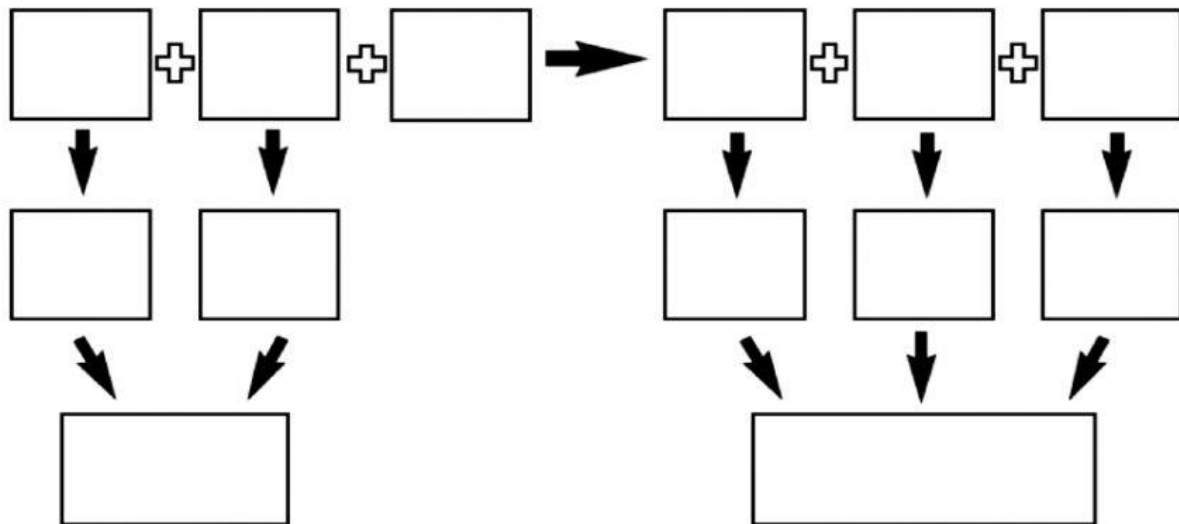


# PHOTOSYNTHESIS

MSc. Boris Guerra R

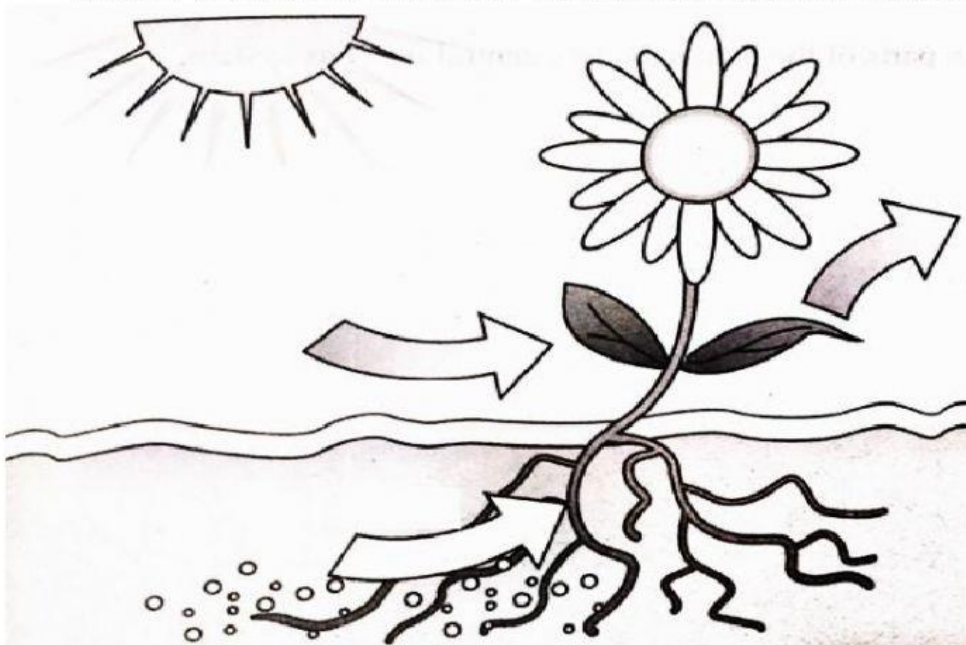
NAME:..... COURSE:..... Date: .....

I. DRAG AND DROP THE CORRECT COMPONENTS AND REACTANTS TO FILL IN THE EQUATION FOR PHOTOSYNTHESIS.



GLUCOSE	PRODUCTS	$C_6H_{12}O_6$	LIGHT ENERGY	$6H_2O$	$6CO_2$	WATER
$12H_2O$	CARBON DIOXIDE	REACTANTS	OXYGEN	$6O_2$	WATER	

II. LABEL THE PICTURE COMPLETE THE PROCESS FOR THE PHOTOSYNTHESIS



# Hidden Message Word Search

Find each of the vocabulary words listed below in the puzzle. They may be across, up and down, backwards or diagonal. Circle or cross out each word. When you're finished finding all of the words, look carefully at the first three rows of the puzzle. Write the letters that remain in these rows in the spaces below the puzzle. Make sure to copy them in the exact order that they appear. This will reveal the hidden message.

ATP  
AUTOTROPH  
BACTERIA  
CALVIN-BENSON  
CARBON  
CAROTENOID  
CHLOROPLAST

CHLOROPHYLL  
GRANUM  
HETEROTROPH  
MESOPHYLL  
PHOTONS  
PHOTOSYNTHESIS  
PROTISTS

STOMA  
STROMA  
THYLAKOID  
TRANSPIRATION

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

Message: \_\_\_\_\_

\_\_\_\_\_

**IV. MATCH THE FOLLOWING COLUMNS, READ CAREFULLY.**

What is the overall reaction for photosynthesis?
How does the overall reaction to photosynthesis compare to the overall reaction for cellular respiration?
Where does the energy for photosynthesis come from?
What plant pigments are involved in photosynthesis?
Explain why chlorophyll appears green to us in terms of what happens to different wavelengths of light that strike a chlorophyll molecule.
How does the amount of energy in light change as the wavelength increases.

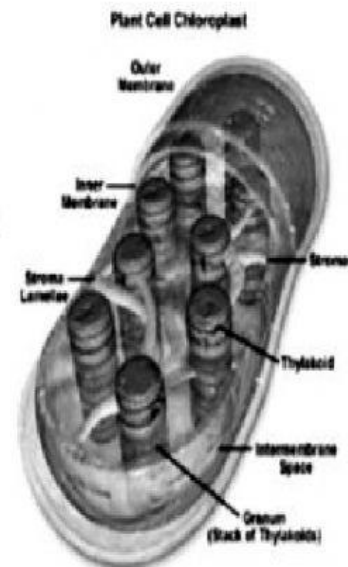
The sun
To create glucose
Chlorophyll a Carotenoids Xanthophylls Chlorophyll b
Since cellular respiration starts off with glucose and ends with ATP, they are opposites
As the wavelength increases the amount of energy decreases
Chlorophyll is not good at absorbing green wavelengths so instead it reflects them



## V. COMPLETE THE FOLLOWING PARAGRAPH, USE THE WORDS BELOW.

**Chloroplasts**

\_\_\_\_\_ is a process in which sunlight energy is used to make  
 \_\_\_\_\_. The site of photosynthesis is in the \_\_\_\_\_ - an organelle  
 found in the \_\_\_\_\_ of green plants. The main functions of chloroplasts are  
 to produce food (glucose) during photosynthesis, and to store food  
 \_\_\_\_\_. Chloroplasts contain the \_\_\_\_\_ *chlorophyll*. Chlorophyll absorbs  
 most of the colors in the color spectrum, and reflects only green and  
 yellow \_\_\_\_\_ of light. This is why we see leaves as green or yellow -  
 because these colors are reflected into our eyes.

chloroplast

Photosynthesis

glucoseleavesenergypigmentwavelengths

## VI. ANSWER THE FOLLOWING QUESTIONS.

The products are glucose and oxygen. The glucose produced is used by the plant for energy and growth.  
 We also use this glucose by eating plants. The oxygen produced is released into the air for us to breath.  
 Photosynthesis is essential for all life on earth, because it provides food and oxygen. Plants are  
 considered autotrophs because unlike us humans, they can make their own food using this process.

What is produced in photosynthesis? \_\_\_\_\_

What is the glucose used for? \_\_\_\_\_

What is the oxygen used for? \_\_\_\_\_