

## Short Quiz on Friday

Be able to do the following problems **quickly**.

You will need to show your work and you will be graded on whether or not you have the correct answer. No Partial Credit.

For molecules: grams → moles & moles → grams

- calculate molar mass of the molecule
- use the molar mass as a conversion ratio

Go from L → moles & moles → L when given the Molarity of a solution

Calculate % by mass, ppb by mass & ppm by mass when given the mass of the solute and the solution (At times you have to determine the mass of the solution by adding together 2 masses.)

- In ppb and ppm the amount of the solute is so small that you do not ever have to add in the mass of the solute to the mass of the sample or solution.
- In % by mass you have to be able to determine whether or not you need to add together two masses

A nonsense calculation using cancellation of units

*For Example.: A newt has a mass of 350 grams (1newt=350 g). Its toenails are 0.001% of it mass. (0.1 gram toenail/100 g newt) What is the total mass of the toenails on 2 newts?*

$$2.0 \text{ newts} \left( \frac{350 \text{ g newt}}{1 \text{ newt}} \right) \left( \frac{0.1 \text{ g toenail}}{100 \text{ g newt}} \right) = 0.88 \text{ g toenails}$$