

Photosynthesis

Upper Primary Advance Science

The different stages of Photosynthesis

1

LIGHT ABSORPTION

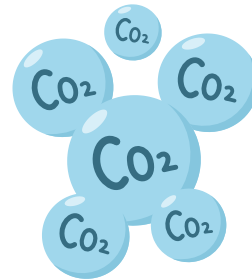
Plant leaves have a special substance called chlorophyll that helps capture the energy from sunlight and allows the plant to use this energy for making food



2

CO₂ UPTAKE

Plants take in carbon dioxide from the air through tiny pores on their leaves called stomata, which allow the gas to enter for photosynthesis.



3

WATER UPTAKE

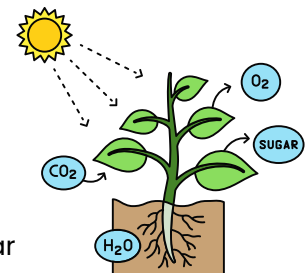
Plants use their roots to draw water up from the soil and then move this water to their leaves where it is needed for photosynthesis.



4

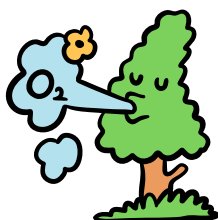
THE REACTION

Inside the chloroplasts, plants use sunlight to change water and carbon dioxide into sugar (glucose) and oxygen.



5

GLUCOSE PRODUCTION AND OXYGEN RELEASE



Photosynthesis creates glucose, which provides energy for the plant, and releases oxygen as a waste product through tiny pores called stomata. This oxygen then travels into the atmosphere, where it is vital for living organisms, including humans and animals, to breathe and survive.



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Answer the following questions.

- 1 What pigment in plant leaves absorbs sunlight during photosynthesis?

- 2 Through what tiny openings on leaves do plants take in carbon dioxide?

- 3 From where do plants absorb water to use in photosynthesis?

- 4 In which part of the plant cell does photosynthesis occur?

- 5 What are the two main substances that combine during photosynthesis to make glucose and oxygen?

- 6 Why is photosynthesis important for both plants and humans?

- 7 How do you think photosynthesis help to regulate the Earth's climate?

- 8 What three things do plants need to perform photosynthesis?



Photosynthesis - Solutions

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Answer the following questions.

- 1 What pigment in plant leaves absorbs sunlight during photosynthesis?
Chlorophyll.
- 2 Through what tiny openings on leaves do plants take in carbon dioxide?
Stomata.
- 3 From where do plants absorb water to use in photosynthesis?
From the soil through their roots.
- 4 In which part of the plant cell does photosynthesis occur?
In the chloroplasts.
- 5 What are the two main substances that combine during photosynthesis to make glucose and oxygen?
Water and carbon dioxide.
- 6 Why is photosynthesis important for both plants and humans?
It produces glucose for plants to use as energy and releases oxygen needed by humans and animals to breathe.
- 7 How do you think photosynthesis help to regulate the Earth's climate?
Photosynthesis takes in carbon dioxide, a greenhouse gas, helping to reduce its amount in the atmosphere and it slows down climate change.
- 8 What three things do plants need to perform photosynthesis?
Sunlight, water, and carbon dioxide.