

Photosynthesis

Revise the inputs, products, location and limiting factors of photosynthesis.

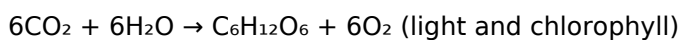
Inputs and products

Photosynthesis uses light energy to make glucose from carbon dioxide and water. Oxygen is released. Chlorophyll absorbs light; chloroplasts are the organelles in which photosynthesis occurs.

Limiting factors

Light intensity, carbon dioxide concentration and temperature can limit the rate. Increasing one factor only helps until another factor becomes limiting. Very high temperatures can reduce the rate by affecting enzymes.

Formula sheet



Worked example

Why does the rate stop increasing when light intensity rises beyond a certain point?

1. At low light intensity, light may be the limiting factor.
2. As light increases, the rate rises if other conditions are suitable.
3. At the plateau, another factor such as carbon dioxide availability limits the rate.

Try it yourself

1. Which gas is taken in for photosynthesis?
2. Why is a leaf boiled in ethanol during a starch test?

Check your answers

1. Carbon dioxide.
2. To remove chlorophyll so the iodine colour change can be seen. Ethanol is heated in a water bath because it is flammable.

Common mistake

Plants also respire. Photosynthesis and cellular respiration are different processes.

Source and scope

Original Pass Papers ZA revision notes; curriculum reference linked below.

Updated 2026-10-28. Selected revision topics, not an official examination paper. Check your teacher's scope.

Official DBE curriculum / textbook reference

Read online: <https://passpapers.co.za/study/revision/grade-11-life-sciences-photosynthesis>