

Types of Colloids

Emulsion/ Solid Emulsion

What Is an Emulsion?

An emulsion is a colloidal mixture of two or more liquids that normally don't mix.



Mayonnaise



Butter



Milk



Salad Dressing



Moisturizer

sciencenotes.org

Sol / Solid Sol



o SOLS

- a solid dispersed in either a solid or a liquid

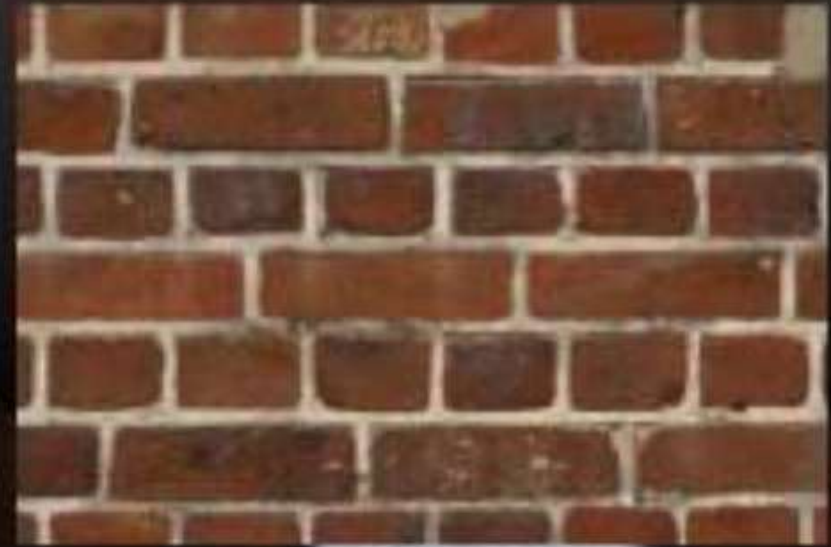
Foam and Solid Foam

Foams

Foams are composed of small bubbles of gas (usually air) dispersed in a liquid, e.g. egg white foam. As liquid egg white is whisked, air bubbles are incorporated.

The mechanical action causes albumen proteins to unfold and form a network, trapping the air.

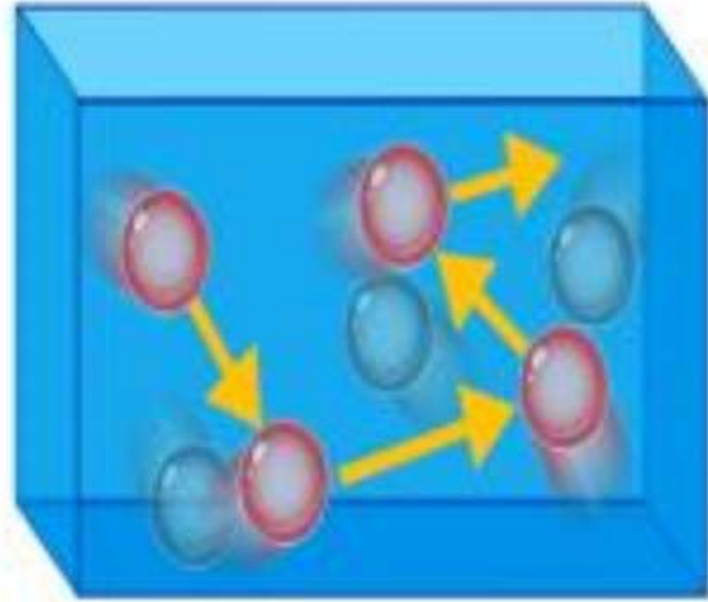
If egg white is heated, protein coagulates and moisture is driven off. This forms a solid foam, e.g. a meringue. Ice cream, bread and cake are other examples of solid foams.



Types of Colloids

Examples	Dispersing Medium	Dispersed Substance	Colloid Type
Fog, aerosol sprays	Gas	Liquid	Aerosol
Smoke, airborne bacteria	Gas	Solid	Aerosol
Whipped cream, soap suds	Liquid	Gas	Foam
Milk, mayonnaise	Liquid	Liquid	Emulsion
Paint, clays, gelatin	Liquid	Solid	Sol
Marshmallow, Styrofoam	Solid	Gas	Solid foam
Butter, cheese	Solid	Liquid	Solid emulsion
Ruby glass	Solid	Solid	Solid sol

the random movement of particles in a colloid caused by collisions between the particles



Brownian motion

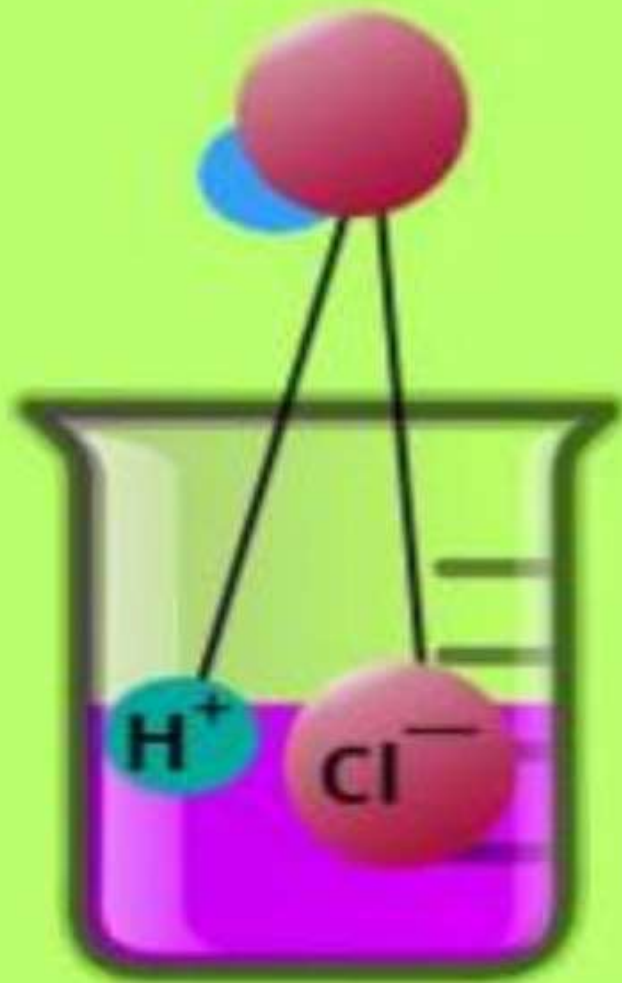
Game Smart! By: Hossain



अम्ल क्षार और लवण

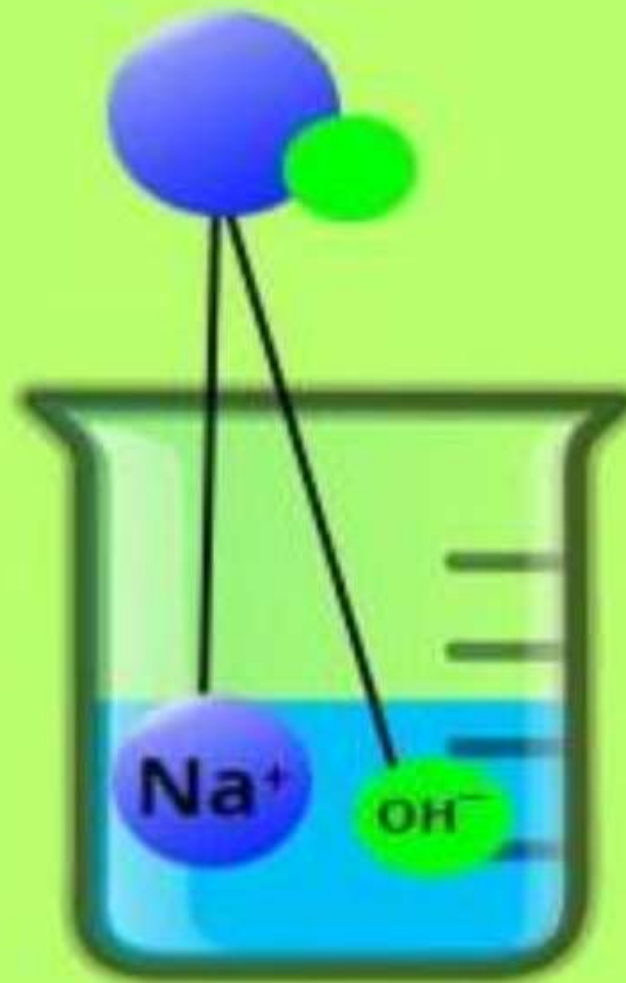


HCL



(a) Acid

NaOH



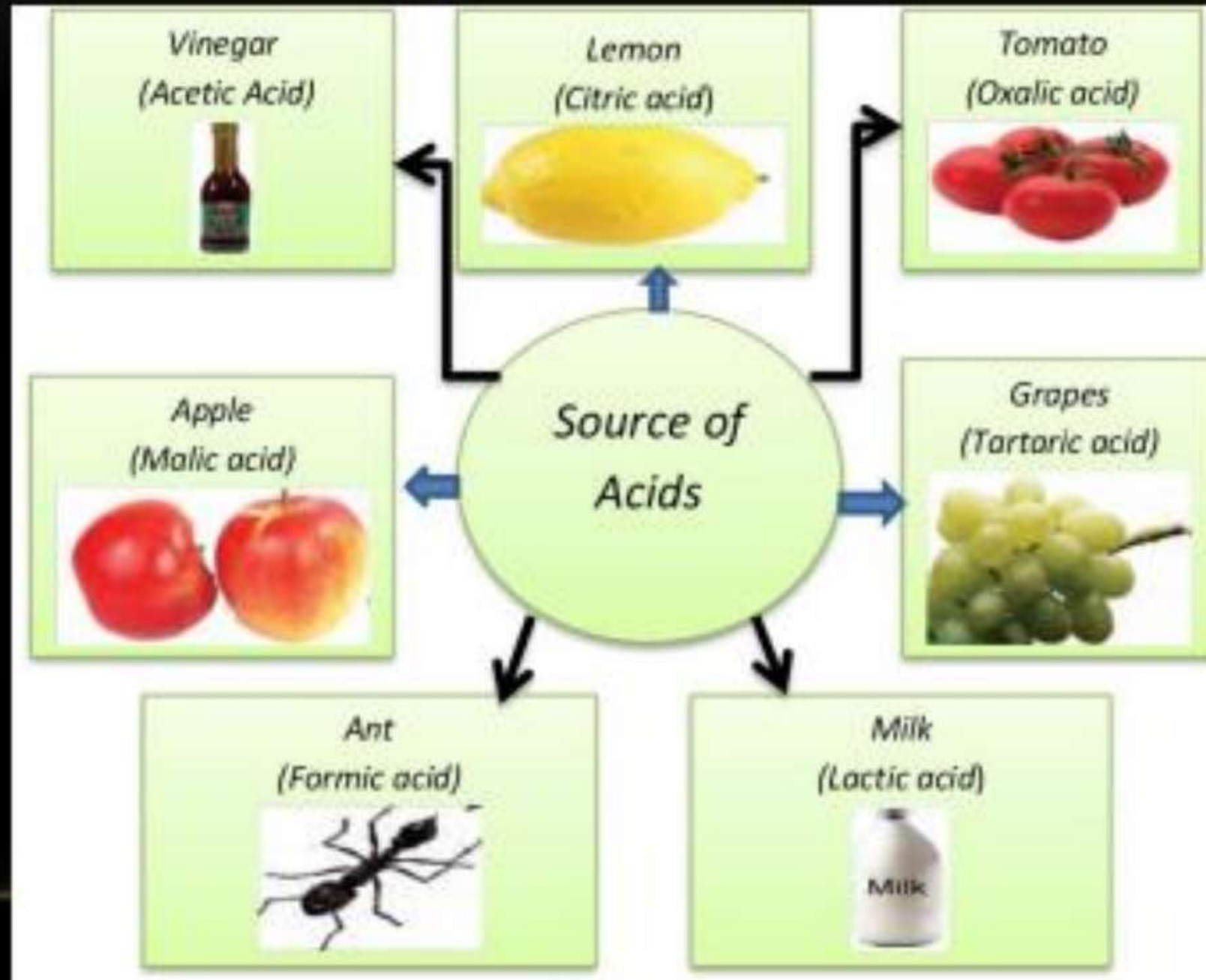
(b) Base

NaCL



(c) Salt

अम्ल और उसका परिचय



प्रमुख अम्ल और उनके प्राकृतिक स्रोत

Hydrochloric Acid

→ पेट / पाचन

Nitric Acid

→ फोटोग्राफी

→ धातु नवकाशी



Oxalic Acid

→ दाग-धब्बे

→ रमाहर

→ पालक / भरीकी
की पत्ती



Benzoic Acid

Medicine

खाद्य परिरक्षण



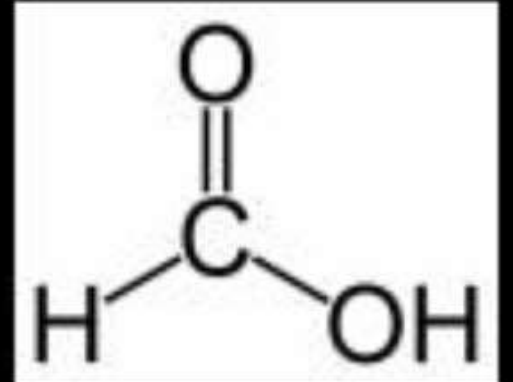
Formic Acid

वाँ ततैया डंक
चीरी

विरघू के डंक

पीपल रोखी

फस संरक्षण



Glutamic Acid

दाल / High Protein Rich

मदनी / मांस



Orthophosphoric Acid

→ फॉस्फोरिक अम्ल बनाने

Tannic Acid

→ दवाऔ Antioxidant

→ Skin सुरक्षा

Acetic Acid

→ खाद्य सुरक्षा

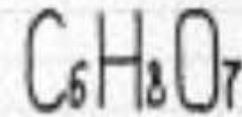
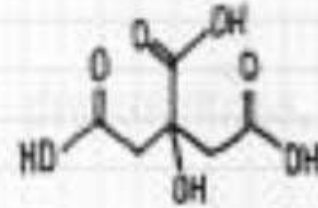
→ सिरका



Citric Acid

जैसे फलों

Citric acid

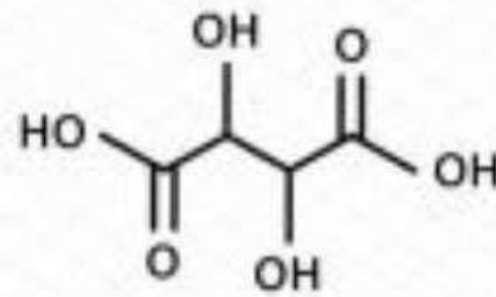


Tartaric Acid

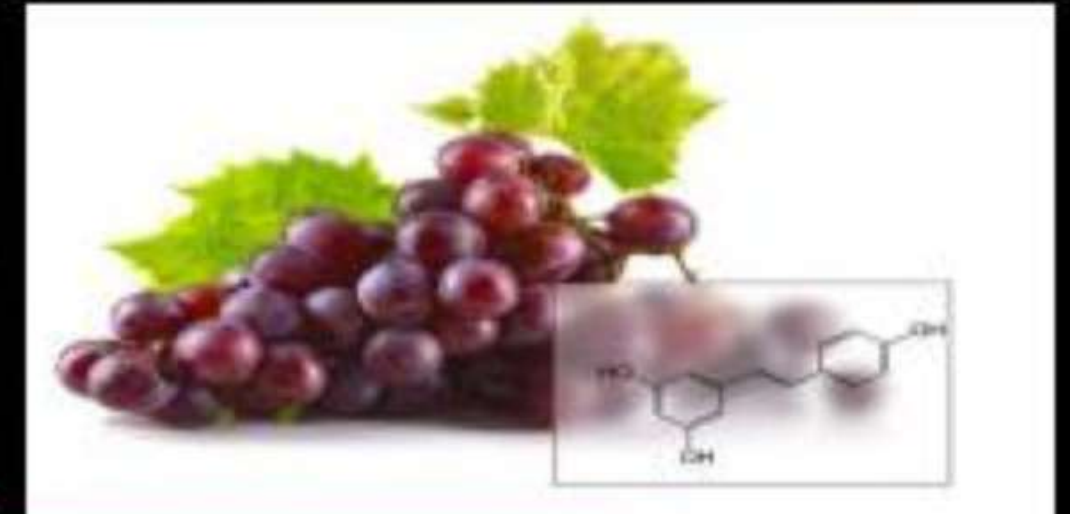
इमली

फलों

अंगूर



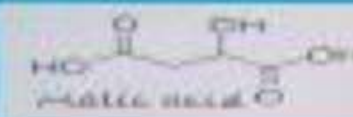
Tartaric acid
 $C_4H_6O_6$



Maleic Acid

सेब

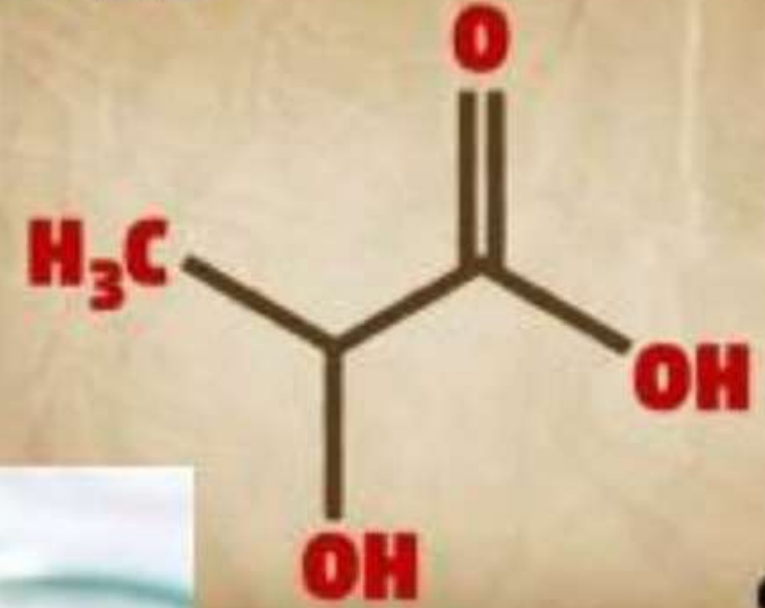
पत्ते की पत्ती



Lactic Acid

दही
दही / क्रेम
मोमपेक्षियों जमाव

LACTIC ACID



C₃H₆O₃

Butyric Acid

मक्खन / मूंगफली



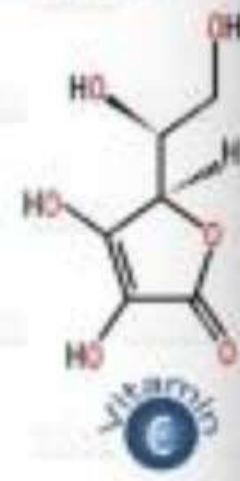
Ascorbic Acid

विटामिन C

जुड़ते नींदे चमको

Ascorbic acid

C₆H₈O₆

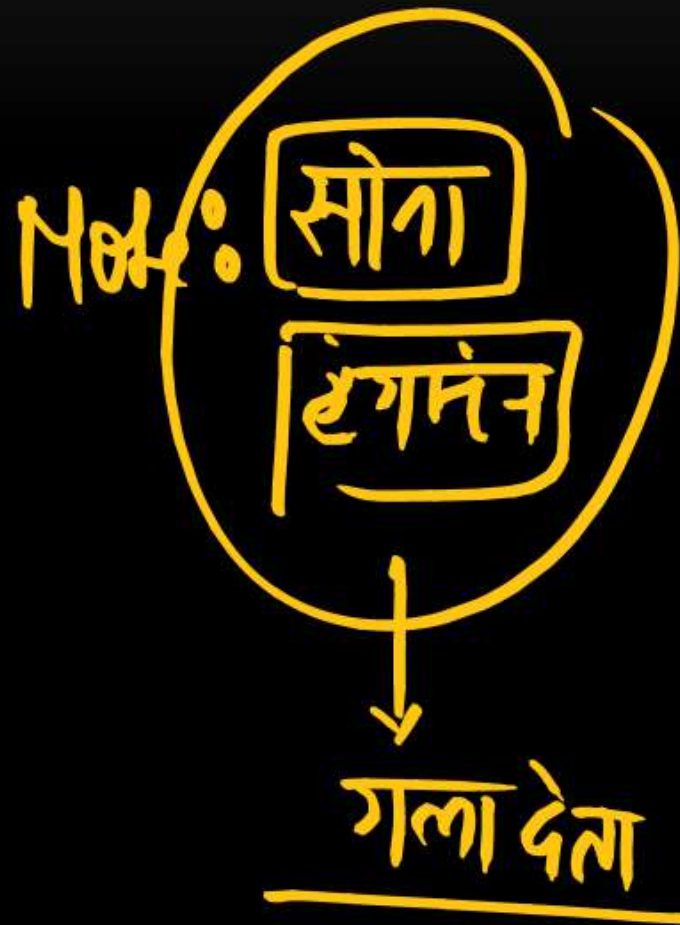


Aqua regia



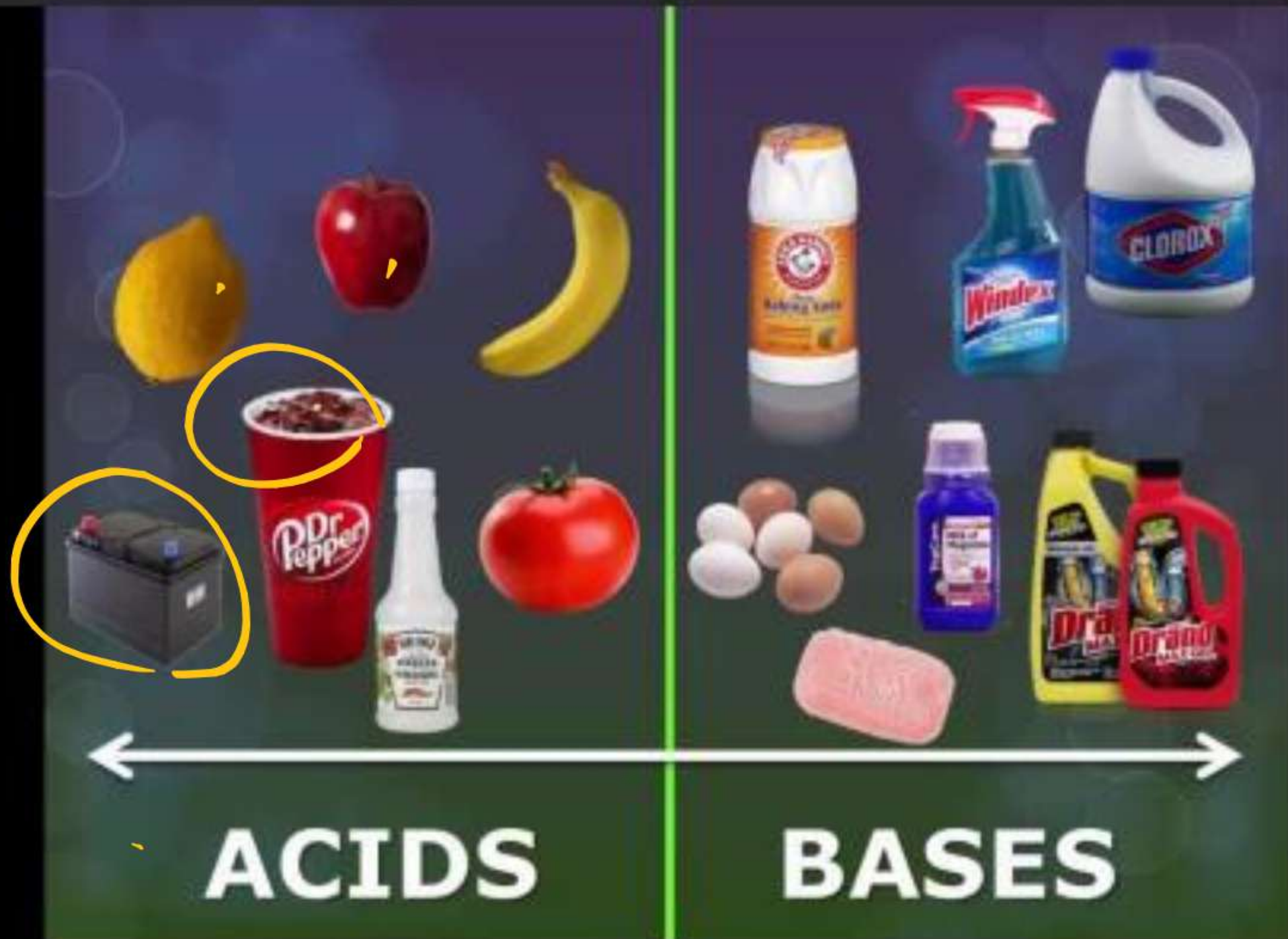
मिश्रण

अम्लराव



लाइटेनियम/इरीडियम

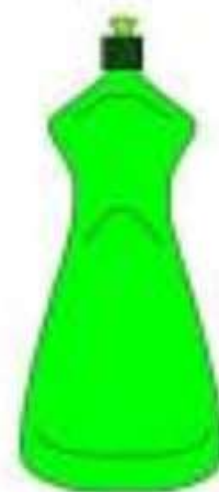
Metal vs नहीं गला कर पाता



क्षार और सामान्य परिचय

Some Properties of Bases

- ✓ Produce OH^- ions in water
- ✓ Taste bitter, chalky कड़वा/कमैला
- ✓ Are electrolytes
- ✓ Feel soapy, slippery साबुन की तरह
- ✓ React with acids to form salts and water
- ✓ pH greater than 7
- ✓ Turns red litmus paper to blue "Basic Blue"



त्रिले

7+

लाल



Acid Base Indicator

Acid & Base

गणितीय सूचक

मेथिल ऑरेंज

फिनाफ्थेलीन

प्राकृतिक सूचक

हल्दी

लिटमस पेपर

गुड़हल का फूल

कुन्धाफली



क्षार के प्रमुख उदाहरण

अमोनियम
हाइड्राक्साइड



सीमा भाक

कोलिन

सोडियम हाइड्रॉक्साइड → नहाने का साबुन (Na)

पोटेशियम हाइड्रॉक्साइड

शैम्पू (K)

बालको पतल

कैल्शियम हाइड्रॉक्साइड

पूत का पानी ✓ कलमी

मैग्नीशियम हाइड्रॉक्साइड

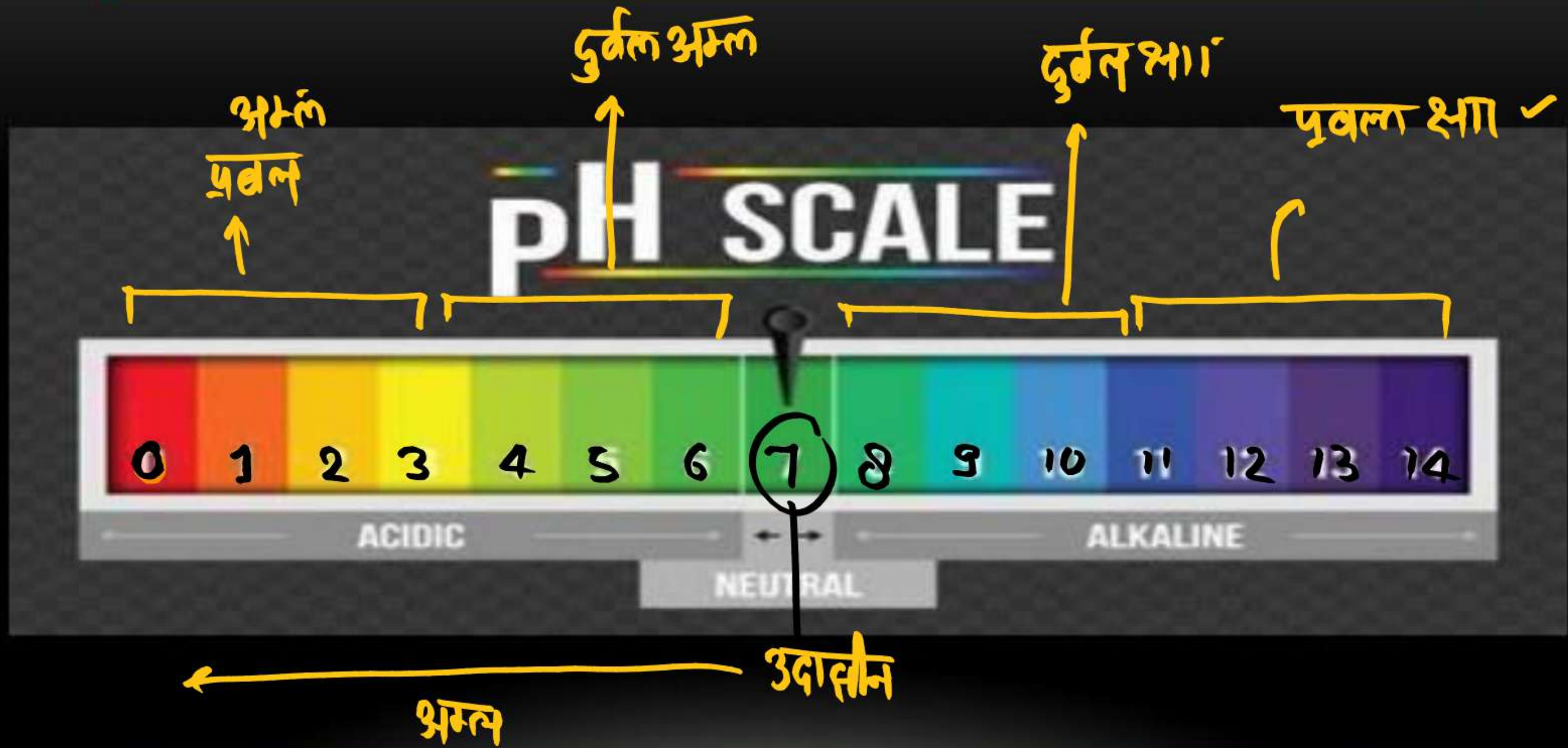
संलेमिड

मिलर ऑफ मैग्नीशिया

पेह से Acidity को दूर

PH value

પૌષ્ટિકીય અને હાઇડ્રોજન



PH मान

① सांद्र HCl $\longrightarrow$ 0

② तनु HCl $\longrightarrow$ 1

③ अमाशप (HCl) $\longrightarrow$ (2-3)

④ नींबूका रस $\longrightarrow$ 2.2-3.2

⑤ सिरका $\longrightarrow$ (3)

बाइन $\longrightarrow$ 3

कीटा $\longrightarrow$ 4

तमास $\longrightarrow$ 4

प्राप/कार्पा $\longrightarrow$ 5-5.5

अम्ल वर्ण $\longrightarrow$ 5.3-5.6

मूत्र $\longrightarrow$ 6-8

Milk $\rightarrow$ 6.5

रक्त $\rightarrow$ 7.35 - 7.45

लाट $\rightarrow$ 6.8 - 7.5

जाने से पहले

जाने के बाद

Milk & Magnesium $\rightarrow$ 10.5

अमोनिया $\rightarrow$ 12,

सांद्र NaOH $\rightarrow$ 14

शुद्ध जल $\rightarrow$ 7

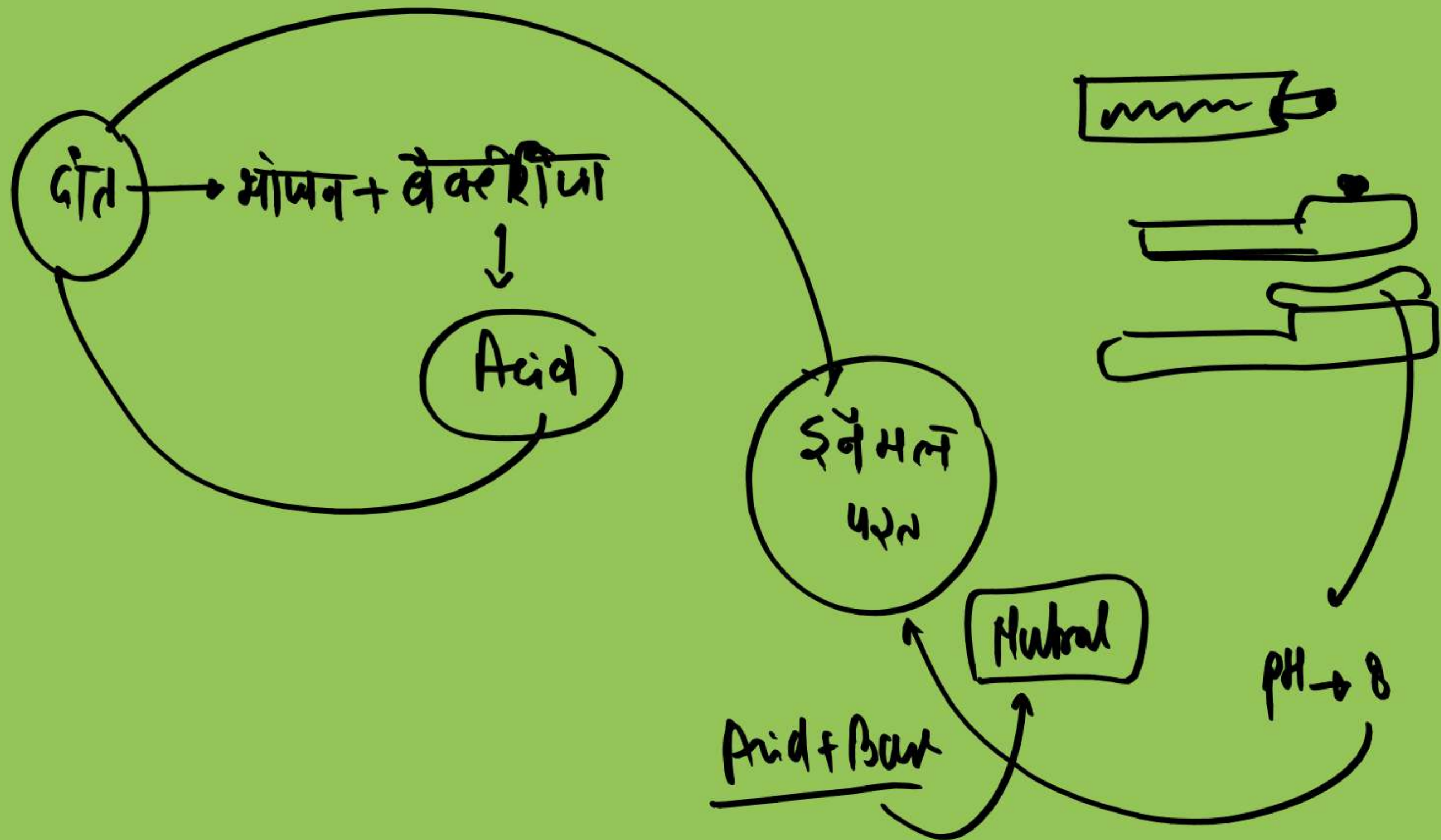
1 मक $\rightarrow$ 7

आम्र $\rightarrow$ 7.5

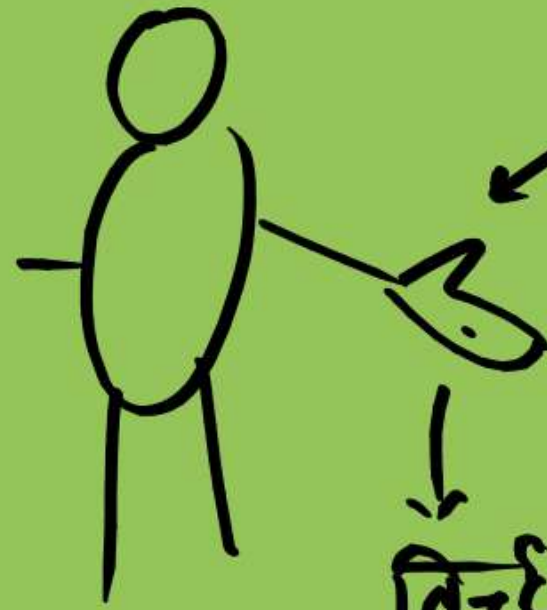
समुद्री जल $\rightarrow$ 8.5

दंत मंत्र $\rightarrow$ 8

Note:



Note:



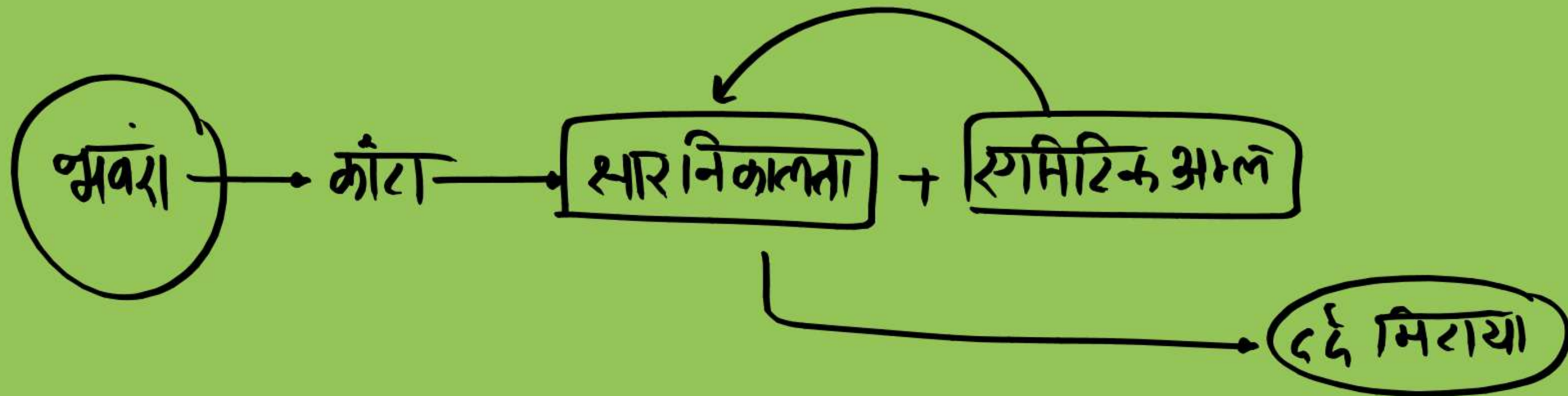
विन्डू
वर्
तलैजा
मधुमकी

फार्मिक अम्ल +

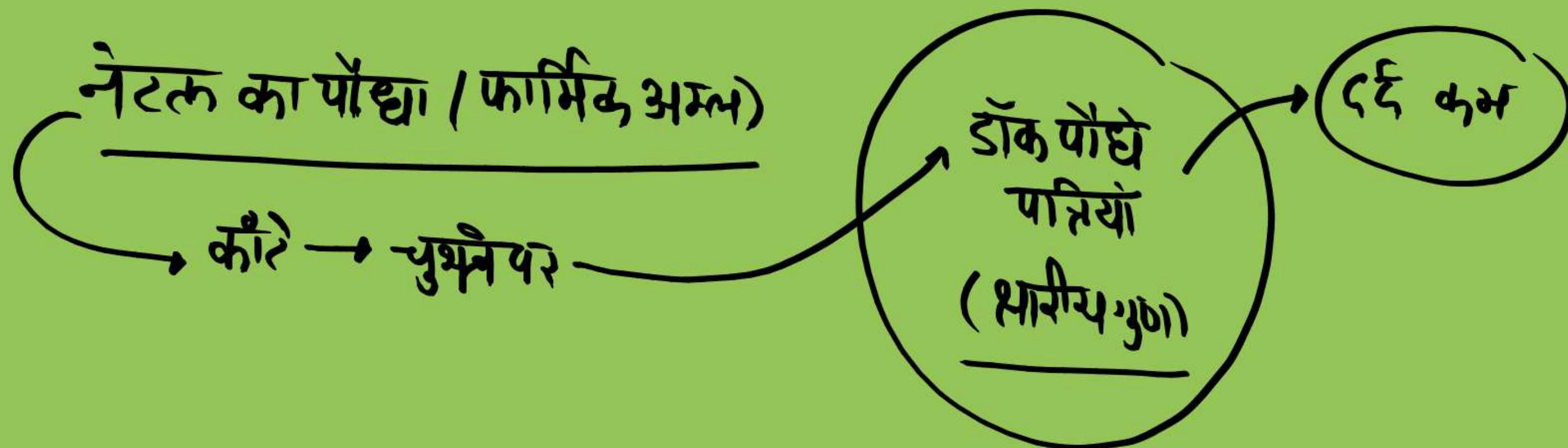
बैकिंग सोडा
सोडियम बाइ कार्बोनेट

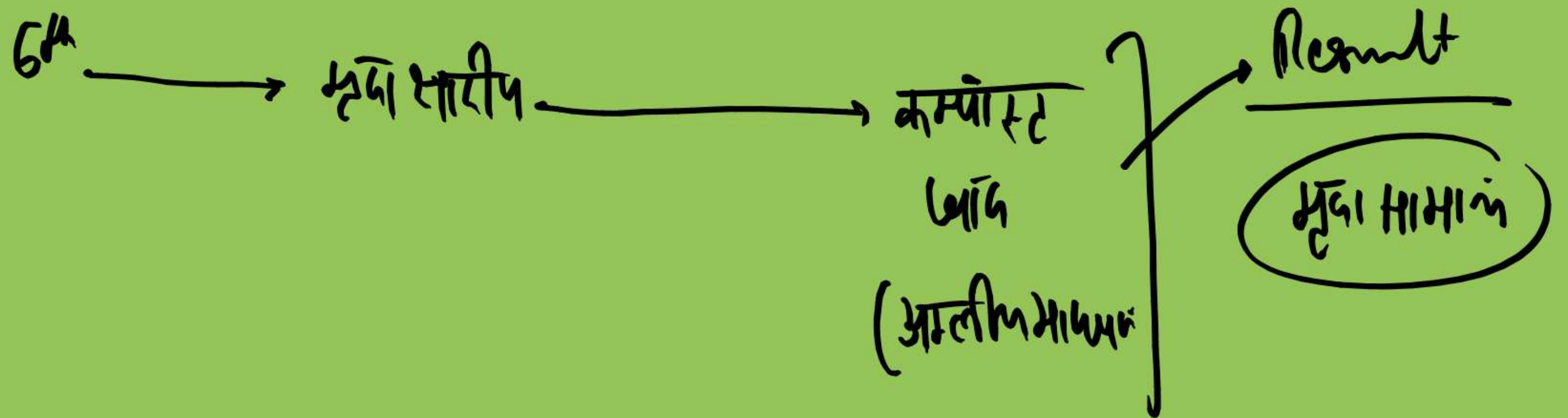
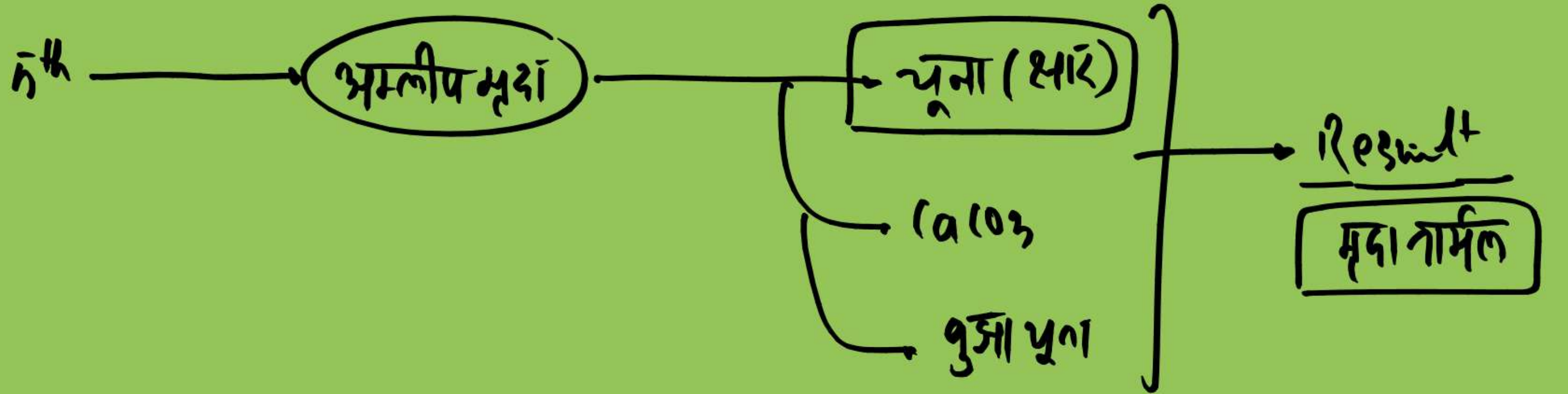
Salt
Neutral
दद कम

3th

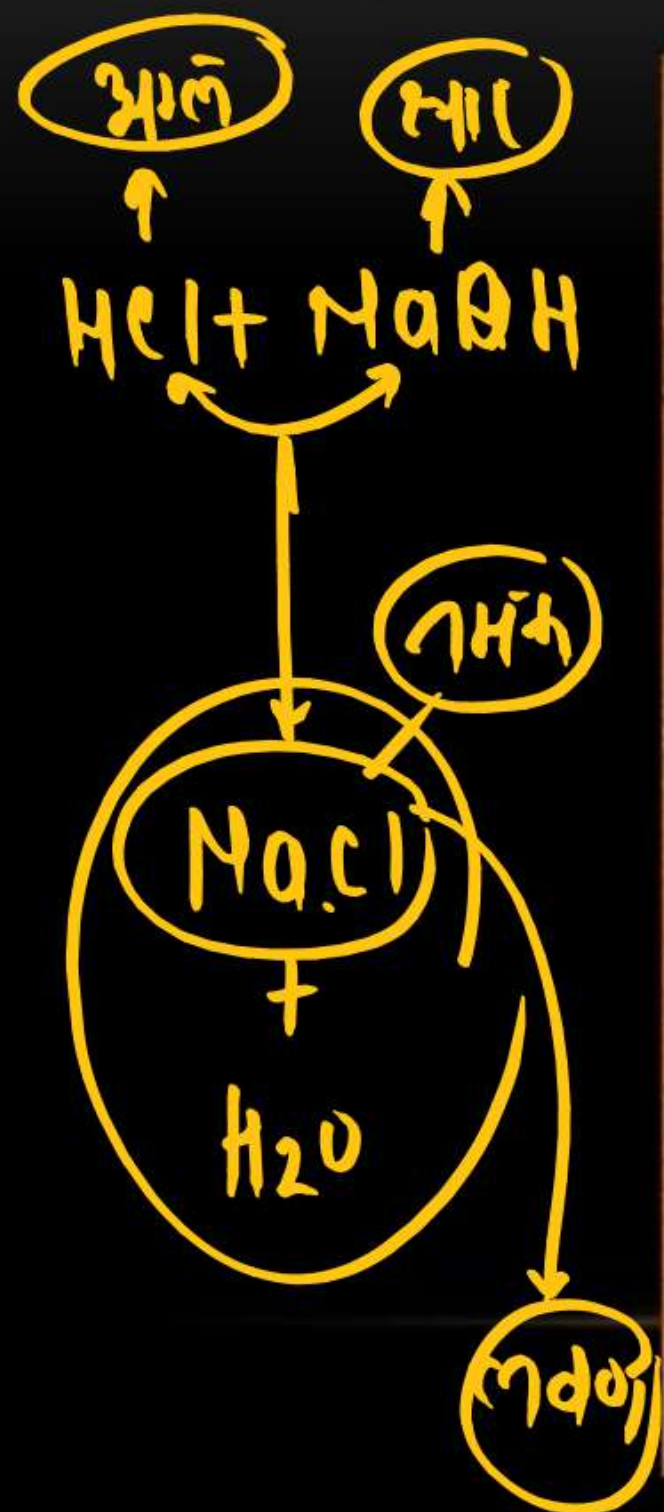


4th





Salts



Acid	Base	Salt	Example
Strong ✓	Strong ✓	Neutral	$\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ ✓
Strong	Weak	Acidic	$\text{HCl} + \text{NH}_4\text{OH} \rightarrow \text{NH}_4\text{Cl} + \text{H}_2\text{O}$ ✓
Weak	Strong	Basic	$\text{CH}_3\text{COOH} + \text{NaOH} \rightarrow \text{CH}_3\text{COONa} + \text{H}_2\text{O}$ ✓
Weak	Weak	Neutral	$\text{CH}_3\text{COOH} + \text{NH}_4\text{OH} \rightarrow \text{CH}_3\text{COONH}_4 + \text{H}_2\text{O}$ ✓