# Science

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(Chapter 2)(Acids, Bases and Salts)

**Class - 10** 

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## **Question 1:**

Why should curd and sour substances not be kept in brass and copper vessels?

### Answer 1:

Curd and other sour substances contain acids. Therefore, when they are kept in brass and copper vessels, the metal reacts with the acid to liberate hydrogen gas and harmful products, thereby spoiling the food.

$$Metal + Acid \rightarrow Salt + Hydrogen gas$$

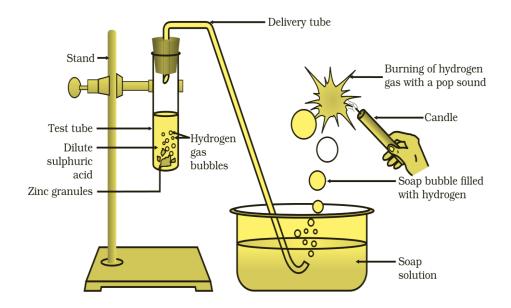
$$\underbrace{Zn}_{Metal} + \underbrace{2H_2SO_4}_{Acid} \longrightarrow \underbrace{Zn(SO_4)_2}_{Salt} + \underbrace{2H_2}_{Hydorgen}$$

## **Question 2:**

Which gas is usually liberated when an acid reacts with a metal? Illustrate with an example. How will you test for the presence of this gas?

### Answer 2:

Hydrogen gas is usually liberated when an acid reacts with a metal.



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Take few pieces of zinc granules and add 5 ml of dilute H<sub>2</sub>SO<sub>4</sub>. Shake it and pass the gas produced into a soap solution. The bubbles of the soap solution are formed. These soap bubbles contain hydrogen gas.

$$\underline{Zn} + \underline{2H_2SO_4} \longrightarrow \underline{Zn(SO_4)_2} + \underline{2H_2}$$
 $\underline{Zinc}$  Sodium Hydroxide Hydrogen

We can test the evolved hydrogen gas by its burning with a pop sound when a candle is brought near the soap bubbles.

# **Question 3:**

Metal compound A reacts with dilute hydrochloric acid to produce effervescence. The gas evolved extinguishes a burning candle. Write a balanced chemical equation for the reaction if one of the compounds formed is calcium chloride.

#### **Answer 3:**

$$\underbrace{\textit{CaCO}_3}_{\textit{Calcium Carbonate}} + \underbrace{\textit{2HCl}}_{\textit{Hydrochloric Acid}} \rightarrow \underbrace{\textit{CaCl}_2}_{\textit{Calcium Chloride}} + \underbrace{\textit{CO}_2}_{\textit{Carbondioxide}} + \underbrace{\textit{H}_2\textit{O}}_{\textit{Water}}$$

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