Properties and uses of Acids and Bases (Level 1) exam tips

• Litmus paper has only two colours - red in acid and blue in base

• Litmus paper doesn't change colour in a neutral solution; red litmus stays red and blue litmus stays blue

• Be familiar with the different colours of universal indicator

• Try to link the colour...with the pH number... with the ions... see image below



• Learn the formulas of the 3 main laboratory acids...
 Hydrochloric acid (aka hydrogen chloride) HCl

 Sulfuric acid (aka hydrogen sulfate) H2SO4

 Nitric acid (aka hydrogen nitrate) HNO3

|  |  |
| --- | --- |
| • | **acid + base 🡪 salt + water:** this is a neutralisation reaction |
| • | **acid + carbonate 🡪 salt + water + carbon dioxide:** this is also a neutralisation reaction |

• When writing balanced chemical equations always write the formula (*use little subscript numbers*) of

 each substance BEFORE balancing the whole equation (*with large numbers in front*)

• Water forms from H+ (hydrogen ions) from the acid joining with the hydroxide ions (OH-) from the base

|  |  |  |
| --- | --- | --- |
| • | "nitric acid, nitratesulfuric acid, sulfatehydrochloric makes chloridesthey're the salts acids make"*to the tune of Happy Birthday* | "carbonates make CO2and a salt, water toocarbonates make CO2with all acids"*to the tune of London Bridge* |
|  | *credit for the songs to Heather (AGGS)* |

Also…”don’t be daft”

HCl is HCl not hCl nor Hcl nor HCL

Sodium hydrogen carbonate (aka sodium bicarbonate) is a base

Litmus paper never, EVER turns green!

A neutral solution would have NO EFFECT on either red or blue litmus paper

RTQ2 - read the question twice!

If asked to make a salt using sulfuric acid then do! don't write about another acid in your answer

Acid + base 🡪 salt + water (NEVER, NOT EVER hydrogen)

Seeing BUBBLES is an OBSERVATION, a gas is formed is NOT

Check your balanced equations carefully...

Have you got the same NUMBER of atoms on the left (reactants) as on the right (products)

Attempt all questions, ALL and every part of each question

© <http://www.chemical-minds.com>