

# **Effect of Catalase in Different Fruits**

# **Aim**

The aim of this experiment is to investigate how different fruits respond to hydrogen peroxide by measuring the bubbling that occurs, which indicates catalase enzyme activity and helps compare the levels among fruits.

# Hypothesis

If a fruit contains more catalase, then it will produce stronger bubbling when hydrogen peroxide is added. Fruits with lower catalase or higher acidity will show weaker bubbling reactions.

# Statement of Problem

Different fruits show different bubbling reactions when exposed to hydrogen peroxide, but the cause of these variations is unclear. This study aims to determine what factors influence catalase activity in fruits.

# **Design of Study**

This experiment uses a controlled comparative method. All fruits are cut into equal sizes and treated with the same amount of hydrogen peroxide to ensure fair comparison of enzyme activity.

# Materials

Apple

Banana

Mango

Grapes

Orange

Watermelon

Hydrogen Peroxide

Knife

Spoon

Bowls

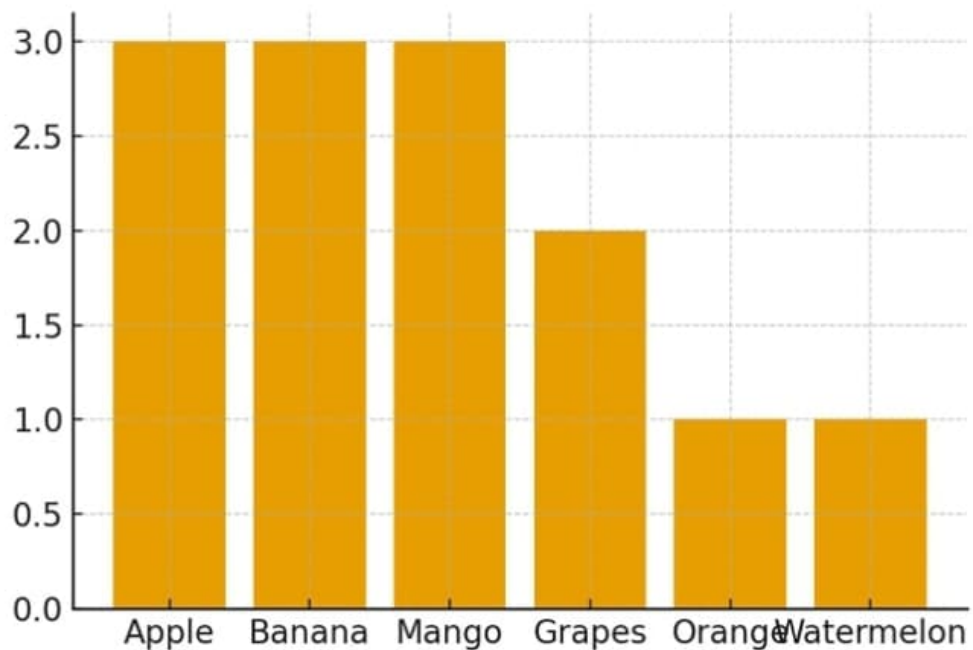
# Procedure

1. Cut equal pieces of each fruit.
2. Place each fruit in separate bowls.
3. Add equal amounts of hydrogen peroxide.
4. Observe the bubbling reaction.

## Catalase Activity – Grid Table

Fruit / Sample	Catalase Activity Level	Observation Summary
Control	High	Strong bubbling reaction
Lemon	Low	Very little bubbling; high acidity reduces catalase
Orange	Medium	Moderate bubbling
Apple	Fair / Moderate	Visible bubbling
Banana	High	Strong bubbling
Mango	High	Strong reaction
Grapes	Medium	Medium bubbling
Watermelon	Low	Very weak bubbling

# Graph







## Real-Life Connections

- Apples browning  
→ enzyme activity
- Lemon juice  
reduces browning  
→ acidic pH  
slows enzymes

# Result

Apple, Banana, and Mango produced strong bubbling, showing high catalase activity. Grapes showed medium activity, while Orange and Watermelon produced very little bubbling.

# Conclusion

Catalase activity varies among fruits due to differences in enzyme concentration, acidity, and water content. High-catalase fruits react strongly, while acidic or watery fruits show weaker reactions.