



3055 BA SANGAM COLLEGE

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WORKSHEET 18

School: Ba Sangam College

Name: _____

Subject: Basic Science

Year/Level: 9

Strand 2	Matter
Sub Strand 2.1	Materials
Content Learning Outcome	Investigate how the properties and interactions of materials influence their use.

Lesson Notes – ACIDS AND BASES

Acids:

- Organic acids- found in plants or animals.
- Mineral acids- commonly used in laboratories and industries.
 - Known for their corrosive nature and must be handled with care.

Properties of Acids:

- Corrosive- burns your skin
- Have sour taste (eg lemon, vinegar) DO NOT TASTE ACIDS IN THE LABORATORY.
- Contain hydrogen ions (H^+) when dissolved in water
- Have pH less than 7
- Turns blue litmus paper red.
- Reacts with alkalis to form salt and water
- Reacts with metals to form hydrogen gas.
- Reacts with carbonates to form carbon dioxide gas.

Acid	Formula	Uses
Acetic acid or ethanoic acid	CH_3COOH	Preserving food and for cooking. Found in vinegar and used to be made by the souring of wine.
Citric acid Ascorbic acid	$C_6H_8O_7$ $C_6H_8O_6$	Making health food. Found in many fruit and vegetables, particularly citrus and source of Vitamin C.
Hydrochloric acid	HCl	Cleaning metallic surfaces before they are coated. Found in the stomach and called spirits of salts. A mixture of hydrochloric and nitric acids is known as “aqua regia” – literally ‘royal water’ because the mixture is the only substance that will dissolve gold.
Sulphuric acid	H_2SO_4	Function as electrolyte in batteries, electroplating, making plastics and fertilizers.

Nitric acid	HNO_3	Manufacture of nitrogen-based fertilizers and explosives.
Carbonic acid	H_2CO_3	Very weak acid formed when carbon dioxide dissolves in water. When carbon dioxide in the air dissolves in rain, it dissolves in limestone (calcium carbonate)
Phosphoric acid	H_3PO_4	Making fertilizers and inhibiting the rusting of iron.

Test for Hydrogen Gas

Introduce a burning splint into a tube containing the gas. Hydrogen gas is identified by a 'pop' sound.

Test for Carbon dioxide gas

Pass some carbon dioxide gas through clear limewater. Carbon dioxide is identified by the limewater turning milky or by the formation of a white precipitate

Exercise

1. State two properties of acids.

(2 marks)

2. State the differences between mineral acids and organic acids

(2 marks)

3. State one use of hydrochloric acid.

(1 mark)

4. Name the chemical used to test for the presence of carbon dioxide.

(1 mark)

5. State the result when chemical in (Q4) is used if carbon dioxide is present.

(1 mark)

