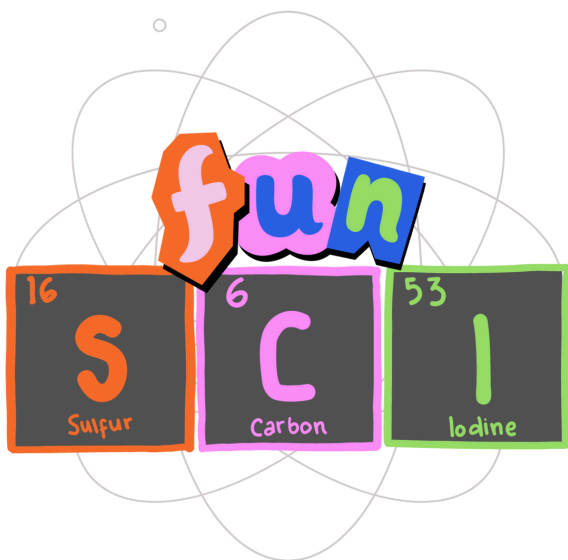
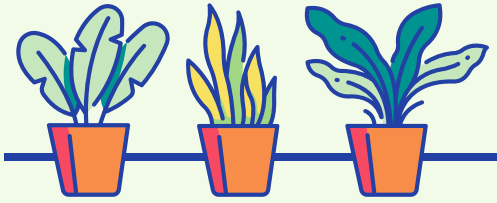


# Photosynthesis Worksheets



# Photosynthesis



Photosynthesis is the process where plants transform light energy into chemical energy. Plants use this energy to make their own food. The light energy they captured is used to convert carbon dioxide, water, and minerals into oxygen.

## Chlorophyll

The pigment that gives plants their green color and helps in the process of photosynthesis.

## Did you know?

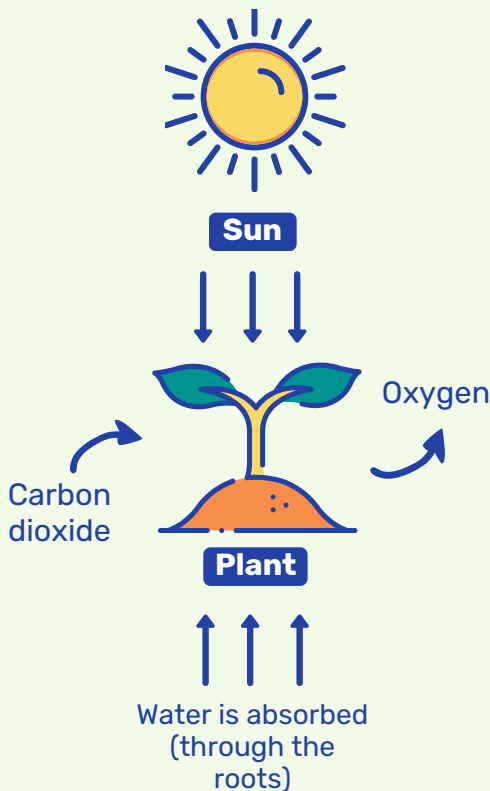
There are organisms other than plants that can undergo photosynthesis. These include algae and the emerald green sea slug.

## The Photosynthesis Process

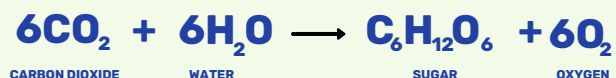
Plants take in water and carbon dioxide and use energy from the sun to turn them into food.

Within the plant cell, water is oxidized, loses electrons, and is changed into oxygen. Carbon dioxide is reduced, gains electrons, and turns into glucose.

Oxygen is released, and glucose is stored within the plant as energy.

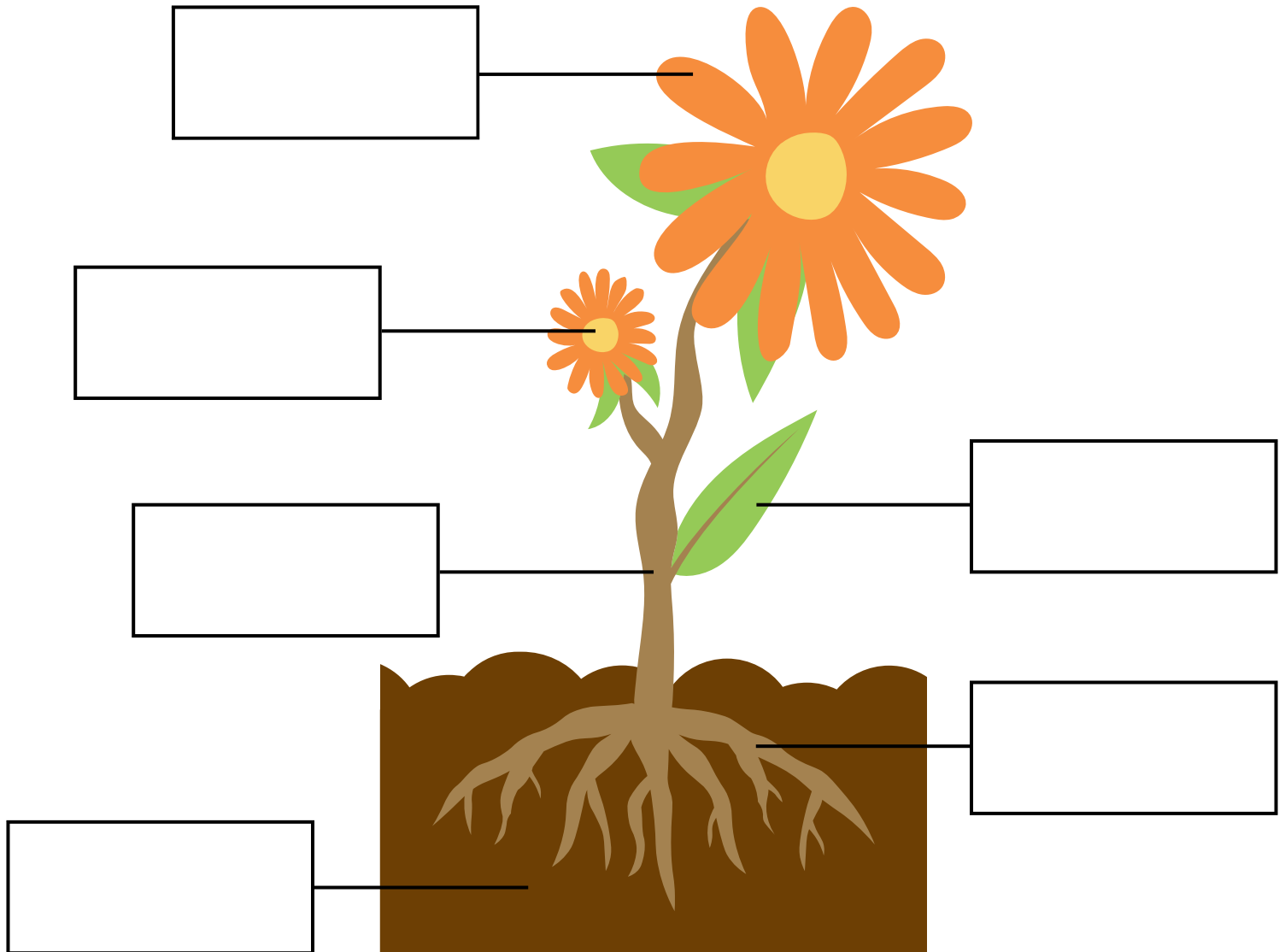


## The Photosynthesis Formula



# PARTS OF A PLANT

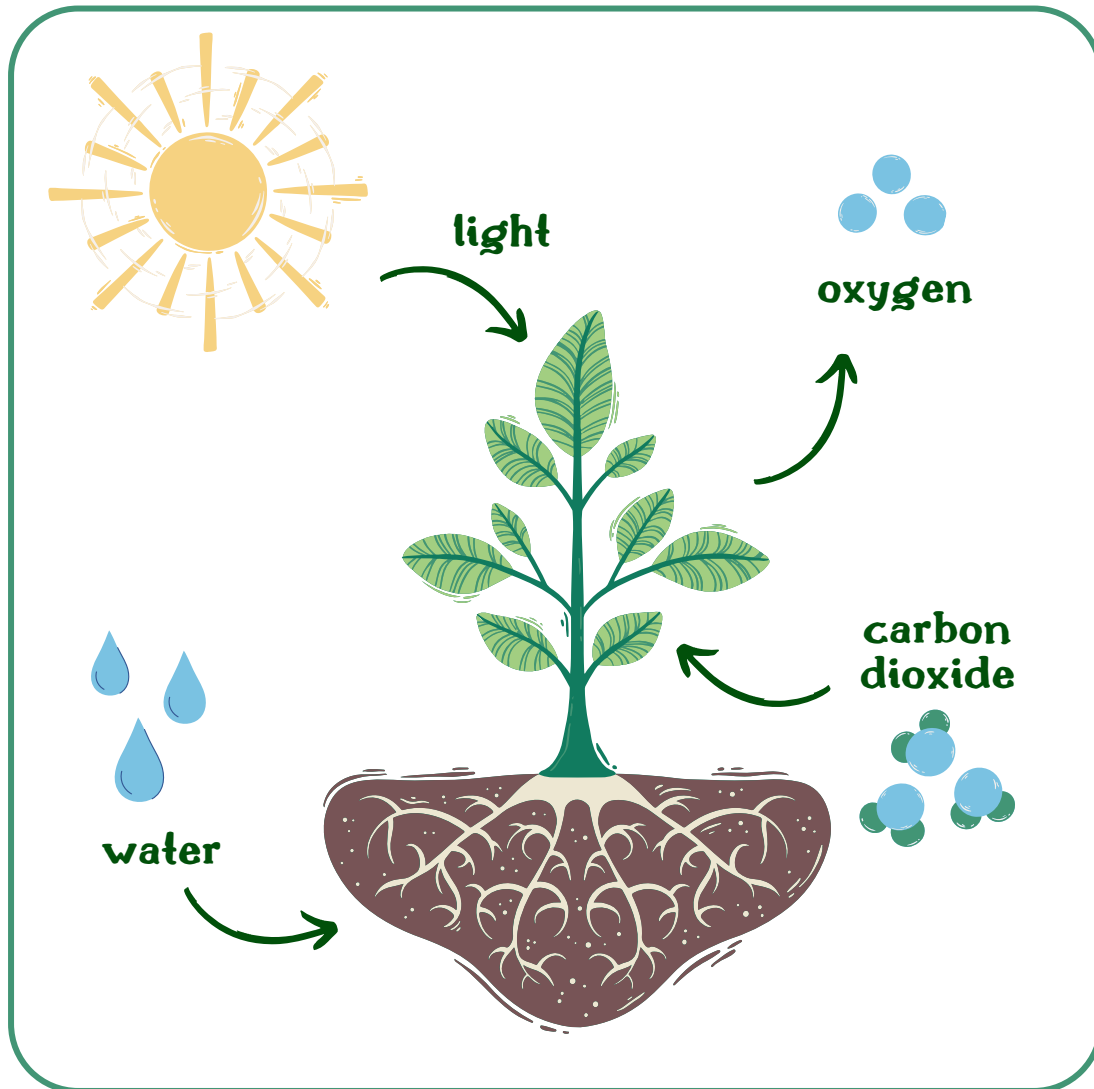
Complete the boxes using the words below and label all the parts of the plant!



Flower	Roots	Soil
Leaf	Seed	Stem

# PHOTOSYNTHESIS

Complete each of the questions using the diagrams provided and additional research (if necessary).



What type of organisms can photosynthesize?

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What is the main source of energy that drives the process of photosynthesis?

---





(light energy)  
**carbon dioxide + water  $\rightarrow$  glucose + oxygen**

What three 'ingredients' are required for photosynthesis to occur?

---

Where is the water used in photosynthesis sourced from?

---

In which cell organelle does photosynthesis take place?

---

Where is the carbon dioxide used in photosynthesis sourced from?

---



## **CHALLENGE QUESTIONS:**

What molecule absorbs sunlight during photosynthesis?

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How does a plant use the sugars produced through photosynthesis?

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Why is photosynthesis important for all living organisms?

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# PARTS OF A LEAF

Label all the parts of the leaf. These are all essential for photosynthesis!

Cuticle

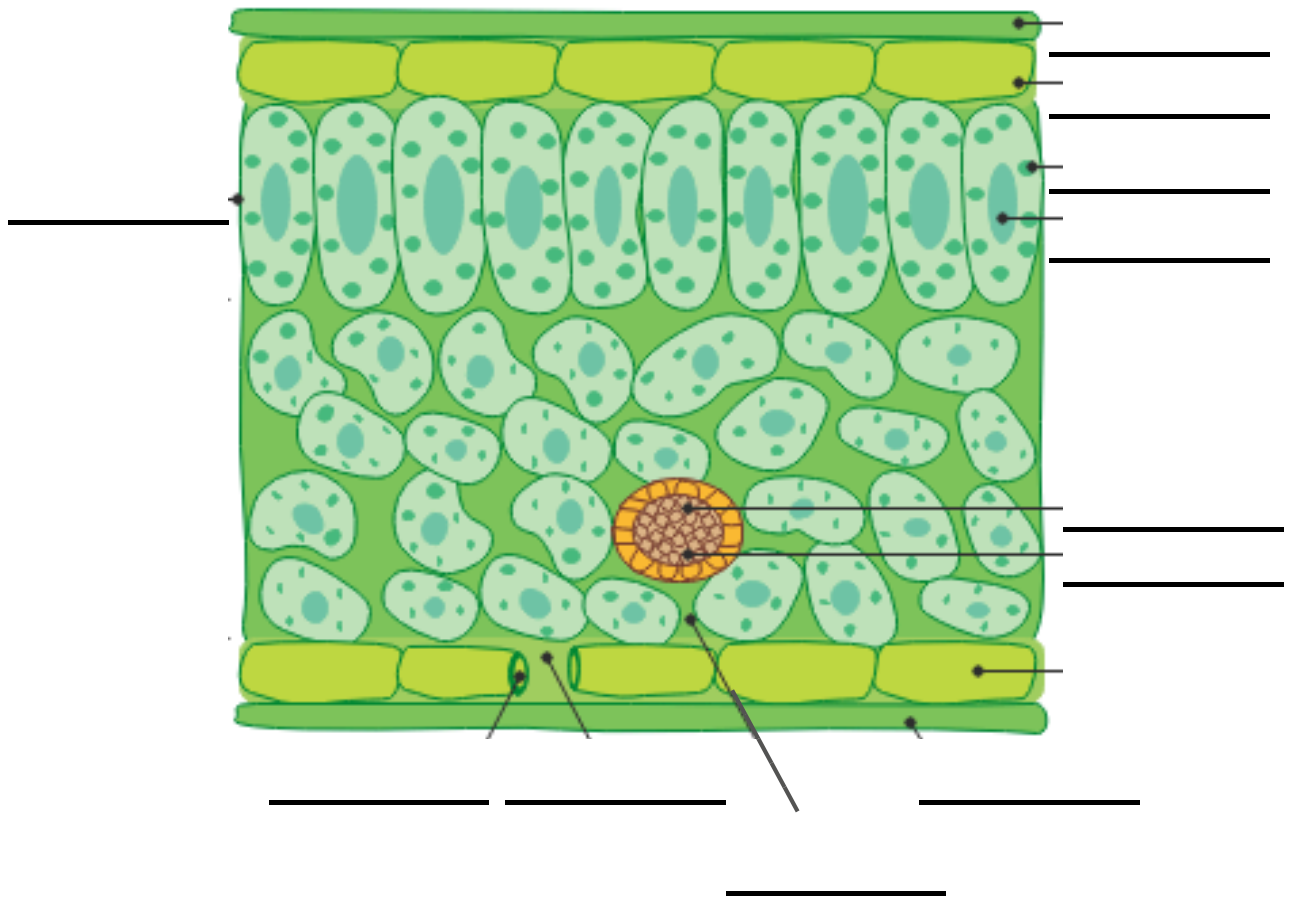
Upper  
epidermis

Chloroplasts

Vertical  
palisade cell

Xylem

Guard cells



Vacuole

Phloem

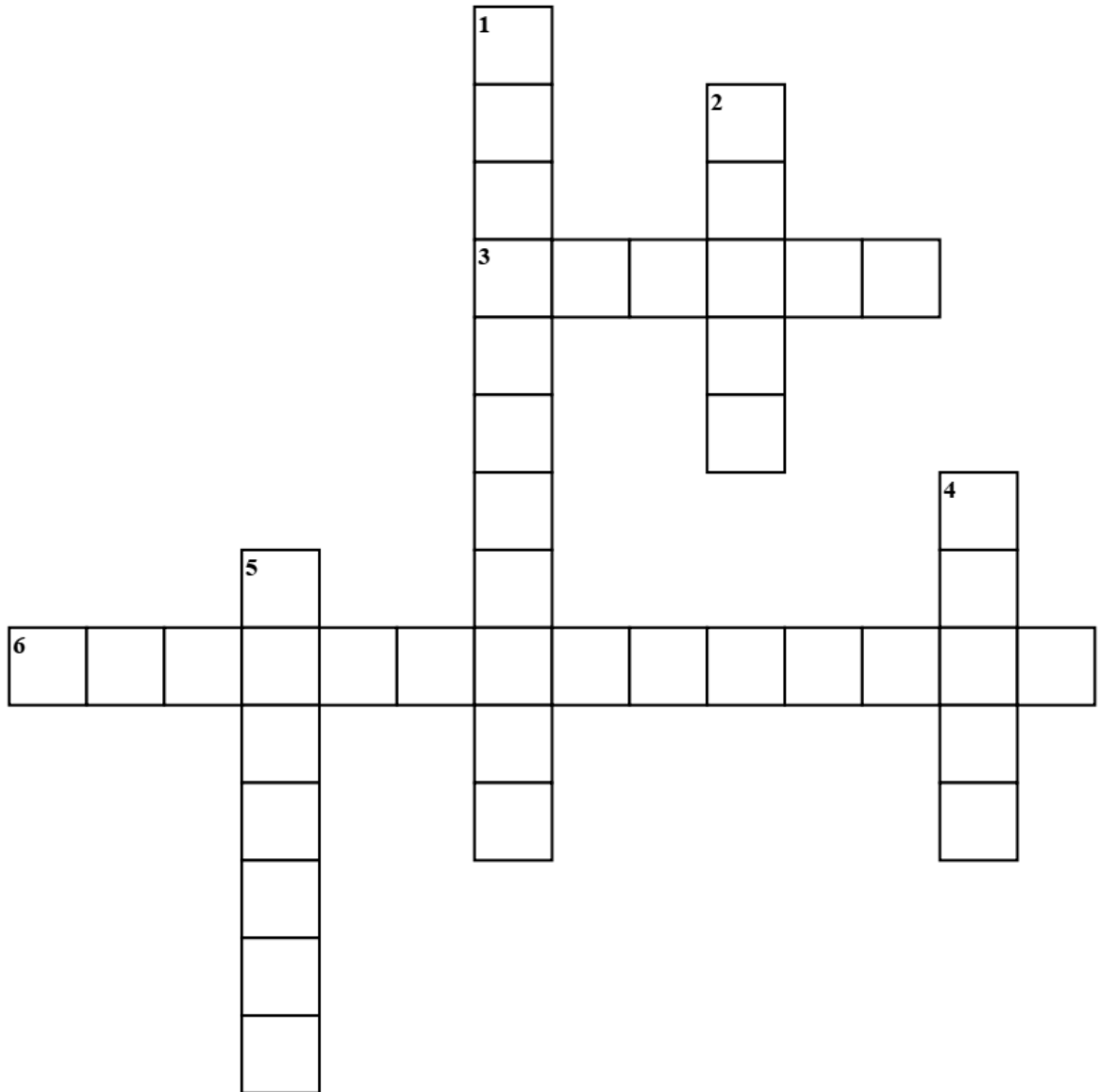
Stoma

Air channel

Lower  
epidermis

Cuticle

# SUMMARY CROSSWORD



## Across

[3] Gas released by plants during photosynthesis

[6] The process plants use to make food

## Down

[1] Green pigment in plants that captures sunlight

[2] Type of energy from the sun used for photosynthesis

[4] Water travels up from the roots through these, plants have 2: xylem and phloem

[5] Tiny pores on leaves that allow gas exchange