CHM 161 – Chemistry for the Life Sciences

I will ask you "staged" questions as shown below.

An Acid/Base Problem

  a) Draw the products of the acid/base reaction between H_3PO_4 and potassium hydroxide.
  b) Balance the reaction.
  c) If you have 75.0 mL of 0.200 M H_3PO_4, how many moles do you have?
  d) How many moles of potassium hydroxide do you need to neutralize that amount of phosphoric acid?
  e) If you have 0.500 M KOH, how many mL do you need to neutralize that amount of phosphoric acid?

This question could read as follows: "How many mL of 0.500 M KOH is needed to neutralize 75 mL of 0.200 M H_3PO_4?"

Another Acid/Base Problem

  a) Draw and balance the acid/base reaction between magnesium bicarbonate and HBr.
  b) If you spill 250 mL of 2.80 M HBr on the floor, how many moles of HBr did you spill?
  c) According to you balanced equation in part a), how many moles of magnesium bicarbonate (solid) do you need to neutralize the spill (react with all the HBr)?
  d) How many grams of magnesium bicarbonate is this this?
  e) How many kilograms is this?

This question could read as follows: "How many kg of magnesium bicarbonate is needed to neutralize a 250 mL spill of 2.80 M HBr?"