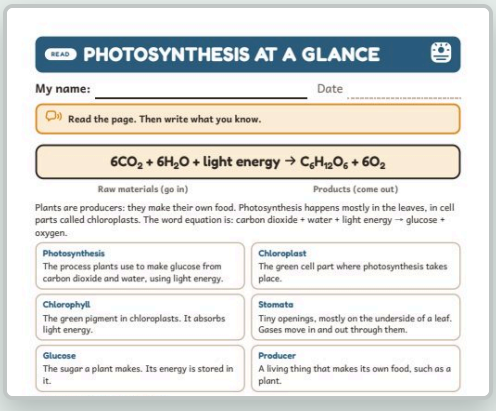
6TH–8TH GRADE · SCIENCE

DIAGRAMS

PHOTOSYNTHESIS WORKSHEETS

Label a leaf, fill in the paragraph, count the atoms in the equation, read data and draw the graph, sort photosynthesis from cellular respiration, and write short answers. Answer keys, a tracker and a family page. Print, or type your answers. PDF.


READ PHOTOSYNTHESIS AT A GLANCE

My name: _____ Date _____

Read the page. Then write what you know.

$6CO_2 + 6H_2O + \text{light energy} \rightarrow C_6H_{12}O_6 + 6O_2$

Raw materials (go in) Products (come out)

Plants are producers: they make their own food. Photosynthesis happens mostly in the leaves, in cell parts called chloroplasts. The word equation is: carbon dioxide + water + light energy → glucose + oxygen.

Photosynthesis The process plants use to make glucose from carbon dioxide and water, using light energy.

Chloroplast The green cell part where photosynthesis takes place.

Chlorophyll The green pigment in chloroplasts. It absorbs light energy.

Stomata Tiny openings, mostly on the underside of a leaf. Gases move in and out through them.

Glucose The sugar a plant makes. Its energy is stored in it.

Producer A living thing that makes its own food, such as a plant.

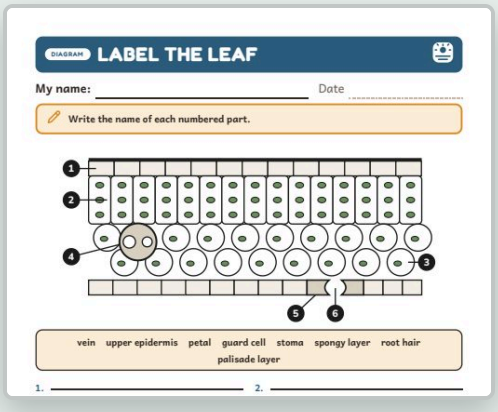


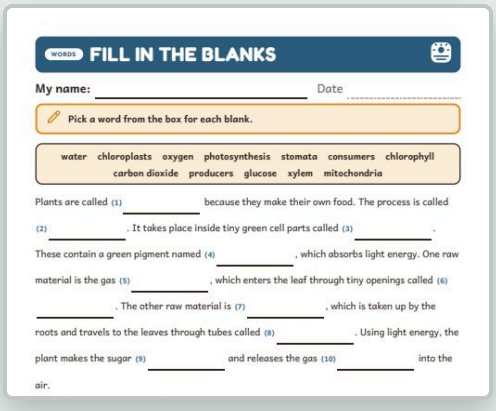
DIAGRAM LABEL THE LEAF

My name: _____ Date _____

Write the name of each numbered part.

vein upper epidermis petal guard cell stoma spongy layer root hair palisade layer

1. _____ 2. _____

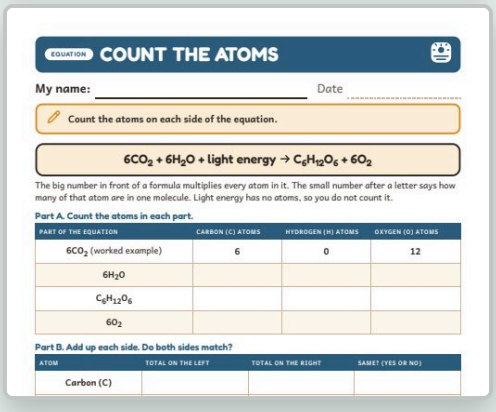

WORDS FILL IN THE BLANKS

My name: _____ Date _____

Pick a word from the box for each blank.

water chloroplasts oxygen photosynthesis stomata consumers chlorophyll carbon dioxide producers glucose xylem mitochondria

Plants are called (1) _____ because they make their own food. The process is called (2) _____. It takes place inside tiny green cell parts called (3) _____. These contain a green pigment named (4) _____, which absorbs light energy. One raw material is the gas (5) _____, which enters the leaf through tiny openings called (6) _____. The other raw material is (7) _____, which is taken up by the roots and travels to the leaves through tubes called (8) _____. Using light energy, the plant makes the sugar (9) _____ and releases the gas (10) _____ into the air.


EQUATION COUNT THE ATOMS

My name: _____ Date _____

Count the atoms on each side of the equation.

$6CO_2 + 6H_2O + \text{light energy} \rightarrow C_6H_{12}O_6 + 6O_2$

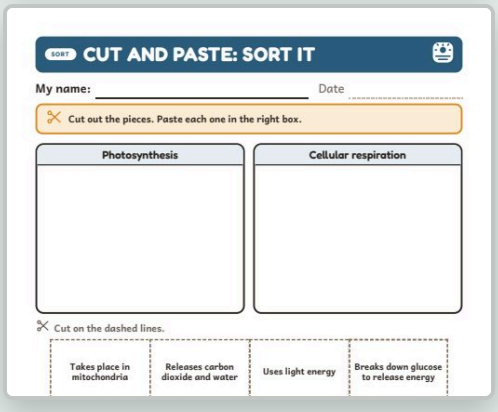
The big number in front of a formula multiplies every atom in it. The small number after a letter says how many of that atom are in one molecule. Light energy has no atoms, so you do not count it.

Part A. Count the atoms in each part.

PART OF THE EQUATION	CARBON (C) ATOMS	HYDROGEN (H) ATOMS	OXYGEN (O) ATOMS
$6CO_2$ (worked example)	6	0	12
$6H_2O$			
$C_6H_{12}O_6$			
$6O_2$			

Part B. Add up each side. Do both sides match?

ATOM	TOTAL ON THE LEFT	TOTAL ON THE RIGHT	SAME? (YES OR NO)
Carbon (C)			


SORT CUT AND PASTE: SORT IT

My name: _____ Date _____

Cut out the pieces. Paste each one in the right box.

Photosynthesis	Cellular respiration

Cut on the dashed lines.

Takes place in mitochondria | Releases carbon dioxide and water | Uses light energy | Breaks down glucose to release energy


TRACKER PHOTOSYNTHESIS TRACKER

STUDENT TEACHER UNIT DATES

PAGE	PAGE TYPE	ITEMS	RIGHT	DATE	NOTES
5	Label the Leaf	6			
6	Fill In the Blanks	15			
7	Count the Atoms	19			
8	Multiple Choice	8			
9	True or False? Fix It	8			
10	Read the Data, Draw the Graph	6			
11	Trace the Process	6			
12	Cut and Paste: Sort It	8			
13	Short Answers	5			

25 Pages | **11 Page Types** | **84 Items** | **2 Answer Keys**

BRIGHT PATH SPED

START HERE

QUICK START

One complete kit for a photosynthesis unit in grades 6-8. Students read a reference page, label a leaf, fill in a paragraph, count atoms on both sides of the equation, answer questions, read data and draw a graph, trace the process and write short answers — on pages with room to work.

THREE STEPS

1. **Teach or review with the reference page**
   Page 4 has the equation, the six key words and a place for the student to write what they know. Read it together or hand it out as the first page.

2. **Hand over a page**
   Every student page opens with a name line and one short instruction. Nothing on it is written for you, so the student can start. Short answers have three or more lines and the explanations have five or six, so the page is the whole workspace.

3. **Check it, record it, send it home**
   The answer keys are pages 15 and 16. Record each page on the tracker (page 17), roll a group up on page 18, and send the family page (20). A filled example is on page 21.

WHICH PAGE, WHEN

WHEN…	USE…
Introducing or reviewing the unit	At a Glance, page 4 · Label the Leaf, page 5
Checking the vocabulary	Fill In the Blanks, page 6 · Multiple Choice, page 8
Connecting it to the equation	Count the Atoms, page 7
Quick check or exit slip	True or False? Fix It, page 9
Reading data and graphing	Read the Data, Draw the Graph, page 10
Hands-on sorting	Cut and Paste, page 12
Writing about science	Trace the Process, page 11 · Short Answers, page 13 · Explain It, page 14

Everything inside (25 pages)

- **11 student pages** in 11 page types: a reference page, a leaf diagram to label, fill in, count the atoms, multiple choice, true or false, data and graph, flow chart, cut and paste and two short-answer pages
- **84 scored items** on 10 pages
- **8 cut-and-paste pieces** on one sort mat
- **2 answer keys, 1 tracker, 1 class grid**, 1 team note, 1 family page, 1 filled example, 1 phrase bank, 1 binder cover and 6 divider tabs

Print or type

Every page prints clean in black and white. The name line, answer boxes, blanks and writing lines are type-in fields in any PDF reader: click one, type, then save. This is a fillable PDF, not a slideshow or a word-processor file. The graph and the cut-and-paste sort are for pencil and scissors.

READ PHOTOSYNTHESIS AT A GLANCE

My name: _____ Date .....

Read the page. Then write what you know.

$$6CO_2 + 6H_2O + \text{light energy} \rightarrow C_6H_{12}O_6 + 6O_2$$

Raw materials (go in) — Products (come out)

Plants are producers: they make their own food. Photosynthesis happens mostly in the leaves, in cell parts called chloroplasts. The word equation is: carbon dioxide + water + light energy → glucose + oxygen.

Photosynthesis
The process plants use to make glucose from carbon dioxide and water, using light energy.

Chloroplast
The green cell part where photosynthesis takes place.

Chlorophyll
The green pigment in chloroplasts. It absorbs light energy.

Stomata
Tiny openings, mostly on the underside of a leaf. Gases move in and out through them.

Glucose
The sugar a plant makes. Its energy is stored in it.

Producer
A living thing that makes its own food, such as a plant.

Your turn. Write what you know.

Photosynthesis is a process in which a plant

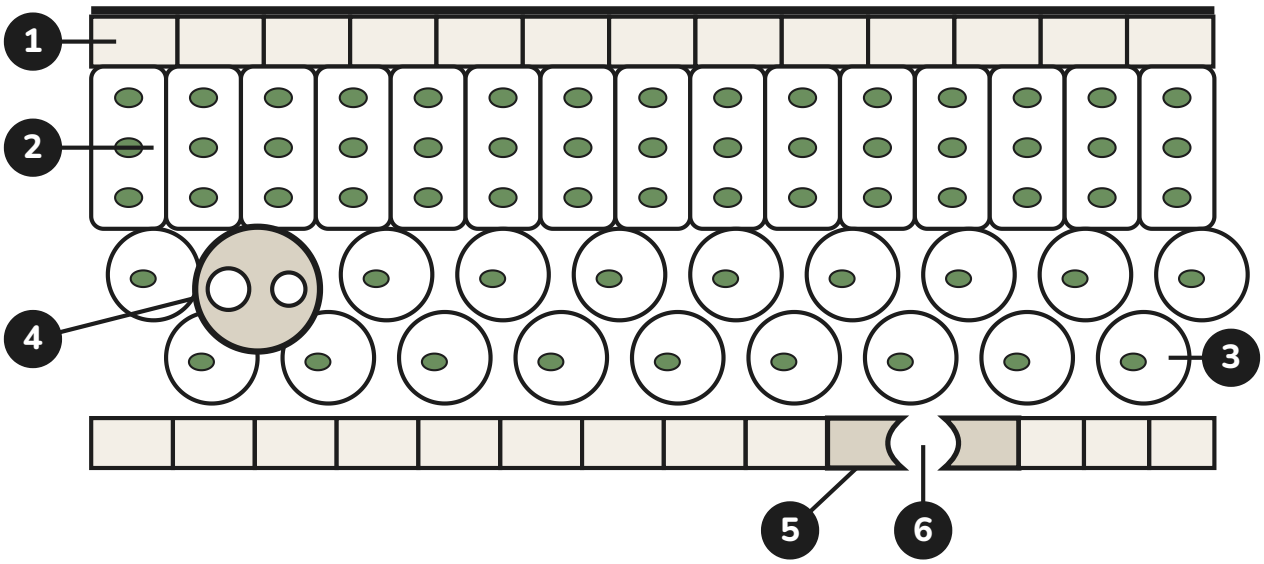
One question I still have about photosynthesis

DIAGRAM

LABEL THE LEAF

My name: _____ Date .....

Write the name of each numbered part.



vein **upper epidermis** **petal** **guard cell** **stoma** **spongy layer** **root hair** **palisade layer**

1. _____ 2. _____

3. _____ 4. _____

5. _____ 6. _____

A. Which numbered part lets carbon dioxide into the leaf?

_____

B. Why do the palisade cells hold so many chloroplasts?

WORDS

FILL IN THE BLANKS

My name: _____ Date .....

Pick a word from the box for each blank.

water	**chloroplasts**	**oxygen**	**photosynthesis**	**stomata**	**consumers**	**chlorophyll**
carbon dioxide	**producers**	**glucose**	**xylem**	**mitochondria**		

Plants are called (1) _____ because they make their own food. The process is called (2) _____. It takes place inside tiny green cell parts called (3) _____. These contain a green pigment named (4) _____, which absorbs light energy. One raw material is the gas (5) _____, which enters the leaf through tiny openings called (6) _____. The other raw material is (7) _____, which is taken up by the roots and travels to the leaves through tubes called (8) _____. Using light energy, the plant makes the sugar (9) _____ and releases the gas (10) _____ into the air.

Write the word equation. Use the words in the box above.

	+		+		→		+	
Raw materials (go in)					**Products (come out)**			

A. Choose one word from the box that you did not use. Write what it means.

EQUATION

COUNT THE ATOMS

My name: _____ Date .....

Count the atoms on each side of the equation.

$$6CO_2 + 6H_2O + \text{light energy} \rightarrow C_6H_{12}O_6 + 6O_2$$

The big number in front of a formula multiplies every atom in it. The small number after a letter says how many of that atom are in one molecule. Light energy has no atoms, so you do not count it.

Part A. Count the atoms in each part.

PART OF THE EQUATION	CARBON (C) ATOMS	HYDROGEN (H) ATOMS	OXYGEN (O) ATOMS
$6CO_2$ (worked example)	6	0	12
$6H_2O$			
$C_6H_{12}O_6$			
$6O_2$			

Part B. Add up each side. Do both sides match?

ATOM	TOTAL ON THE LEFT	TOTAL ON THE RIGHT	SAME? (YES OR NO)
Carbon (C)			
Hydrogen (H)			
Oxygen (O)			

Part C. Why must both sides have the same atoms?

SORT CUT AND PASTE: SORT IT

My name: _____ Date .....

Cut out the pieces. Paste each one in the right box.

Photosynthesis	Cellular respiration

Cut on the dashed lines.

Takes place in mitochondria	Releases carbon dioxide and water	Uses light energy	Breaks down glucose to release energy
Takes place in chloroplasts	Uses oxygen	Releases oxygen	Makes glucose

1. Write one sentence that shows how photosynthesis and cellular respiration are connected.

TRACKER

PHOTOSYNTHESIS TRACKER

STUDENT

TEACHER

UNIT DATES

PAGE	PAGE TYPE	ITEMS	RIGHT	DATE	NOTES
5	Label the Leaf	6			
6	Fill In the Blanks	15			
7	Count the Atoms	19			
8	Multiple Choice	8			
9	True or False? Fix It	8			
10	Read the Data, Draw the Graph	6			
11	Trace the Process	6			
12	Cut and Paste: Sort It	8			
13	Short Answers	5			
14	Explain It	3			

How to fill this in

Write how many items the student got right and the date. A written answer counts as one item when it makes every point in the key (pages 15 and 16). A blank means not tried yet, never wrong. There are 84 items on the 10 pages above; the reference page (4) is not scored. Filled example: page 21.

STANDARD OR UNIT GOAL (YOUR OWN WORDING)

EXAMPLE JORDAN'S TRACKER

Jordan T. is invented; nothing on this page describes a real student. The blank tracker is on page 17.

STUDENT	TEACHER	UNIT DATES
Jordan T. (an invented student)	**Ms. Reyes (invented)**	**October**

PAGE	PAGE TYPE	ITEMS	RIGHT	DATE	NOTES
5	Label the Leaf	6	5	10/12	Mixed up guard cell and stoma
6	Fill In the Blanks	15	13	10/13	Used a spare word twice
7	Count the Atoms	19	19	10/14	–
8	Multiple Choice	8	7	10/15	Missed number 7
9	True or False? Fix It	8	8	10/16	–
10	Read the Data, Draw the Graph	6	–	–	–
11	Trace the Process	6	–	–	–
12	Cut and Paste: Sort It	8	7	10/19	One piece in the wrong box
13	Short Answers	5	–	–	–
14	Explain It	3	–	–	–

How to read it

Jordan T. has done **6 of 10** scored pages and got **59 of 64** items right. **2** pages were all right and **5** items were missed across 4 pages. Every number here comes from the table above.

The family note this tracker would produce

"This month Jordan finished 6 pages and got 59 of 64 items right. The next thing to practice is naming the parts of the leaf and the words stomata and guard cell." — every number in it is a row of the table above.

What the table points to

4 pages carry a note and each one is short of full. Pages left blank (4 of them) are not tried yet, never wrong. The two writing pages, Short Answers and Explain It, are among them, so they are the next step.

THANK YOU

BEFORE YOU GO

THANK YOU FOR USING THIS RESOURCE

Built for the teacher whose students each need a different amount of support reading, writing and reasoning about science. If this helped, leaving feedback on TPT helps other teachers find it.

Everything inside, one more time

- **11 student pages** in 11 page types, **84 scored items**, every answer read from the same lists that draw the pages.
- **8 multiple-choice questions**, **8 true-or-false statements**, **8 cut-and-paste pieces** and **2 answer keys**.
- **1 tracker, 1 class grid, 1 team note, 1 family page, 1 filled example, 1 phrase bank** (15 starters), **1 binder cover** and divider tabs.

No real student anywhere in this file

The filled example on page 21 names "Jordan T.," an invented student used only to show how the tracker fills in. The experiment on page 10 is invented class data. No table, note or score anywhere in this resource describes a real child, and nothing here is a clinical judgment, an eligibility timeline, or a medical claim of any kind. Once you fill in a real student's name, the tracker, class grid and team note (pages 17, 18 and 19) do carry real information — keep completed pages secure the same way you would any other record.

Something missing or wrong?

Please use the **Ask a Question** tab on the product page first — every question is read, and a fix to the file is a free update you re-download from **My Purchases**.

WHAT'S NEXT FROM THIS STORE

More science and vocabulary for the same classroom, including lower-reading-level sets for students who need them.



Content Area Vocabulary: Science and Social Studies

Progress-monitoring probes for science and social studies words, grades 4-6.



Push and Pull Worksheets

A lower-reading-level science set: circle push or pull, sort and fill in, K-2.



Landforms and Bodies of Water Worksheets

A lower-reading-level earth science set: anchor chart, circle, odd word, cut and paste, K-2.

Click **Follow** on the store page and TPT will email you when new products go up.

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