

Name: _____ Lab TA: _____

Lab Day Mon Tue(am) Tue(pm) Wed Thu(am) Thu(pm) Fri

Grade
>95 >90 >85 >80 >70 <70

Report:**Report Submitted on Time (Check Box)**

Yes No

Data Collection:**Experiment 4a – Measure the Solubility of Potassium Chloride****Temperature at which the Solubility is:-**

	Temperature (°C)		
Solubility	Trial 1	Trial 2	Average
3.5 g/10 mL			
4.0 g/10 mL			
4.5 g/10 mL			
5.0 g/10 mL			

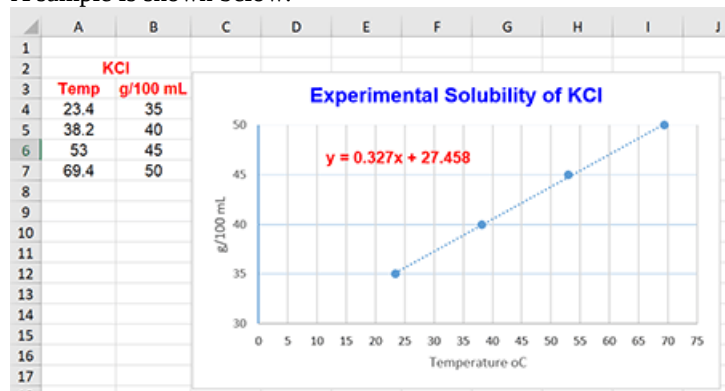
Experiment 4b – Measure the Solubility of Ammonium Chloride**Temperature at which the Solubility is:-**

	Temperature (°C)		
Solubility	Trial 1	Trial 2	Average
4.0 g/10 mL			
4.5 g/10 mL			
5.0 g/10 mL			
6.0 g/10 mL			

Calculations:

There are a total of three graphs in this report. These can all fit on one Excel Sheet. Make sure you label all three correctly. Then make a pdf and include these graphs with your report.

A sample is shown below:



Experiment 4a – Measure the Solubility of Potassium Chloride

- Using Excel create a graph of the **KCl** solubility in **g/100 mL** (y-axis) and **temperature in °C** (x-axis). Show the **trendline** and the **equation for the line** ($y = mx + C$).
Note:- The y-axis is in g/100mL, while your data was g/10mL. Make sure you scale up your data for this graph.
- The **official solubility data** for **KCl** is **given in the table below**. Using Excel create a graph of the KCl solubility in g/100 mL (y-axis) and temperature in °C (x-axis). Show the **trendline** and the **equation for the line** ($y = mx + C$).

Official Solubility Data for KCl	
Solubility g/100 mL	Temperature (°C)
37.1	30
42.9	50
48.5	70
53.8	90

- Obtain the solubility of KCl in g/100 mL H₂O at 60°C from both the **official** and **your experimental** solubility curves.

Official solubility of KCl at 60°C: _____ g/100mL

Experimental solubility of KCl at 60°C: _____ g/100mL
- Percentage difference is defined as the difference between two values divided by the average of the two values. In the case of question 3 above it is:

$$\% \text{ Difference} = \frac{|\text{Official Value} - \text{Experimental Value}|}{\text{Official Value}} \times 100$$

Note:- the use of |Official Value – Experimental Value|, this simply means the positive value of this subtraction. If the number turns out positive when you do the subtraction then you just use that number. If the subtraction turns out to be negative then you simply multiply the number by -1 and use the resultant in the calculation.

% Difference: _____

Experiment 4b – Measure the Solubility of Ammonium Chloride

- Using Excel create a graph of the **NH₄Cl** solubility in **g/100 mL** (y-axis) and **temperature in °C** (x-axis). Show the **trendline** and the **equation for the line** ($y = mx + C$).
Note:- The y-axis is in g/100mL, while your data was g/10mL. Make sure you scale up your data for this graph.