

KS3 – Year 8 Photosynthesis

Home Learning booklet

Here are some links to videos you can watch to help you

<https://www.youtube.com/watch?v=UPBMG5EYydo>

<https://www.youtube.com/watch?v=N8P1OT-3R6o>

<https://www.youtube.com/watch?v=BymcnzTj0Gg>

Don't forget to also use KS3 Science Bitesize

<https://www.bbc.co.uk/bitesize/topics/zvrrd2p/articles/zn4sv9q>

At the end of the booklet is an assessment task – more information on how to submit this will be given in a weeks time.

This work should be completed within two weeks including the assessment task.

Photosynthesis Word Search

O	X	Y	G	E	N	B	C	N	M	F	Y	S	R	E	D
T	B	H	U	R	E	T	A	W	Z	Q	S	F	U	R	D
D	R	L	I	K	B	M	R	Z	X	O	W	X	L	E	F
I	O	Y	D	T	I	T	B	L	R	E	J	D	L	C	I
F	S	X	U	H	L	P	O	E	K	Q	P	D	Y	U	I
F	B	A	T	G	K	C	N	N	Q	E	A	G	H	D	Q
U	A	U	S	I	I	T	D	E	X	F	L	U	P	O	N
S	R	T	A	L	W	C	I	R	Q	A	I	Y	O	R	E
I	B	O	L	A	T	V	O	G	G	O	S	C	R	P	T
O	Y	T	P	T	F	Q	X	Y	L	V	A	X	O	D	J
N	C	R	O	A	F	T	I	Q	U	L	D	S	L	A	A
O	M	O	R	M	Y	P	D	S	C	F	E	Q	H	A	J
W	N	P	O	O	U	X	E	T	O	L	C	R	C	Z	D
X	G	H	L	T	A	M	F	L	S	M	E	E	N	P	Z
E	T	H	H	S	R	A	T	E	E	Q	L	A	W	U	K
K	I	G	C	Q	F	U	O	A	P	F	L	J	F	U	S

carbon dioxide

water

light

glucose

oxygen

chlorophyll

leaf

palisade cell

chloroplast

stomata

diffusion

absorb

sun

producer

autotroph

energy

rate



Choose ten words from the wordsearch and write a definition

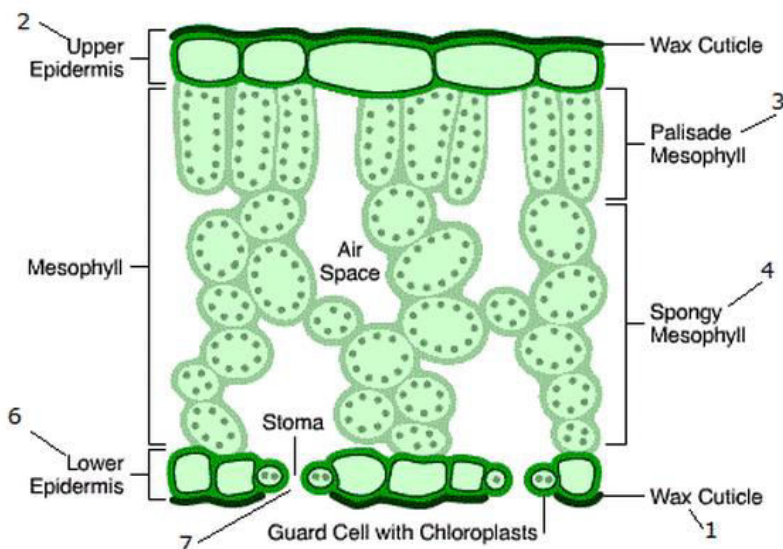
Word	Definition

Fact Sheet – please read

- Plants photosynthesise to produce their own food.
- The word equation for photosynthesis is given above.



- The water is taken in by the roots from the ground and the xylem vessels transport water around the plant
- Plants also need sunlight to photosynthesize. The chlorophyll (green pigment) found in the chloroplasts inside plant cells absorb the sunlight.
- Phloem vessels transport food substances around the plant.
- Plants store the glucose they make as starch.
- The leaf is where photosynthesis takes place it has different cells in it which have different functions.

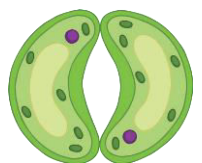


The palisade cells is where most of the photosynthesis takes place and the spongy mesophyll layer allow gases (oxygen and carbon dioxide) to diffuse out.

Find more information here

<https://biology-igcse.weebly.com/leaf-structure.html#>

- Stomata are tiny holes on the underside of a leaf which allow carbon dioxide to diffuse in and oxygen and water to diffuse out.



Parts of A Plant

TASK

Draw a picture of a plant and label as many parts as you can.

Match up the part of the plant and to their function (job).

petals

releases pollen which brushes onto insects when they land on a flower

leaves

absorb water and minerals from the soil

stem

attract insects and birds to the plant

roots

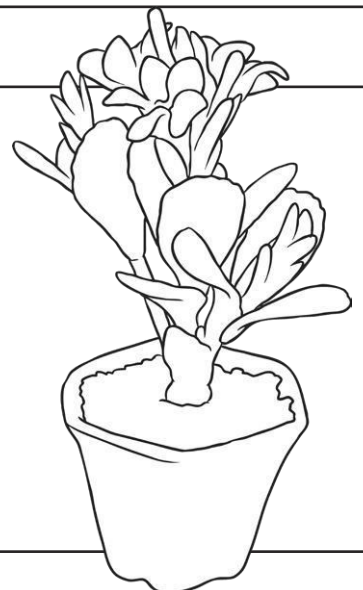
make food for the plant from CO₂ and sunlight

anther

transports water around the plant

Choose one to research:

- About why a venus fly trap needs insects
- about the reproductive organs in a plant
- what pollination is;
- methods used by other plants for pollination.



Photosynthesis and Leaf Adaptations **Match and Draw**

Draw a line to match the keyword with the correct meaning. You may need to google these terms if you are unsure.

Glucose

Energy source for photosynthesis reaction

Oxygen

Waste product of photosynthesis reaction

Carbon dioxide

Layer of the leaf which contains many spaces for gas exchange

Palisade cell

Reactant of photosynthesis reaction

Stomata

Specialised plant cell with many chloroplasts

Spongy mesophyll

Useful product of photosynthesis reaction

Chlorophyll

Pigment which absorbs sunlight energy

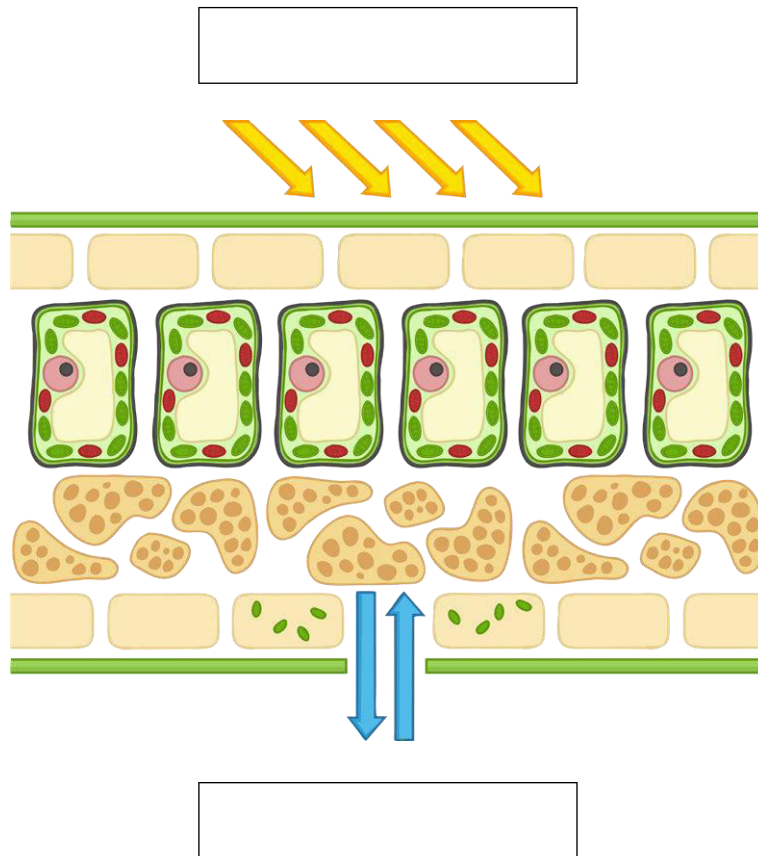
Sunlight

Pores on the under side of the leaf for gas exchange and transpiration

Structure And Adaptations of A Leaf Cut And Stick – use the internet to help

Cut out the LABELS AND MATCH them to the LAYERS of the LEAF.

Cut out the ADAPTATION descriptions AND functions AND MATCH them in the TABLE.



ADAPTATION	Function

LABELS

upper LAYER	sunlight	spongy LAYER
PALISADE LAYER	stOMATA	lower LAYER

ADAPTATION Descriptions AND Functions

CHANGE SHAPE to open AND close the stOMATA	chlorophyll	stOMATA
xylem tubes	TRANSPORTS food in the PLANT	ALLOWS the EXCHANGE of gASES (CO ₂ in / O ₂ out)
reduces the distance for CO ₂ to diffuse into the LEAF	ABSORBS sunlight	GUARD cells
thin SHAPE	TRANSPORTS water in the PLANT	phloem tubes

Photosynthesis Summary – use the fact sheet to help

Use these words to fill in the gaps.

glucose

oxygen

carbon dioxide

sugar

producers

sunlight

animals

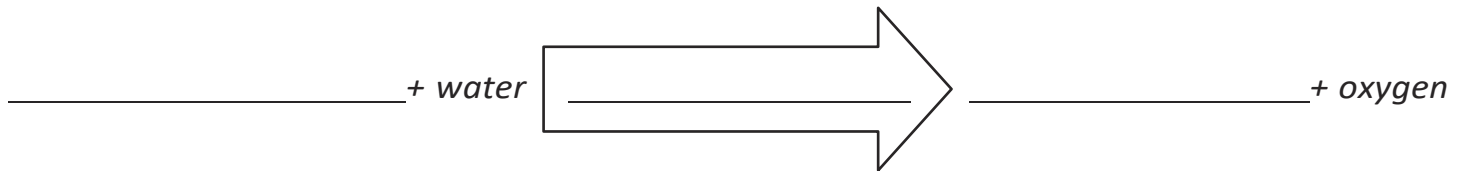
chlorophyll

water

nutrients

growth

plants



Photosynthesis needs:

1. _____
2. _____
3. _____
4. _____
5. _____

Photosynthesis produces:

1. _____
2. _____

Photosynthesis is essential for _____ and takes place in _____.

Green plants are _____. This means that they can survive without _____. They need simple things like _____-dioxide and water. Plants can make complete things like _____, starch, fat and proteins. When plants are in sunlight they can make a sugar called _____.

The

_____ gets trapped in a chemical called Chlorophyll. _____ is what makes the plant green. When plants use carbon dioxide and water to make glucose there is a lot of _____ left over.

