

HONORS CHEMISTRY: STOICHIOMETRY IN SOLUTIONS

DATE: _____

Learning Activities: SWBAT...

...apply stoichiometric principles to solutions.

MANY IMPORTANT CHEMICAL REACTIONS TAKE PLACE IN AQUEOUS ENVIRONMENTS.

- Stoichiometry is needed to predict mass and mole amounts between reactants and products.
- Often multiple ways to approach a problem. Be sure to have a game plan before starting.
- Take the time to plan and organize your work. No credit for work that cannot be followed!

HOW TO RECOGNIZE SOLUTION STOICHIOMETRY PROBLEMS:

- Involve a complete chemical reaction in a solution (i.e. both products and reactants.)
- You'll be given info. about one chemical and be expected to determine information about another.
- This will require that you use mole-mole ratios at some point.

THESE PROBLEMS OFTEN REQUIRE:

- *A BALANCED EQUATION TO DETERMINE...*
- *CONCENTRATIONS AND VOLUMES TO DETERMINE...*
- *MOLAR MASSES TO DETERMINE...*
- *PRECIPITATION RULES TO DETERMINE...*
- *NET IONIC EQUATIONS TO DETERMINE...*

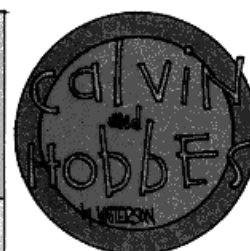
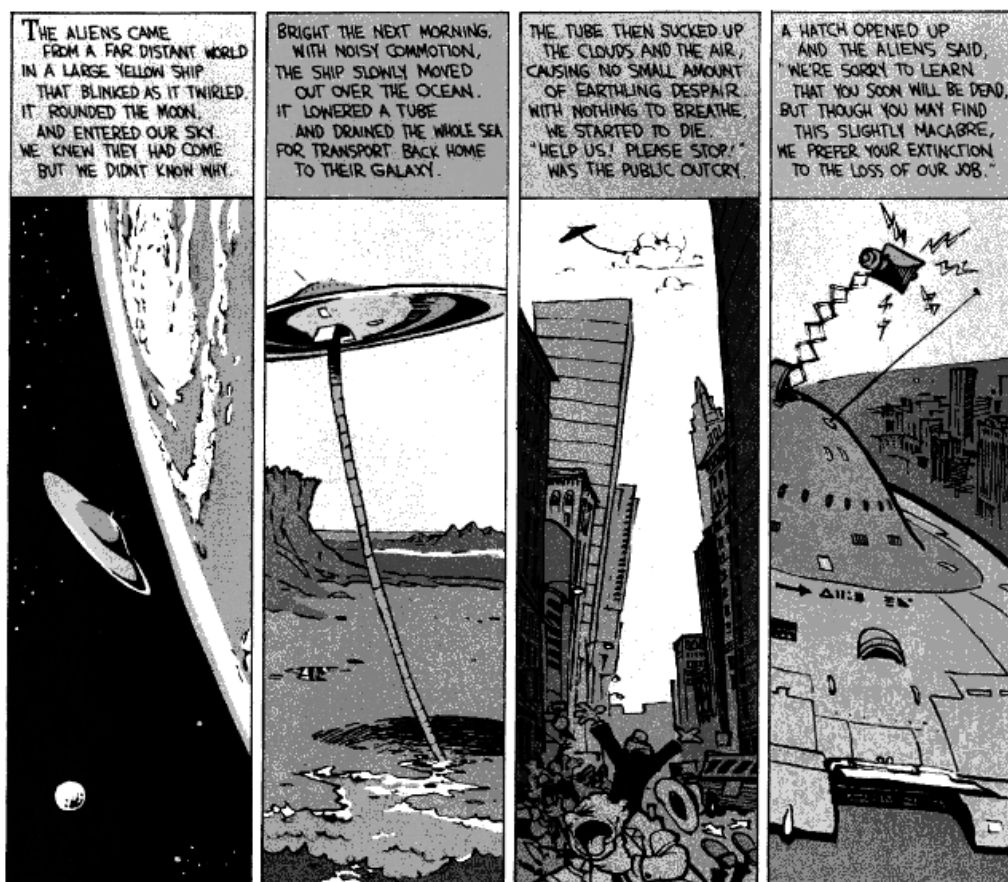
Watch out for limiting reactant problems. Be sure final answer is in the desired unit!

Try this... Mixing solutions of sodium sulfate and barium nitrate will produce an insoluble barium compound. What volume (in mL) of 0.25 M sodium sulfate would be needed to precipitate out all the barium found in 12.5 mL of 0.15 M barium nitrate?

Try this... 55.0 mL of 1.5 M calcium chloride solution is added to 125 mL of .950 M silver nitrate solution. How many milligrams of precipitate will form?



ANOTHER PERSPECTIVE



"A smooth sea never made a skilled mariner." ~ English Proverb