

# Photosynthesis, Cell Respiration, Fermentation Study Guide



Name: KEY Date: \_\_\_\_\_ Period: \_\_\_\_\_

Directions: Do your best to fill in the following chart from memory. If you need help, then use your notes.

	Photosynthesis	Cell Respiration
Organelle it occurs in	Chloroplast	mitochondria
Reactants (in)	$CO_2 + H_2O + \text{light}$	$O_2 + C_6H_{12}O_6$
Products	$O_2 + C_6H_{12}O_6$	$CO_2 + H_2O + \text{ENERGY}$
Energy Conversion	(from <u>light</u> energy to <u>chemical</u> energy)	(from <u>chemical</u> energy to <u>chemical</u> energy)
What molecule is the energy stored in as a result of this process?	Glucose	ATP
Chemical equation	$CO_2 + H_2O + \text{light} \rightarrow O_2 + C_6H_{12}O_6$	$C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O + \text{Energy}$
Does it require light?	YES	NO
What types of cells does it occur in?	Plant	Plant + Animal

1.) Which of the above listed processes requires oxygen? (photosynthesis or cell respiration)

Cell Resp.

2.) How does a cell get ATP when there is no oxygen available?

Fermentation (Anaerobic Respiration)

3.) Compare and contrast cellular respiration and fermentation.

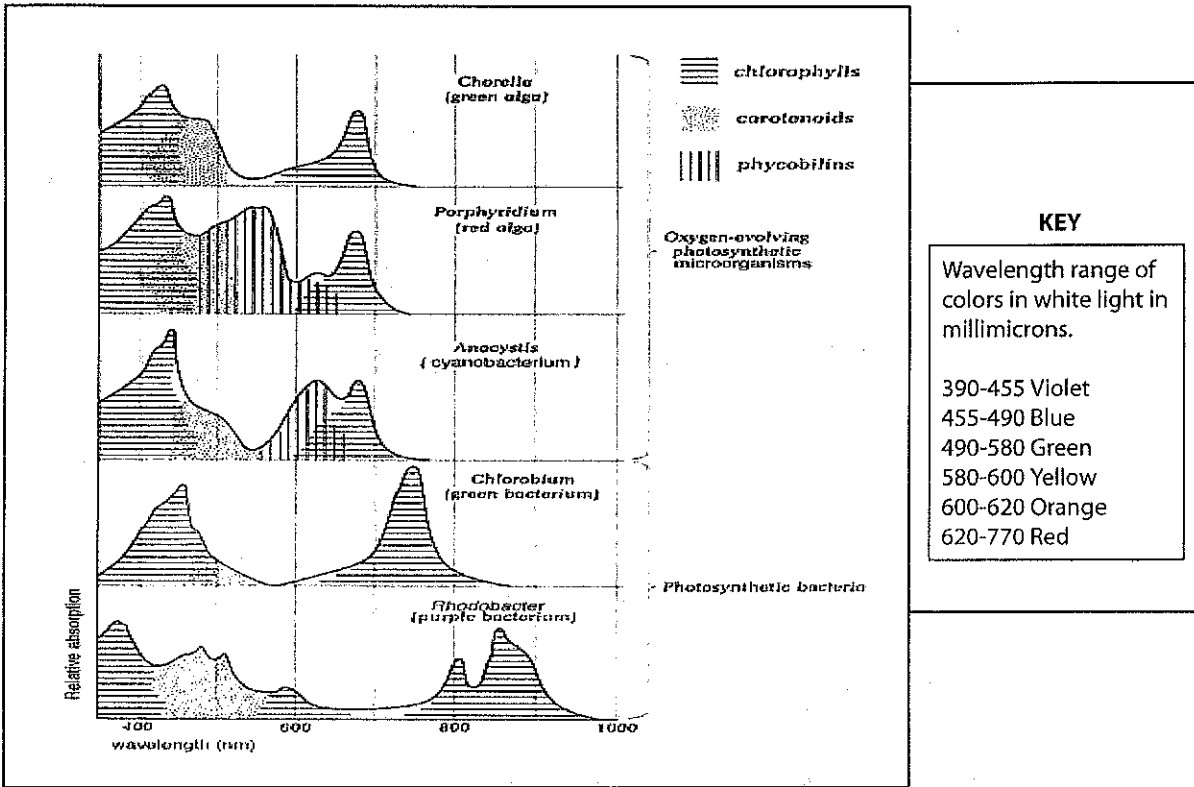
Compare - produces energy, process to get energy

Contrast - Ferm - little energy, no  $O_2$

CR - lots energy,  $O_2$

Review Time!

USE THIS GRAPH TO ANSWER QUESTIONS 4-7.



4. What colors of light are used the most by chlorophylls? Red + Violet, blue  
 5. How can you tell from the above graph?

Both are high absorption

6. What color of light is NOT used by chlorophylls? Green  
 7. How can you tell from the above graph?

Low absorption, being reflected

8. Joe has a red shirt on today. Why does her shirt appear red?

Reflects red wavelength, absorbs all other wavelengths

