

## Acids, Bases and Salts

### Solution 1.a:

	Acids	Bases
1.	Acids are sour in taste.	Bases have a sharp astringent taste.
2.	Acids turn blue litmus paper red.	Bases turn red litmus paper blue.
3.	They are not soapy to touch.	They are soapy to touch.
4.	Acids contain $H^+$ ions.	Bases contain $OH^-$ ions.
5.	Examples: Hydrochloric acid, sulphuric acid, acetic acid, tamarind, buttermilk	Examples: Sodium hydroxide, calcium hydroxide, baking soda, lime, soap

### Solution 1.b:

An indicator reacts with an acid or a base. Salt is a neutral substance, so an indicator will not react with it.

### Solution 1.c:

Salt and water are formed as a result of a neutralisation reaction.

### Solution 1.d:

A base is a substance which has sharp and astringent taste and is soapy to touch. A base which dissolves in water is called an alkali. All alkalis are bases, but all bases are not alkalis.

### Solution 2:

- The main constituent of an acid is H.
- The main constituent of a base is OH.
- Tartaric acid is a weak acid.
- To get acidic salts, strong acids are used.

**Solution 3:**

Group 'A'	Group 'B'
(a) Tamarind	3. Tartaric acid
(b) Yoghurt	4. Lactic acid
(c) Lemon	2. Citric acid
(d) Acetic acid	1. Vinegar

**Solution 4:**

- True
- False. Common salt is neutral.
- True
- False. Salts are formed by the neutralisation reaction between acids and bases.
- True

**Solution 5:**

- $\text{Na}_2\text{CO}_3$  is a base, whereas  $\text{HNO}_3$ ,  $\text{H}_2\text{SO}_4$  and  $\text{HCl}$  are acids.
- $\text{H}_2\text{O}$  is neutral, whereas  $\text{MgO}$ ,  $\text{CaO}$  and  $\text{Na}_2\text{O}$  are metal oxides.
- $\text{CH}_3\text{COOH}$  is an acid, whereas  $\text{NaHCO}_3$ ,  $\text{NaOH}$  and  $\text{NH}_4\text{OH}$  are bases.
- $\text{C}_{12}\text{H}_{22}\text{O}_{11}$  is a sugar, whereas  $\text{NaCl}$ ,  $\text{KCl}$  and  $\text{CuSO}_4$  are salts.
- $\text{CH}_3\text{COOH}$  is a weak acid, whereas  $\text{HCl}$ ,  $\text{H}_2\text{SO}_4$  and  $\text{HNO}_3$  are strong acids.

**Solution 6:**

1. Acidic substances:  $\text{HCl}$ ,  $\text{H}_2\text{SO}_4$ ,  $\text{HNO}_3$
2. Basic substances:  $\text{KCl}$ ,  $\text{MgO}$ ,  $\text{CaO}$ ,  $\text{Na}_2\text{CO}_3$
3. Neutral substances:  $\text{NaCl}$ ,  $\text{H}_2\text{O}$