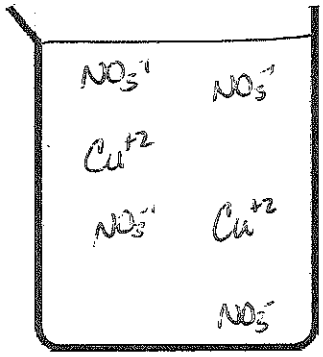
1. In the beaker 93.6g of $Cu(NO_3)_2$ is being dissolved in 100mL of water. Draw a rough sketch of the solution.



Cu 1×63.5=63.5
N 2×14 = 28
O 6×16 = 96
187.5

2. What is the molarity of the $Cu(NO_3)_2$?
$93.6g \mid \frac{1mol}{187.5g} = 0.5mol$ $\frac{0.5mol}{0.1L} =$ 5M $Cu(NO_3)_2$ solution

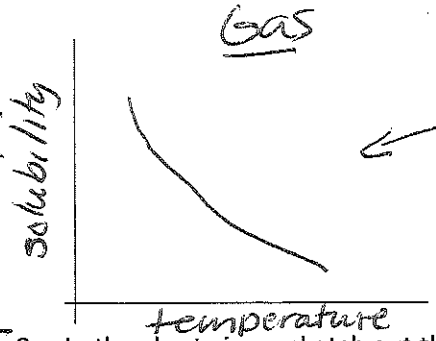
3. What would be the actual number of moles of NO_3^{-1} ions floating in the solution? $Cu(NO_3)_2 \rightarrow Cu^{+2} + 2NO_3^{-1}$
0.5mol 0.5 1.0 mol

4. What is the molarity of the NO_3^{-1}?
$\frac{1mol}{0.1L} =$ 10 M NO_3^{-1}

5. If you keep adding more and more $Cu(NO_3)_2$ to the solvent the solution will eventually become saturated

6. What is the only factor that would allow you to actually add more solute per solvent?
increase temperature ($Cu(NO_3)_2$ is a solid)

7. In the second chart sketch the relationship between a gas dissolving (molarity) and temperature. Label the axis.

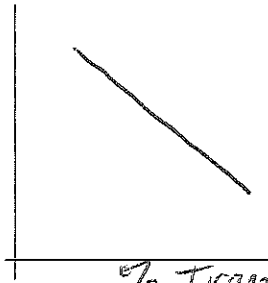


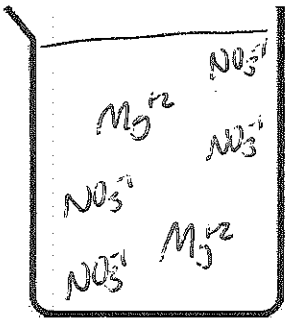
← As temperature increases solubility decreases

(As pressure increases solubility increases.)

Lab

8. In the chart given, sketch out the relationship between Concentration and % T of light. Label the axis. As concentration increases, %T decreases.





9. If another 100 ml of .5M $Mg(NO_3)_2$ to the beaker above.
   a. Write out the molecular equation for this process.
   b. Draw a picture of the aftermath.
   c. What is the concentration of the Mg^{2+} ion.

$Mg(NO_3)_2 \rightarrow Mg^{+2} + NO_3^{-1}$
0.5M 0.5M 1.0M

0.5 M Mg^{+2}