

PRODUCING AND TESTING FOR GASES

Purpose: To produce two different gases by chemical changes and use standard tests to identify each gas.

Materials and Methods: **WEAR SAFETY GLASSES, HAIR TIED BACK**

- Place 5 mL of **hydrogen peroxide** into a clean test tube. Add a pinch of **manganese dioxide** to the hydrogen peroxide. After 10-15 s, lower a glowing splint into the test tube. Observe and record.
- Carefully pour 5 mL of **hydrochloric acid** into a clean test tube. Use a pair of tongs to add a piece of **magnesium** to the acid. After 10-15 s, bring a blazing splint to the mouth of the test tube. Observe and record.

Observations:

Reactants	Appearance before reaction	Description of reaction	Result of splint test	Gas produced

Test for Hydrogen Gas

Insert a blazing (burning) wood splint into a small amount of the gas. If there is a “pop” or explosion, the gas is likely hydrogen.

Test for Oxygen Gas

Insert a glowing splint (not blazing) into a small amount of the gas. If the splint glows brighter or bursts into flame, the gas is likely oxygen.

Test for Carbon Dioxide Gas

When carbon dioxide gas is mixed with clear, colourless limewater solution, the limewater turns cloudy or milky. No other gas causes this change.