

BIOLOGY PROJECT

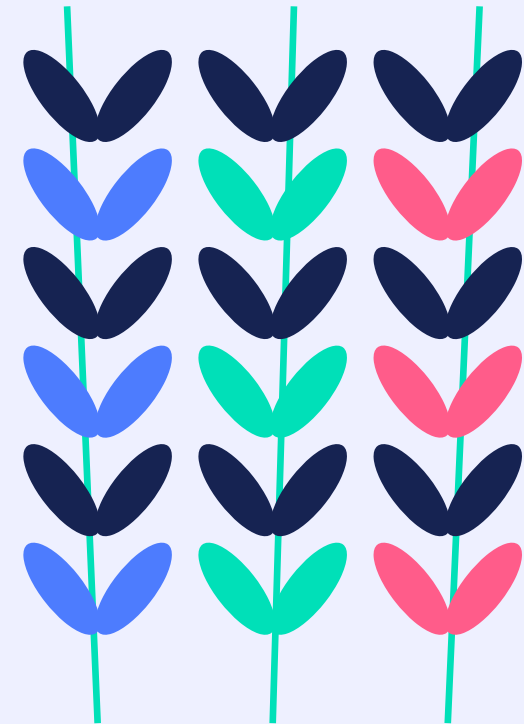
Photosynthesis

How plants turn light into food

PRESENTED BY
Student Name

SUBJECT
Biology

CLASS / YEAR
Class XI



02 | Agenda

01 Introduction

02 Concepts

03 Experiment

04 Applications

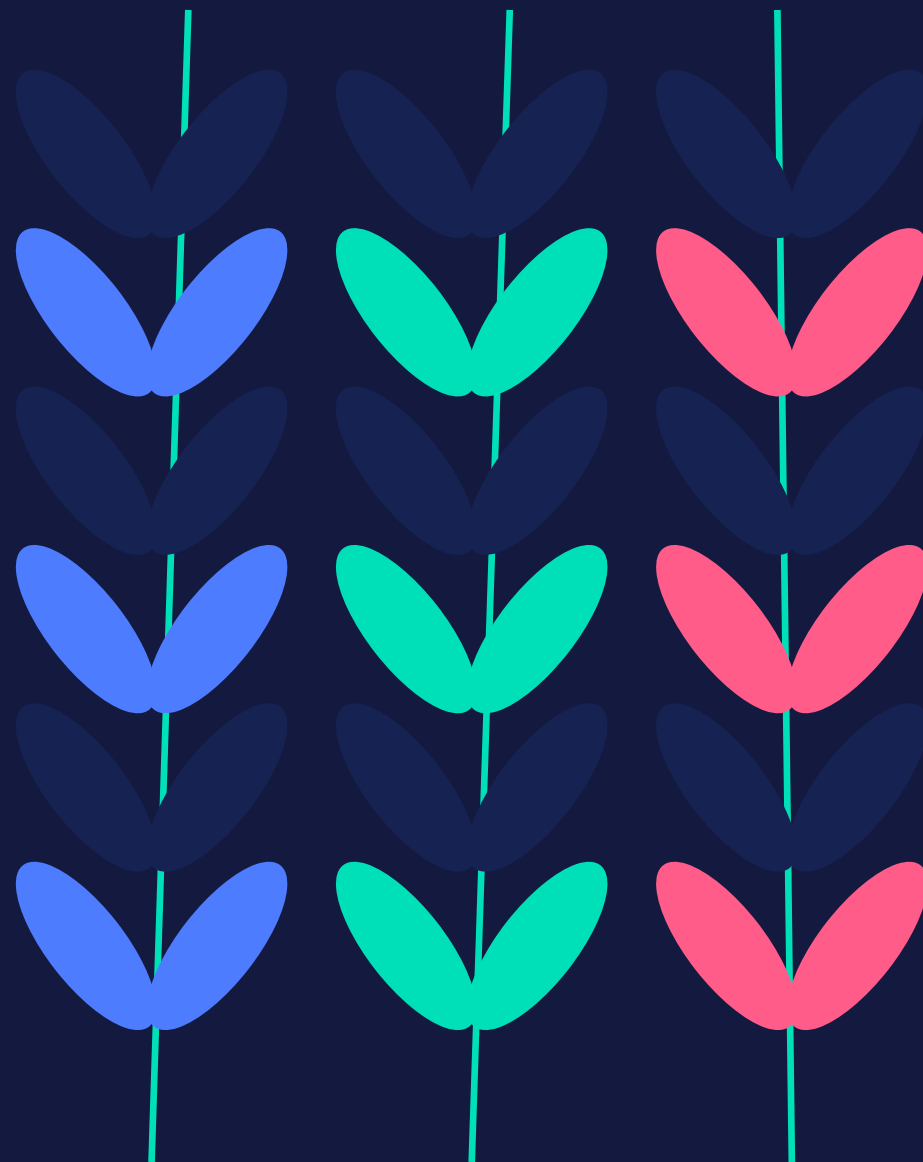
05 Summary



Image

01

INTRODUCTION



04 | What is photosynthesis?



Diagram

Photosynthesis is the process by which green plants use sunlight, water and carbon dioxide to make glucose and release oxygen.

It takes place mainly in the leaves, inside chloroplasts that contain the green pigment chlorophyll. Almost all life on Earth depends on it.

02

CONCEPTS



06 | Key concepts

01

Chlorophyll

Green pigment that absorbs light energy.

02

Light reactions

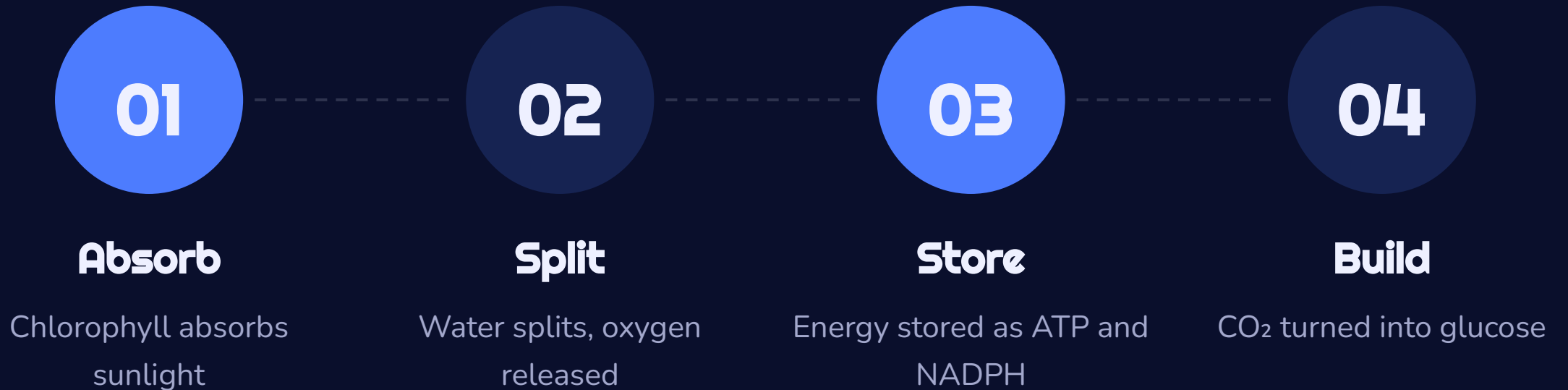
Water is split and energy is captured.

03

Calvin cycle

Carbon dioxide is fixed into glucose.

07 | The process



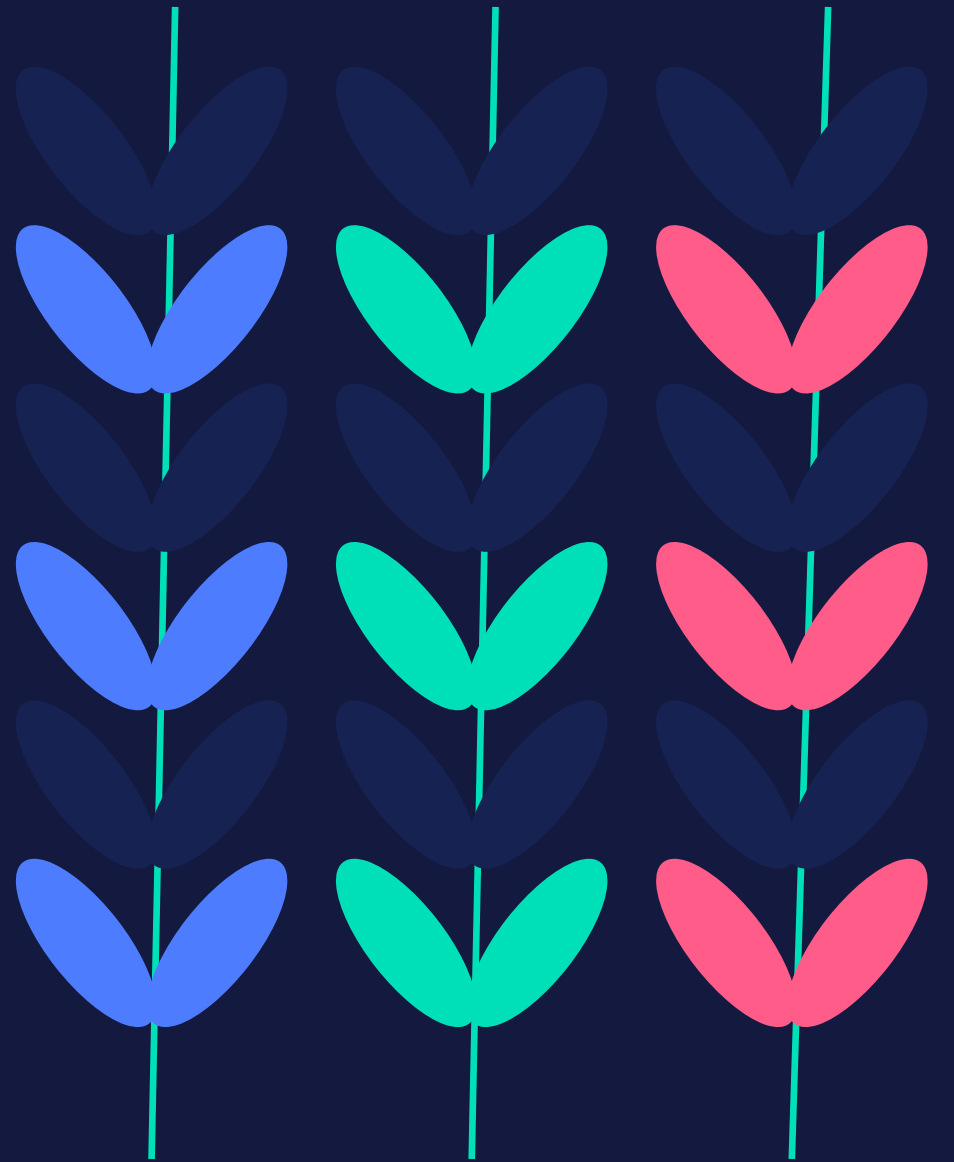
08 | Factors affecting the rate

Factor	Effect	Limit
Light intensity	Rate rises	Levels off when saturated
CO ₂ level	Rate rises	Levels off at high CO ₂
Temperature	Rises then falls	Enzymes denature above ~40 °C

Reference values for illustration.

03

EXPERIMENT



10 | Experiment

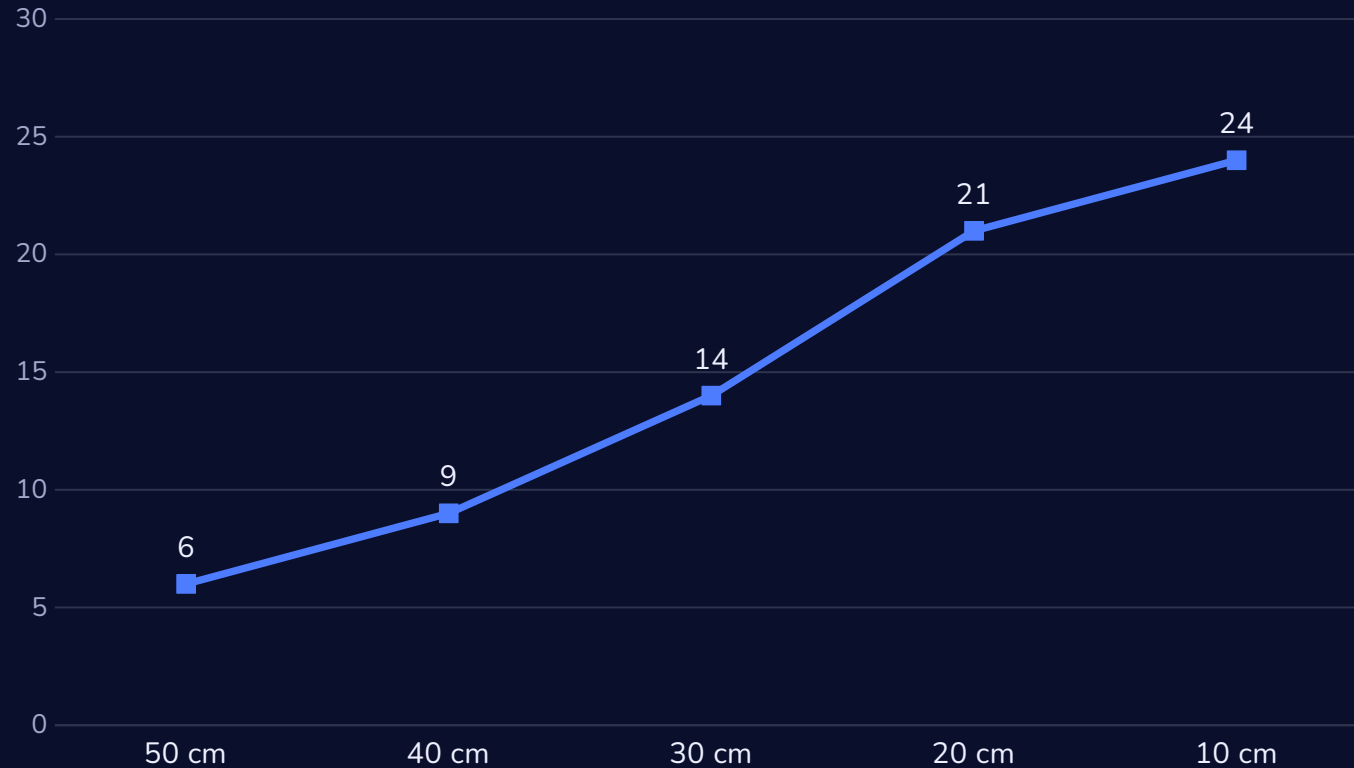
- Place a water plant in a beaker under a lamp
- Count oxygen bubbles per minute
- Move the lamp closer in steps
- Record and plot the bubble rate

SAFETY

**Keep water away
from the lamp and
wires.**

11

Bubble rate vs light distance



More light gives faster photosynthesis until another factor limits it (sample data).

Sample data for illustration — replace with your own figures.

12

Real-world applications



Image 1

Agriculture

Greenhouses boost light and CO₂



Image 2

Climate

Forests absorb carbon dioxide



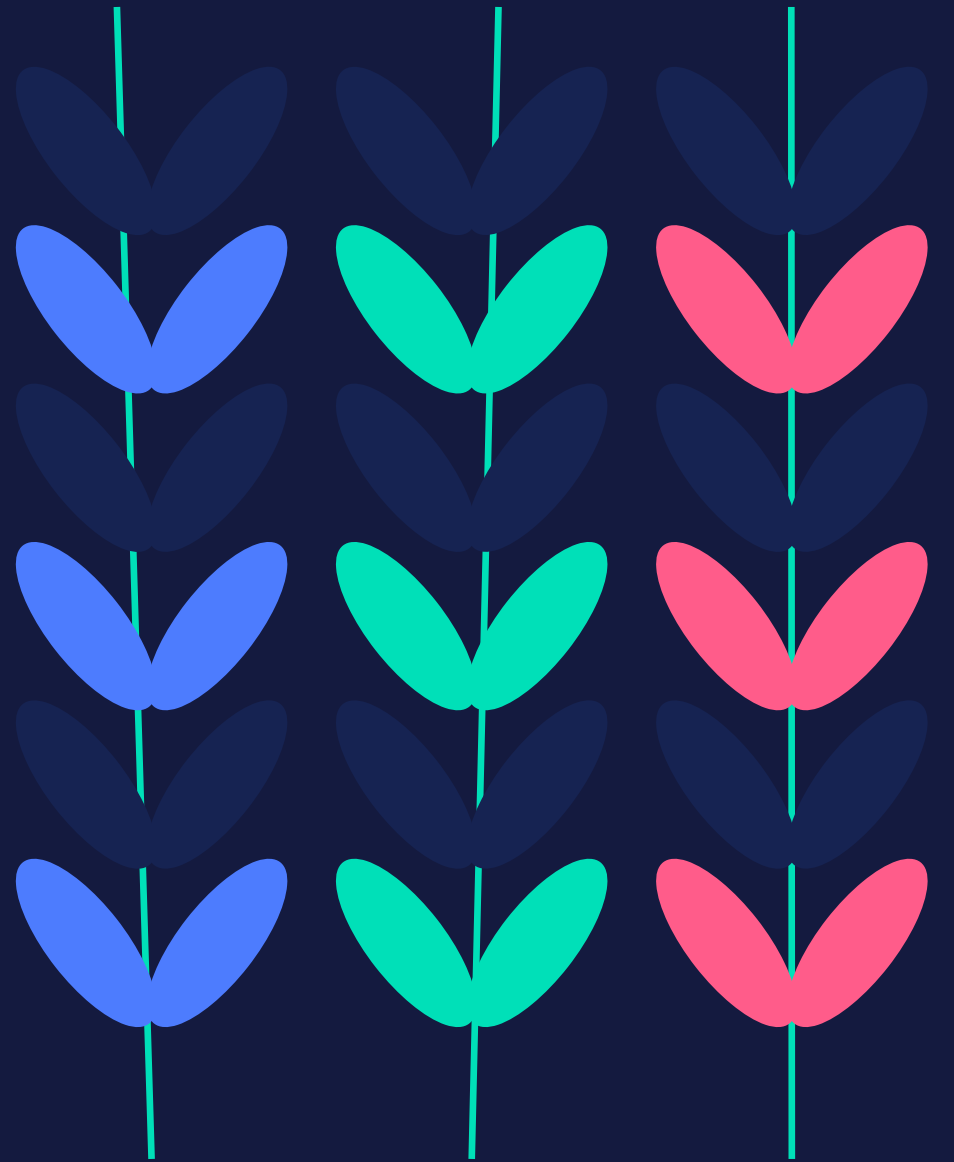
Image 3

Energy research

Artificial photosynthesis

04

SUMMARY



14 | Quick facts

6CO_2

$+ 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$

$\sim 50\%$

of Earth's oxygen from
ocean algae

1%

of sunlight used by most
plants

15 | Summary

- Plants make food using light, water and CO₂
- Chlorophyll in chloroplasts captures light
- Oxygen is released as a by-product
- Light, CO₂ and temperature control the rate

Thank you

Questions?

Student Name · Biology

