- *Tap water beaker*
- *Ice cubes*
- *Room temperature water*