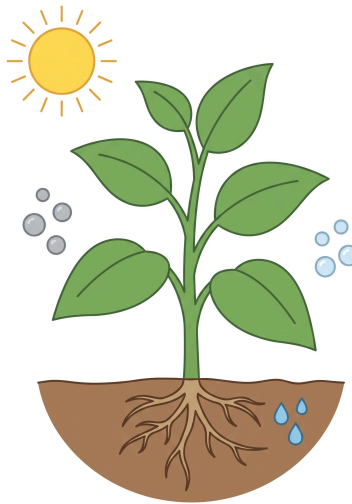


Photosynthesis

How plants make their own food



7

printable sheets

17

pages

All

answer keys included

Photosynthesis Teaching Pack

How plants make their own food

How to use this pack. The sheets are in a suggested teaching order: show the labeled diagram, have students label the blank one, then work through the practice sheets and finish with the quiz. Use them all over a week or pick the ones you need. The answer keys are together at the back.

What is inside

1. Teach

Photosynthesis Diagram 3

2. Label

Blank Photosynthesis Diagram 4

3. Match

Photosynthesis Key Words 5

4. Read

How Plants Make Food 6

5. Sort

What Goes In? What Comes Out? 8

6. Review

Photosynthesis Crossword 9

7. Check

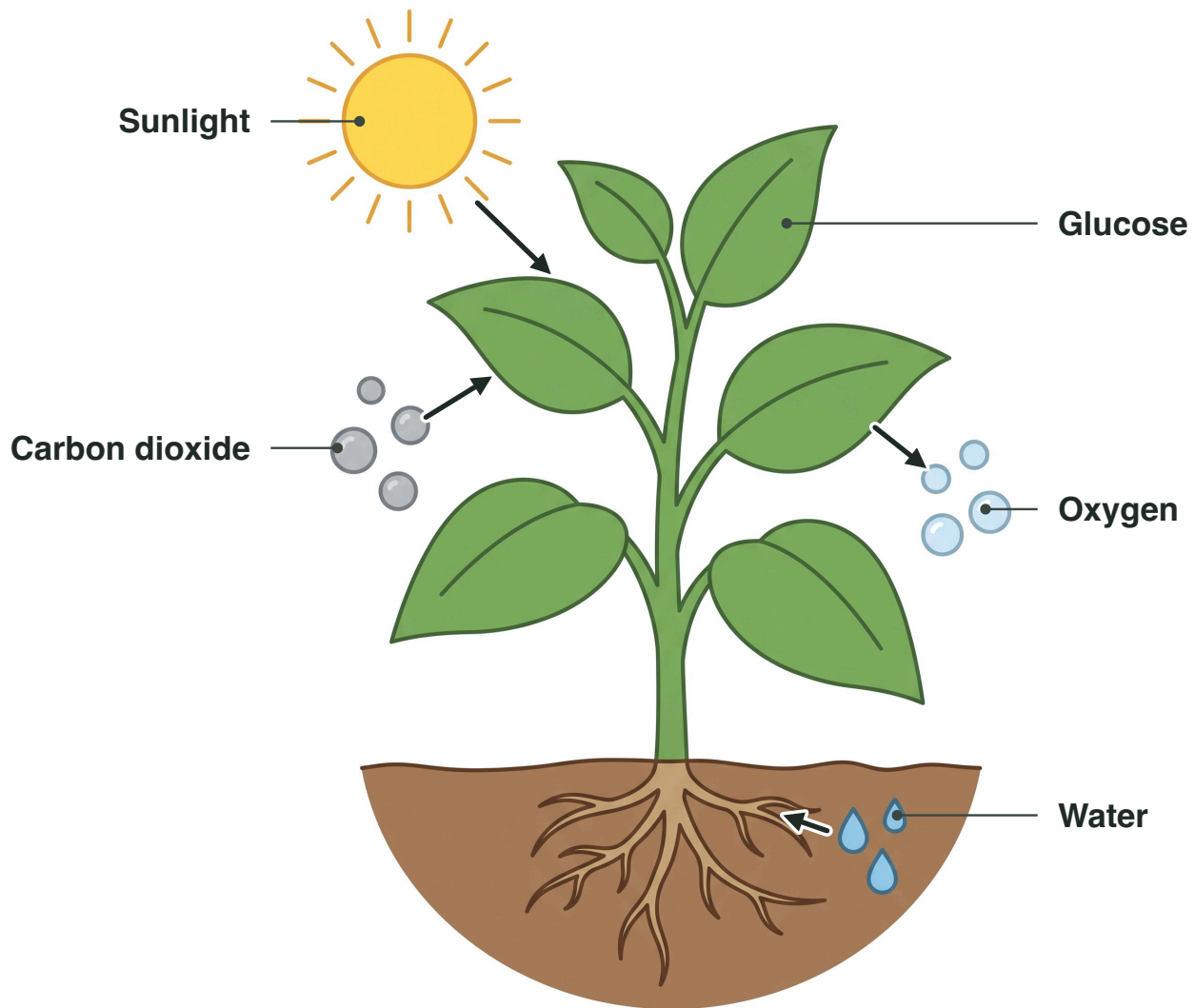
Photosynthesis Quiz 10

Answer keys

Every answer key, in the same order 12

More free teaching packs. Parts of a Plant and Flower, Life Cycle of a Plant and more at printablescholar.com/teaching-packs/

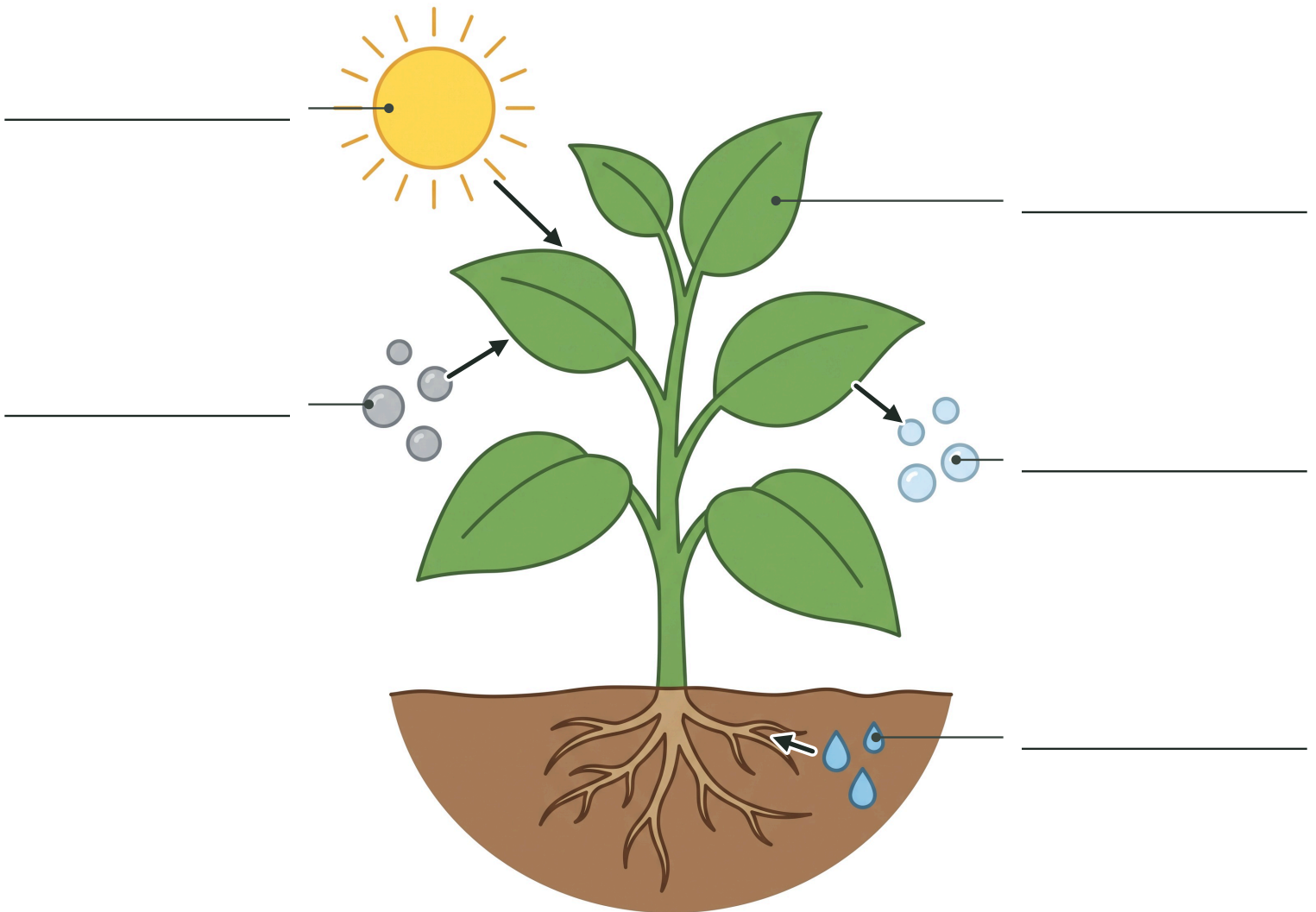
Photosynthesis



Photosynthesis

Name: _____

Write the name of each part on its line. Use the word bank.



Word bank

Carbon dioxide

Glucose

Oxygen

Sunlight

Water

Photosynthesis Key Words

Use the labeled photosynthesis diagram to help you.

Part A. Write the word or words that fit each description.

Word bank

Carbon dioxide

Chlorophyll

Chloroplast

Glucose

Oxygen

Roots

Stem

Stomata

Sunlight

Water

1. The sugar the plant makes. It is the plant's food. _____
2. Tiny openings in a leaf that let gases in and out. _____
3. A gas the plant takes in from the air. _____
4. The green pigment that captures light energy. _____
5. The roots absorb it from the soil. It travels up to the leaves. _____
6. A gas the plant releases into the air as a by-product. _____
7. A green part inside a plant cell. The plant makes its food here. _____
8. It supplies the energy that powers the whole process. _____
9. They absorb water and hold the plant in the soil. _____
10. It holds up the leaves and carries water to them. _____

Part B. Answer the questions.

1. Which three things does a plant need for photosynthesis?

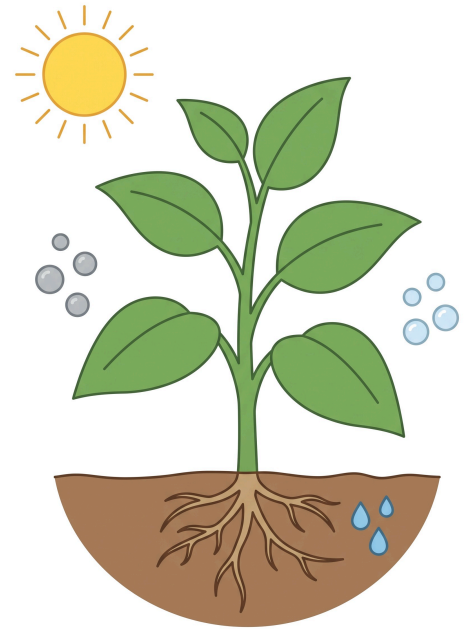
2. Which two things does photosynthesis make?

3. A plant is kept in a dark closet for weeks. It is watered, but it grows weak and dies. Why?

How Plants Make Food

Read the text. Then answer the questions on the next page.

- 1 You have to eat to get energy. A green plant does not. It makes its own food from light, water and air. This process is called **photosynthesis**. The word means “putting together with light.” It is why a plant can live in one spot and never has to hunt for a meal.
- 2 A plant needs three things for photosynthesis. The first is **sunlight**, which supplies the energy. The second is **water**. The roots absorb water from the soil, and it travels up the stem to the leaves. The third is **carbon dioxide**, a gas in the air. It enters a leaf through tiny openings called **stomata**. Without any one of the three, photosynthesis stops.
- 3 Most photosynthesis takes place in the leaves. Leaf cells hold small green parts called **chloroplasts**. One leaf cell can hold many of them. Inside the chloroplasts is **chlorophyll**, a green pigment that captures light energy. Chlorophyll is the reason leaves are green.
- 4 Inside a chloroplast, three things happen. First, chlorophyll captures energy from sunlight. Next, the plant uses that energy to split water into hydrogen and oxygen. The **oxygen** leaves the leaf through the stomata and goes into the air. Last, the plant joins the hydrogen with carbon dioxide to build a sugar called **glucose**.
- 5 Glucose is the plant’s food. It holds energy that came from sunlight. Like animals, plants release that energy in a process called **cellular respiration**, which goes on day and night. A plant also uses glucose to build new roots, stems and leaves. It stores the extra as starch. A potato is full of stored starch. Photosynthesis matters to animals too. It makes the oxygen we breathe. Nearly all of our food comes from plants or from animals that eat plants.



A plant uses sunlight, water and carbon dioxide to make glucose and oxygen.

How Plants Make Food: Questions

Go back to the text to find each answer. The paragraphs are numbered to help you.

1. What is this text mostly about?

- ☐ Why leaves change color in the fall
- ☐ How plants make their own food
- ☐ How roots grow in the soil
- ☐ What animals need to stay alive

2. Which three things does a plant need for photosynthesis?

- ☐ Sunlight, oxygen and glucose
- ☐ Sunlight, water and carbon dioxide
- ☐ Soil, starch and oxygen
- ☐ Glucose, water and chlorophyll

3. How does carbon dioxide get into a leaf?

4. What does chlorophyll do?

- ☐ It absorbs water from the soil.
- ☐ It captures light energy.
- ☐ It stores glucose as starch.
- ☐ It lets gases in and out of the leaf.

5. Number the steps 1, 2 and 3 to show what happens inside a chloroplast (paragraph 4).

- ☐ The plant splits water into hydrogen and oxygen.
- ☐ The plant joins hydrogen with carbon dioxide to build glucose.
- ☐ Chlorophyll captures energy from sunlight.

6. Where does the oxygen that a leaf releases come from?

- ☐ From carbon dioxide
- ☐ From water
- ☐ From glucose
- ☐ From the soil

7. What does a plant do with the glucose it makes? Give two uses.

8. Why does photosynthesis matter to animals?

What Goes In? What Comes Out?

Three things go into photosynthesis and two things come out. Read each clue and write what it describes. You will use every word in the word bank twice.

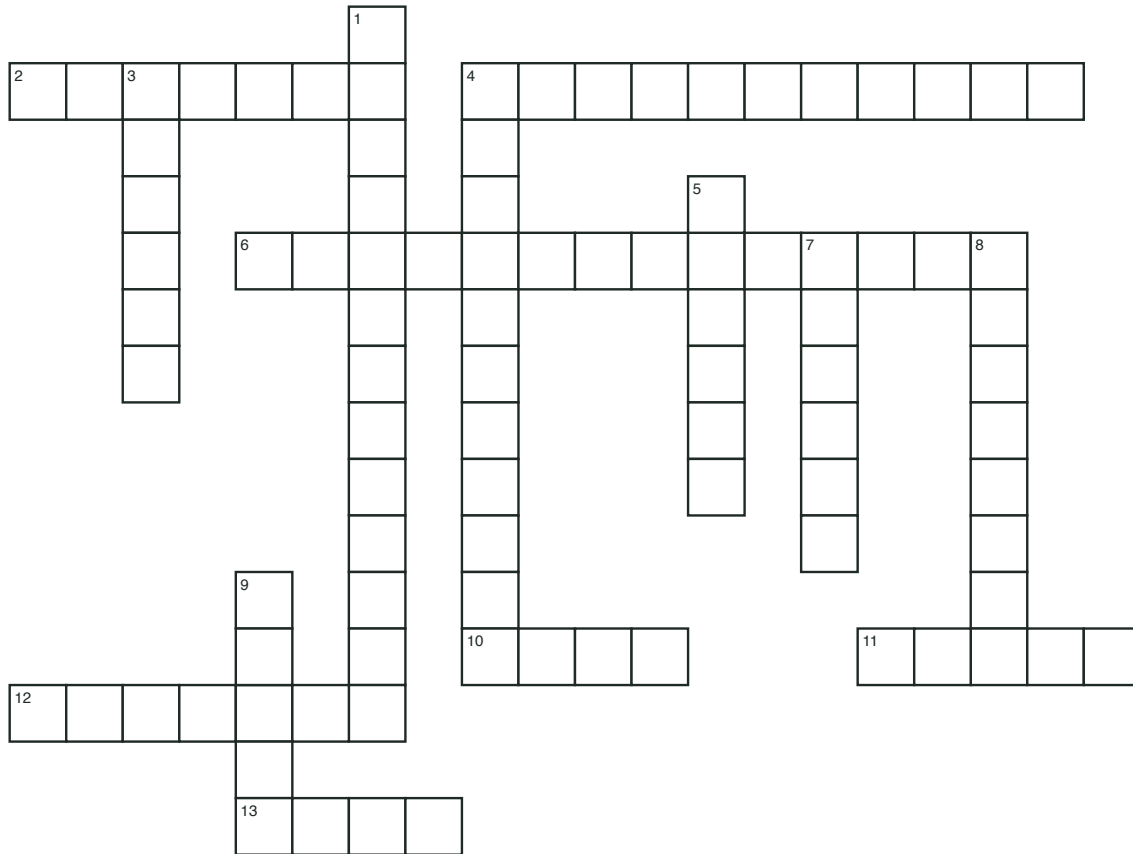
IN OR OUT?	CLUE	WHAT IS IT?
1. Goes in	A gas from the air. It enters a leaf through the stomata.	_____
2. Comes out	A sugar. It is the plant's food.	_____
3. Goes in	The roots absorb it from the soil.	_____
4. Comes out	A gas made when water is split. It leaves through the stomata.	_____
5. Goes in	It is energy, not a material. Chlorophyll captures it.	_____
6. Goes in	A plant in a dark closet does not get any of this.	_____
7. Comes out	The plant stores the extra as starch.	_____
8. Goes in	It is split into hydrogen and oxygen.	_____
9. Comes out	Animals need this gas to breathe.	_____
10. Goes in	Its carbon ends up in the sugar the plant builds.	_____
Word bank Carbon dioxide Glucose Oxygen Sunlight Water		

Your turn

In your own words, tell what goes into photosynthesis and what comes out.

Photosynthesis Crossword

Read each clue. Write the answer in the puzzle, one letter in each box. Use the word bank if you get stuck.



ACROSS

2. Tiny openings in a leaf that let gases in and out.
4. A green part inside a plant cell. The plant makes its food here.
6. The process green plants use to make their own food.
10. The flat green part of a plant where most of its food is made.
11. The roots absorb it from the soil.
12. The sugar a plant makes.
13. Water travels up this part to reach the leaves.

DOWN

1. A gas the plant takes in from the air (2 words).
3. A gas the plant releases into the air.
4. The green pigment that captures light energy.
5. A plant stores extra glucose in this form.
7. Sunlight supplies it. Glucose holds it.
8. It supplies the energy for the whole process.
9. They take in water from the soil.

Word bank

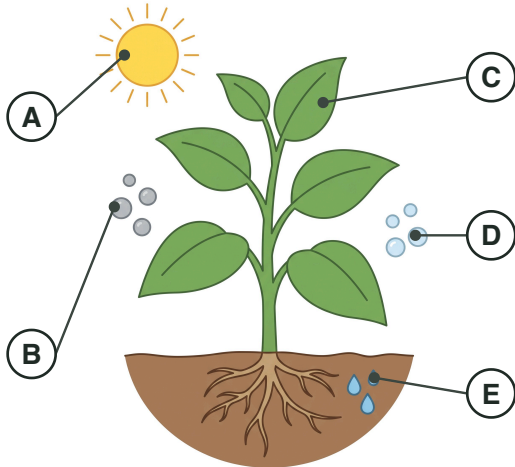
carbon dioxide chlorophyll chloroplast energy glucose leaf oxygen
photosynthesis roots starch stem stomata sunlight water

Photosynthesis Quiz

Score _____ / 13

In the picture, the bubbles on the left are a gas going into the leaf. The bubbles on the right are a gas coming out. The letter on a leaf stands for the food the plant makes there.

Part A. This picture shows photosynthesis. Write the name of each part.



- A _____
B _____
C _____
D _____
E _____

Carbon dioxide · Glucose · Oxygen · Sunlight · Water

Part B. Choose the best answer.

- Where in a plant cell does photosynthesis take place?**
 - ☐ In the nucleus
 - ☐ In the chloroplasts
 - ☐ In the cell wall
 - ☐ In the vacuole
- What does chlorophyll do?**
 - ☐ It captures light energy.
 - ☐ It absorbs water from the soil.
 - ☐ It carries water up the stem.
 - ☐ It lets gases into the leaf.
- What are stomata?**
 - ☐ Parts of a root
 - ☐ Tiny openings in a leaf
 - ☐ Kinds of sugar
 - ☐ Green pigments
- The oxygen a plant releases comes from which material?**
 - ☐ Carbon dioxide
 - ☐ Glucose
 - ☐ Water
 - ☐ Soil
- Which two things does photosynthesis make?**
 - ☐ Water and sunlight
 - ☐ Carbon dioxide and water
 - ☐ Glucose and oxygen
 - ☐ Oxygen and carbon dioxide
- In what form does a plant store extra glucose?**
 - ☐ Chlorophyll
 - ☐ Starch
 - ☐ Water
 - ☐ Oxygen

Part C. Write your answer.

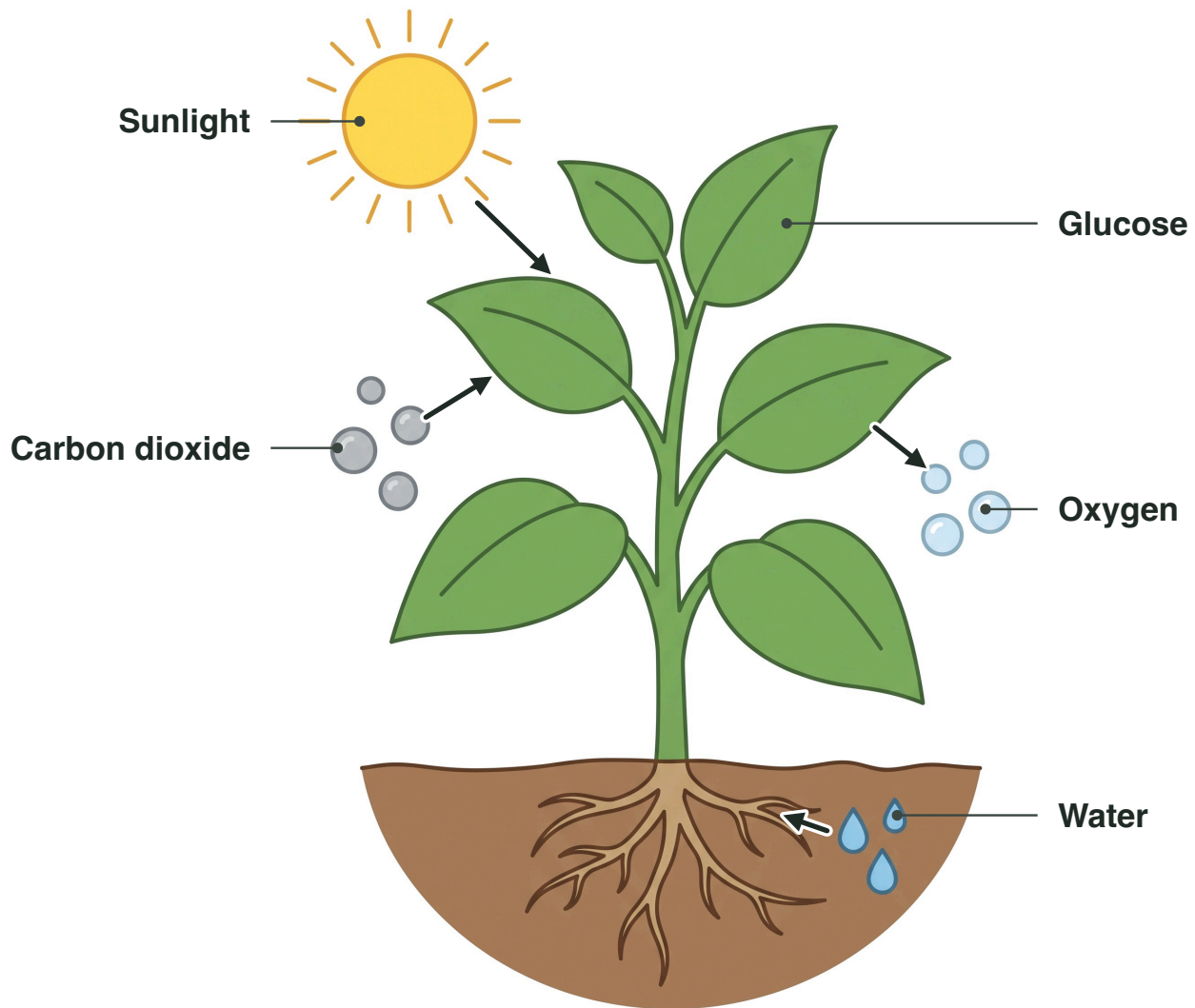
7. Name the three things a plant needs for photosynthesis.

8. Why are leaves green?

Answer Keys

In the same order as the sheets.

Photosynthesis: Answer Key



Photosynthesis Key Words: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. Write the word or words that fit each description.

Word bank

Carbon dioxide

Chlorophyll

Chloroplast

Glucose

Oxygen

Roots

Stem

Stomata

Sunlight

Water

1. The sugar the plant makes. It is the plant's food.	Glucose
2. Tiny openings in a leaf that let gases in and out.	Stomata
3. A gas the plant takes in from the air.	Carbon dioxide
4. The green pigment that captures light energy.	Chlorophyll
5. The roots absorb it from the soil. It travels up to the leaves.	Water
6. A gas the plant releases into the air as a by-product.	Oxygen
7. A green part inside a plant cell. The plant makes its food here.	Chloroplast
8. It supplies the energy that powers the whole process.	Sunlight
9. They absorb water and hold the plant in the soil.	Roots
10. It holds up the leaves and carries water to them.	Stem

Part B. Answer the questions.

- Which three things does a plant need for photosynthesis?
Sunlight, water and carbon dioxide.
- Which two things does photosynthesis make?
Glucose and oxygen.
- A plant is kept in a dark closet for weeks. It is watered, but it grows weak and dies. Why?
With no light it has no energy for photosynthesis, so it cannot make glucose, its food.

How Plants Make Food: Answer Key

Answers are in green. Written answers will vary; these are examples.

1. What is this text mostly about?

- ☐ Why leaves change color in the fall
- ☒ **How plants make their own food**
- ☐ How roots grow in the soil
- ☐ What animals need to stay alive

2. Which three things does a plant need for photosynthesis?

- ☐ Sunlight, oxygen and glucose
- ☒ **Sunlight, water and carbon dioxide**
- ☐ Soil, starch and oxygen
- ☐ Glucose, water and chlorophyll

3. How does carbon dioxide get into a leaf?

It enters through tiny openings called stomata.

4. What does chlorophyll do?

- ☐ It absorbs water from the soil.
- ☒ **It captures light energy.**
- ☐ It stores glucose as starch.
- ☐ It lets gases in and out of the leaf.

5. Number the steps 1, 2 and 3 to show what happens inside a chloroplast (paragraph 4).

- 2** The plant splits water into hydrogen and oxygen.
- 3** The plant joins hydrogen with carbon dioxide to build glucose.
- 1** Chlorophyll captures energy from sunlight.

6. Where does the oxygen that a leaf releases come from?

- ☐ From carbon dioxide
- ☒ **From water**
- ☐ From glucose
- ☐ From the soil

7. What does a plant do with the glucose it makes? Give two uses.

Any two: it releases energy from it, builds new roots, stems and leaves with it, or stores it as starch.

8. Why does photosynthesis matter to animals?

It makes the oxygen animals breathe. Nearly all of their food comes from plants or from animals that eat plants.

What Goes In? What Comes Out?: Answer Key

Answers are in green. The last answer will vary; one example is given.

IN OR OUT?	CLUE	WHAT IS IT?
1. Goes in	A gas from the air. It enters a leaf through the stomata.	Carbon dioxide
2. Comes out	A sugar. It is the plant's food.	Glucose
3. Goes in	The roots absorb it from the soil.	Water
4. Comes out	A gas made when water is split. It leaves through the stomata.	Oxygen
5. Goes in	It is energy, not a material. Chlorophyll captures it.	Sunlight
6. Goes in	A plant in a dark closet does not get any of this.	Sunlight
7. Comes out	The plant stores the extra as starch.	Glucose
8. Goes in	It is split into hydrogen and oxygen.	Water
9. Comes out	Animals need this gas to breathe.	Oxygen
10. Goes in	Its carbon ends up in the sugar the plant builds.	Carbon dioxide
Word bank Carbon dioxide Glucose Oxygen Sunlight Water		

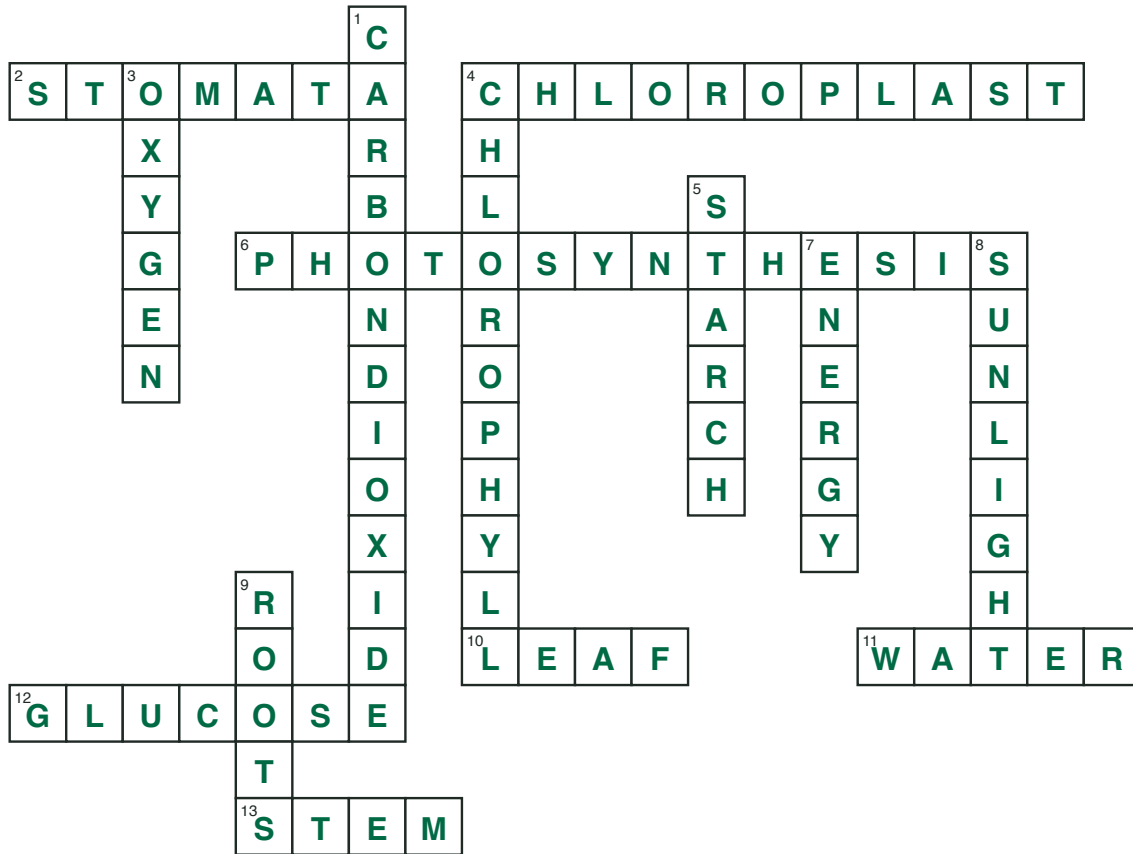
Your turn

In your own words, tell what goes into photosynthesis and what comes out.

A plant uses energy from sunlight to turn carbon dioxide and water into glucose and oxygen.

Photosynthesis Crossword: Answer Key

Answers are in green.



ACROSS

2. Tiny openings in a leaf that let gases in and out.
4. A green part inside a plant cell. The plant makes its food here.
6. The process green plants use to make their own food.
10. The flat green part of a plant where most of its food is made.
11. The roots absorb it from the soil.
12. The sugar a plant makes.
13. Water travels up this part to reach the leaves.

DOWN

1. A gas the plant takes in from the air (2 words).
3. A gas the plant releases into the air.
4. The green pigment that captures light energy.
5. A plant stores extra glucose in this form.
7. Sunlight supplies it. Glucose holds it.
8. It supplies the energy for the whole process.
9. They take in water from the soil.

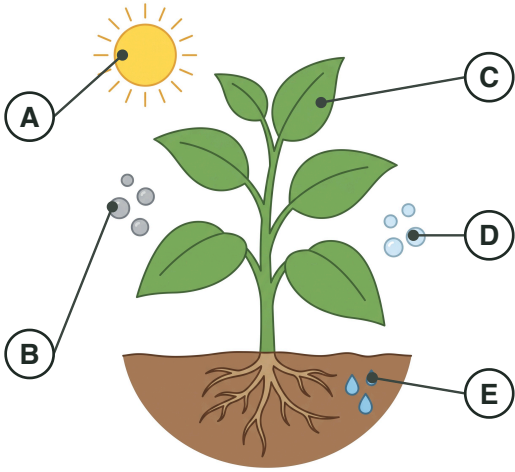
Word bank

carbon dioxide chlorophyll chloroplast energy glucose leaf oxygen
photosynthesis roots starch stem stomata sunlight water

Photosynthesis Quiz: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. This picture shows photosynthesis. Write the name of each part.



A **Sunlight**

B **Carbon dioxide**

C **Glucose**

D **Oxygen**

E **Water**

Carbon dioxide · Glucose · Oxygen · Sunlight · Water

Part B. Choose the best answer.

1. Where in a plant cell does photosynthesis take place?

- ☐ In the nucleus
- ☒ **In the chloroplasts**
- ☐ In the cell wall
- ☐ In the vacuole

2. What does chlorophyll do?

- ☒ **It captures light energy.**
- ☐ It absorbs water from the soil.
- ☐ It carries water up the stem.
- ☐ It lets gases into the leaf.

3. What are stomata?

- ☐ Parts of a root
- ☒ **Tiny openings in a leaf**
- ☐ Kinds of sugar
- ☐ Green pigments

4. The oxygen a plant releases comes from which material?

- ☐ Carbon dioxide
- ☐ Glucose
- ☒ **Water**
- ☐ Soil

5. Which two things does photosynthesis make?

- ☐ Water and sunlight
- ☐ Carbon dioxide and water
- ☒ **Glucose and oxygen**
- ☐ Oxygen and carbon dioxide

6. In what form does a plant store extra glucose?

- ☐ Chlorophyll
- ☒ **Starch**
- ☐ Water
- ☐ Oxygen

Part C. Write your answer.

7. Name the three things a plant needs for photosynthesis.

Sunlight, water and carbon dioxide.

8. Why are leaves green?

Their cells hold chlorophyll, a green pigment.