

CLASS 10 SCIENCE

# Chapter 2 — Acids, Bases and Salts

CHEMISTRY  
IS FUN!

BUBBLING  
IDEAS!

"The  
best way to  
predict the  
future is to  
understand  
the present."

Quick Revision Notes

Acids

Bases

Salts

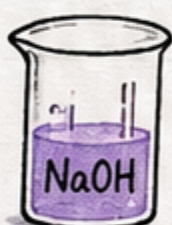
pH Scale

Neutralisation



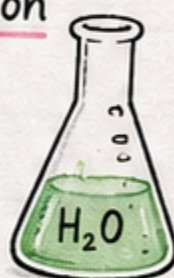
Acid  
(donates  $H^+$ )

+



Base  
(donates  $OH^-$ )

Neutralisation  
Reaction



+



NaCl  
Salt

Litmus Paper

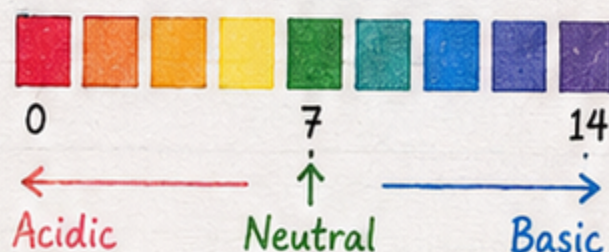


Acid turns blue  
litmus red



Base turns red  
litmus blue

pH Scale



Lower pH → More Acidic

Higher pH → More Basic

@DiagramDidi



# Introduction to

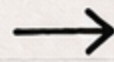


# Acids and Bases



- Acids are **sour** in taste.
- Bases are **bitter** in taste.
- Acids turn **blue** litmus **red**.
- Bases turn **red** litmus **blue**.
- Litmus is a natural indicator.
- Turmeric** acts as indicator.
- Soap** changes turmeric stain **reddish-brown**.
- Synthetic indicators: methyl orange and phenolphthalein.

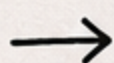
Blue litmus



Red litmus



Red litmus



Blue litmus

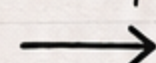


Turmeric stain



Yellow

+ Soap



Reddish-brown



Indicators help identify acids and bases. ♥

Remember

Indicators show different colours in acids and bases. ♥

## Comparison ♥

| Type | Taste     | Effect on Litmus   |
|------|-----------|--------------------|
| Acid | Sour 😊    | Blue litmus to Red |
| Base | Bitter ☹️ | Red litmus to Blue |



@DiagramDidi ✨





# Acid-Base



## Indicators & Olfactory

### Indicators



- Litmus solution is extracted from lichen.
- It is purple in neutral solution.

#### Did You Know?

Lichens are a combination of algae and fungi. ♥

### Natural Indicators

- Red cabbage leaves
- Turmeric
- Hydrangea
- Petunia
- Geranium



### Olfactory Indicators

- Vanilla
- Onion
- Clove



They are detected through our sense of smell! ♥

**INDICATORS** → Change color or smell in acidic / basic media.



### Natural Indicators

- Obtained from natural sources like plants, flowers, etc.
- Generally safe and eco-friendly.
- May give a range of colours.
- Examples: Red cabbage, Turmeric, Hydrangea, Petunia, Geranium

VS

### Synthetic Indicators

- Made in the laboratory by chemical methods.
- Highly accurate and reliable.
- Show sharp colour changes.
- Examples: Litmus, Methyl orange, Phenolphthalein, etc.



Science is all about observing, smelling and understanding! ♥



Smell is also a signal in science! ♥