HEAT OF DISPLACEMENT

1. What is the meaning of heat of displacement?

Heat _____ when _____ of _____ is _____ from its

_____ solution by _____ _____ metal

2. In an experiment, 25 cm^3 of 0.2 moldm^{-3} of silver nitrate solution was reacted with 0.7 g copper powder. The copper powder used is more than what is required. The reaction produced a rise in temperature of 3.5°C.
    [*Density of solution : 1.0 g cm^{-3} ; specific capacity aqueous solutions ; 4.2 J g^{-1} $^{oC-1}$*]

    a) Calculate the increase of temperature

                                    °C

    b) What is the amount of heat released in the reaction?

        Q = (   ) (   ) (   ) =   J =   kJ

    c) Calculate the number of mol of silver ion, Ag$^+$

            _____x_____ =   mol

    d) Write the chemical equation of the reaction

                        +   →   +   (   )

   e) Construct an ionic equation for the reaction

                        +   →   +

    f) Calculate the heat of displacement for this experiment

            ΔH = _____ =   kJmol^{-1}

    g) Tick at the right energy level diagram. Complete the energy level diagram.

(write 0 for the blank box that not chosen)

$\Delta H=$ _____ kJmol^{-1}

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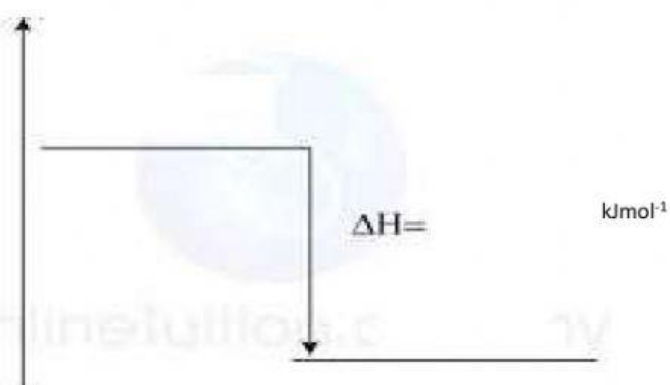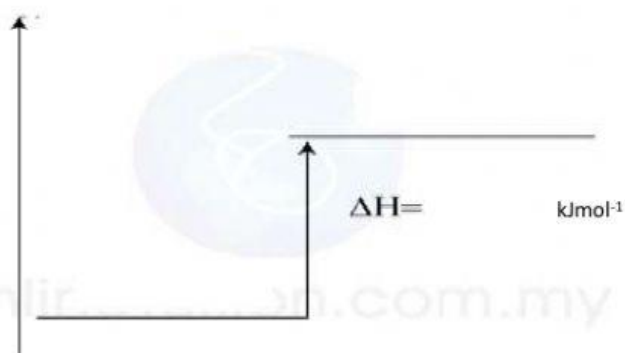
i)   State one of the observation for this experiment instead of the increasing of the temperature

_____ solution change to _____ solution