

# Welcome To 7<sup>th</sup> grade Life Science!

Mrs. Winters

## Materials Needed

### Today

Please take these materials out of your backpack.

- Pencil
- Chapter one Notes (final day!)
- Pond Water Lab—Pass

## Hot Sync

Wednesday 9/10/14

Answer the following questions in **complete sentences** on the hot sync worksheet.

- What was your favorite part about the Pond Water lab yesterday and why? (2 Sentences)

www.online-stopwatch.com

00:00:00

Clear

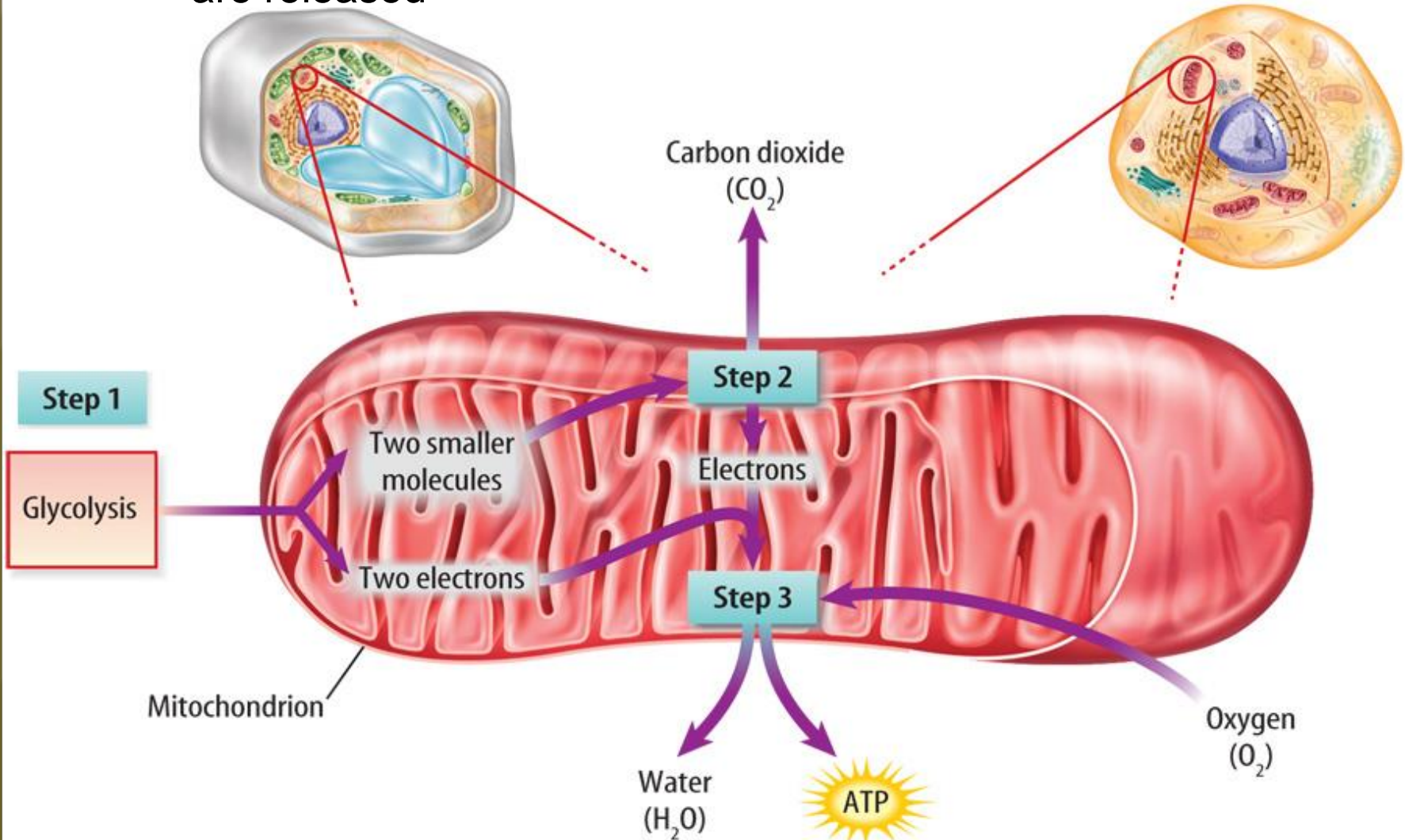
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# Cellular respiration Video

<http://www.neok12.com/php/watch.php?v=zX787d585f475a015b5c7c06&t=Photosynthesis>

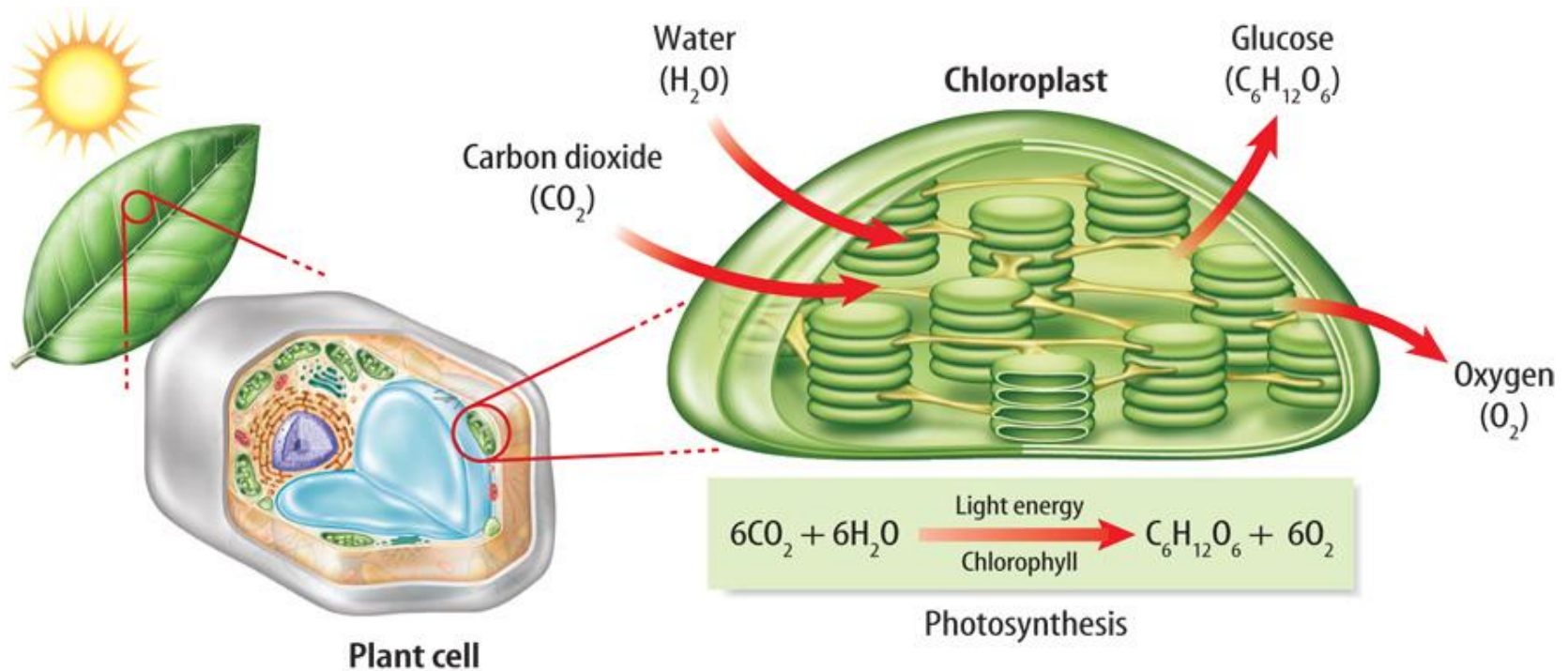
# Reactions in Mitochondria

- Step 2: smaller molecules are broken down more electrons are released



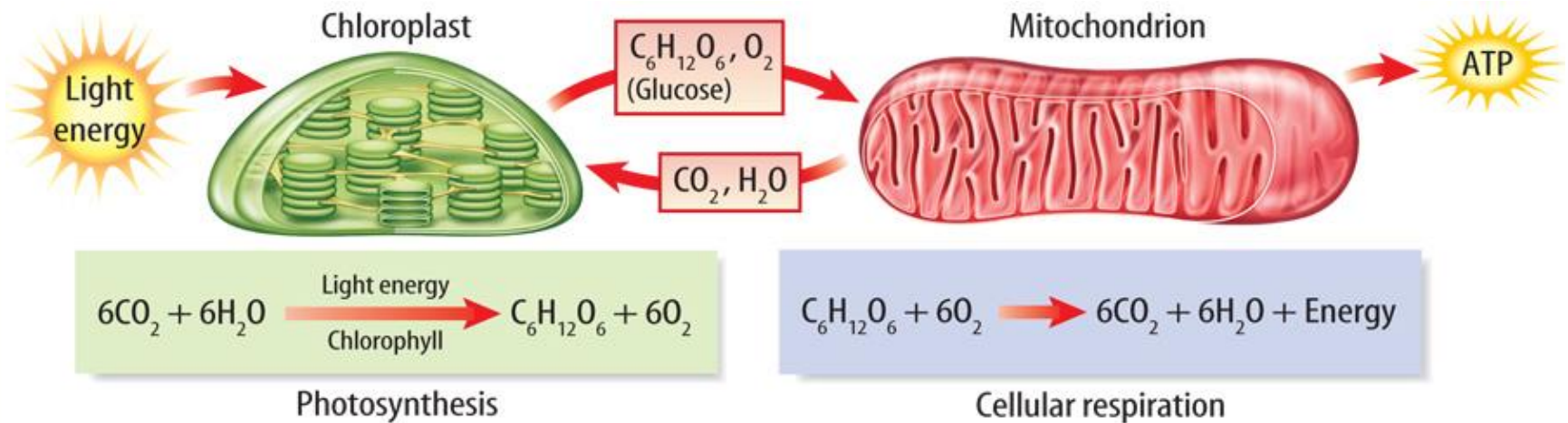
# Reactions in Chloroplasts

- Photosynthesis uses light energy, water, and  $\text{CO}_2$  to make sugars.








# Importance of Photosynthesis

- The cells of most organisms use sugars produced by photosynthesis.
- It supplies Earth's atmosphere with oxygen which is needed for cellular respiration.




## 1.3 Cells and Energy

### LESSON Vocabulary

-  cellular respiration
-  ATP
-  glycolysis
-  fermentation
-  photosynthesis



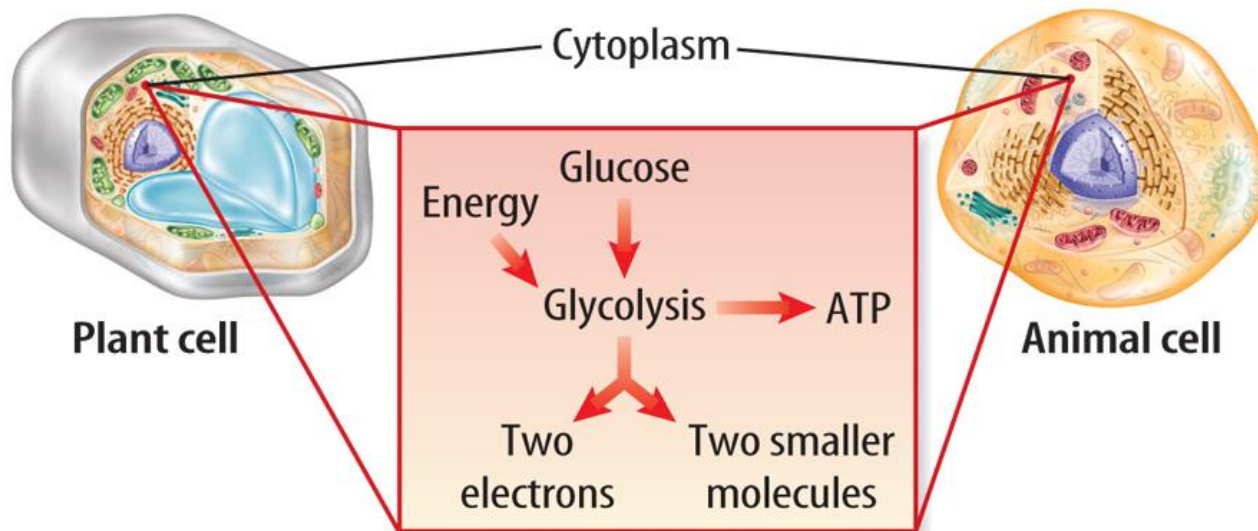
# Cellular Respiration

- Series of chemical reactions that transforms the energy in food molecules to usable energy.
-  • **ATP**—adenosine triphosphate—a usable molecule of energy



# Reactions in the Cytoplasm

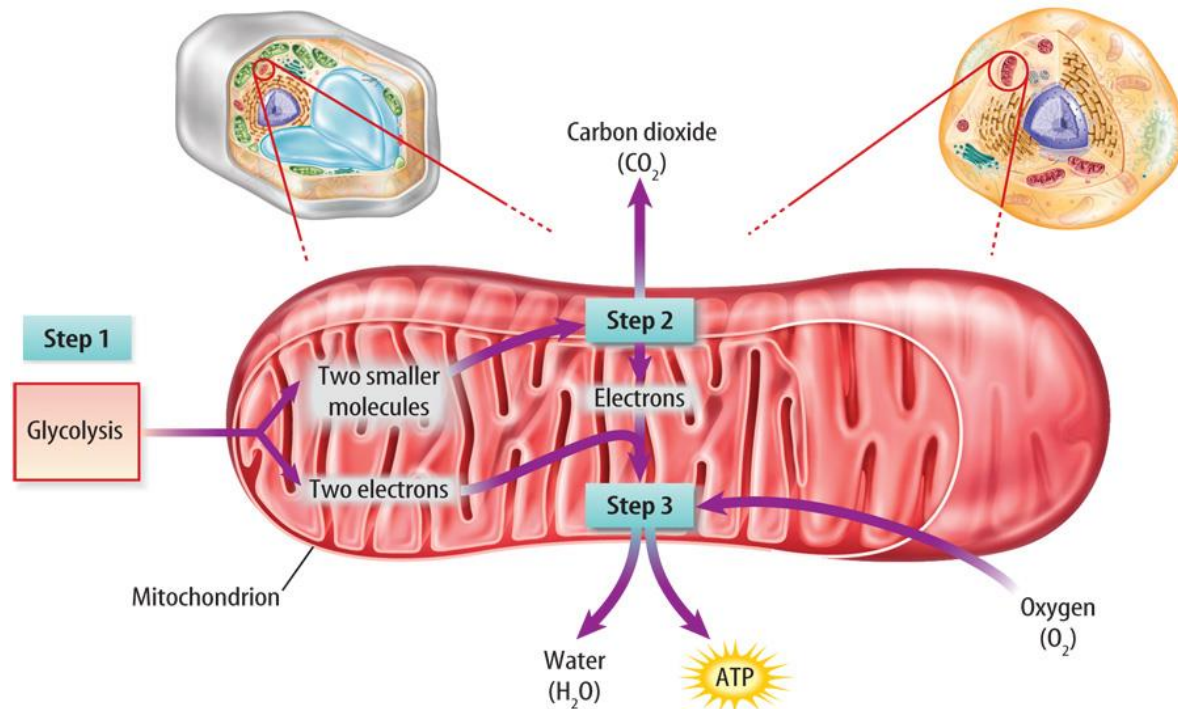
- ◀ • **Glycolysis** (step 1 of cellular respiration)
  - Transforms glucose to smaller molecules
  - Requires energy and releases electrons





## Reactions in Mitochondria (cont.)

- Step 3 (final step): requires oxygen and uses electrons from steps 1 and 2 to produce ATP and water



# Fermentation

- Occurs in cytoplasm only
- Does not use oxygen
- Produces fewer ATP molecules compared to cellular respiration
- Types of fermentation
  - Lactic acid fermentation
  - Alcohol fermentation



**Table 3 Processes that Release Cellular Energy**

Process	Oxygen Required	Number of ATP Molecules Available to a Cell	Waste Products
Cellular respiration	Yes	36	Water, carbon dioxide
Lactic acid fermentation	No	2	Lactic acid, carbon dioxide
Alcohol fermentation	No	2	Alcohol, carbon dioxide



# Photosynthesis

- Consists of a series of chemical reactions
- Transforms light energy to food



Resources



# Light and Pigments

- Objects reflect some colors and absorb others.
- Chloroplasts in plants contain the pigment chlorophyll that reflects green light.

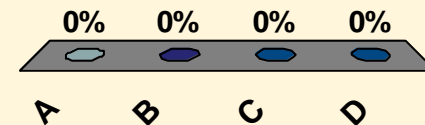


## LESSON 3 Review



**Glycolysis is part of what process?**

- A** cellular respiration
- B** lactic acid fermentation
- C** alcohol fermentation
- D** photosynthesis



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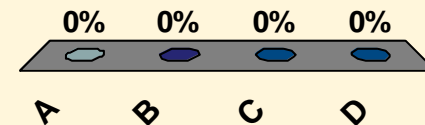


## LESSON 3 Review



What makes leaves appear green?

- A water
- B carbon dioxide
- C glucose
- D chlorophyll**



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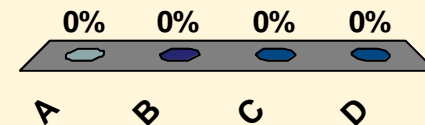


## LESSON 3 Review



Where does photosynthesis occur?

- A cytoplasm
- B mitochondria
- C chloroplasts
- D muscles



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