Misconception:

- **Identify those acidic food or drinks and state the acid that is probably contained in each of them ?**

Chinese dishes	Drinks	Fruits
Steamed chicken	Tea	Oranges
Sweet & sour pork	Cream soda	Pineapples
Crab ball with vinegar	Boiled water	

| Must need to remember [Daily Life & Acids]

Mistakes: Tanic Acid → Tannic Acid

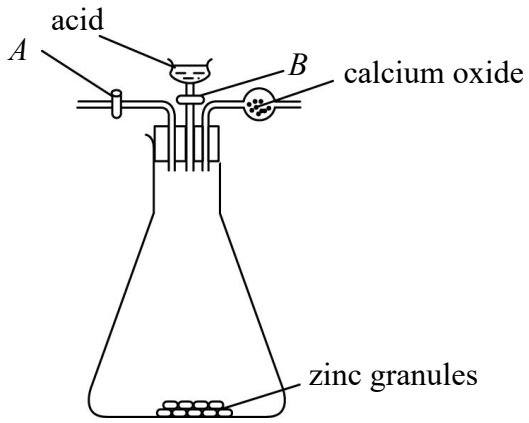
Ans:

Acidic food or drinks	Acid contained
Sweet & sour pork, Crab ball with vinegar	Ethanoic acid
Tea	Tannic acid
Cream soda	**Carbonic acid**
Oranges, **Pineapples**	**Citric acid**

| Organic acid : ethanoic acid, tannic acid, citric acid

| Inorganic acid : carbonic acid

- The apparatus shown in the diagram below is used to measure the mass of hydrogen gas released when an excess of acid reacts with a known mass of zinc granules.



The apparatus is weighed when it is empty and when it contains zinc granules. Excess acid is put into the tap funnel and the apparatus is weighed again. Tap *B* is opened to add all the acid to the zinc granules. When the reaction is complete, a slow stream of dry air is blown through Tap *A*. The apparatus is then weighed again

(1) Should Tap *A* and Tap *B* be kept open or closed as the reaction takes place?

My incorrect ans: TapA&B should be opened

Analyze: The reason ?

Mindset: What data do we need to get? → The mass of H_2 gas →When it open, what will happened

| If I keep it open, what is the usage of it.

|Always think about the usage and the aim|

(2) Why dry air has to blow through the apparatus?

My incorrect ans: **To ensure there is a suitable air pressure to collect the Gas**

Analyze: **The sense of Chemistry is not enough. → NEED TO ANALYZE DEEPER & DO MORE !**

Mindset: How can I weighted the collect H_2 Gas?

(3) What observation indicates the completion of the reaction

| NOT ONLY WRITE: All zinc granules are used up → Also need to describe the "How can I Know is used up"

| Correct: All the zinc granules have **dissolved** and no **effervescence**

(4) Suggest ONE reason for including the tube of calcium oxide in the apparatus?

| Always remember the usage of the CaO_2 is abs. water.

(5) Give ONE type of reaction, other than that of an acid on a metal, which leads to the formation of hydrogen gas. Write an equation for the reaction

| [REACTION between Group I Metal & Water]

"Necessary to make a formula list"

- **Find the reaction of the following:**

  " Cu + H_2SO_4 → "

  | There is NO REACTION → Do this kind of question : Always think about the possibility of reaction

  → *FINALLY, Find the reaction.*

- Find the ionic equation of the following Reaction:

  " ZnO + H_2SO_4"

  | 1. The reaction is Possible

  | 2.The reaction would form Salt & Water only

  | 3. Cross out the MOBILE SPECTATOR ION

  | Incorrect one: O^{2-} + $2H^+$ → H_2O

  | Correct one: ZnO + $2H^+$ → Zn^{2+} + H_2O

  | Reason: Since ZnO is not in mobile ion state ! [IS IN SOLID STATE]

- When lumps of calcium carbonate are added to solution *Y*, the *lumps sink to the bottom* and there are no signs of reaction. If water is then added, this also *sinks to the bottom* and *carbon dioxide gas begins to bubble off*. Explain the observations.

  " It is easy to explain why it would come out with CO_2, However,

  | Need to state that why it would sink to bottom !!

  | This is also important to know: {Density of methylbenzene < Water & $CaCO_3$}

- **What is the use of powdered stone in the cleaning process?**
  - **The Powered stone always act a abrasive → rubs away the dirt !**
- **What is the usage of inverted funnel in order to inject the HCl gas to water.**
  - **To increase the surface area to absorb HCl**
  - **To prevent the Gas sucking back**

    | Incorrect one: Spread out the distribution of dissolved HCl / ionized HCl

    | Incorrect one: To ensure all the Gas are dissolved / ionized in solution

    | How? How to ensure →Be more specific
- **Important: [If there is no change → Write No observable Change]**
  - Example: What would be observed when blue litmus paper dip into the solution of HCl and Methylbenzene?

    [No observable change]

    [Remain in Blue Color]
- What's the common usage of $Ca(OH)_2$?
  - Limewater can remove the Sulphur dioxide dissolved in the flue gases / **Neutralized the acidic flue gases**

Things need to be clear in mind

1. Long time expose of Alkali can further react with the CO_2 in the air

   | *Form Metal Carbonate*

   | X: ~~Bicarbonate~~ "Since Bicarbonate is not stable"
2. Formation of solid metal hydroxide may cause of decreasing of pH value
3. It is IMPOSSIBLE to obtain pure **| Sulphurous Acid & Carbonic Acid |** → **Weak Acid**

   | When it is heated → the gas (SO_2) & (CO_2) is given out → No pure of these two acid
4. The Chemical formula of caustic soda → NaOH
5. NaOH is a strong alkali which may break the glass