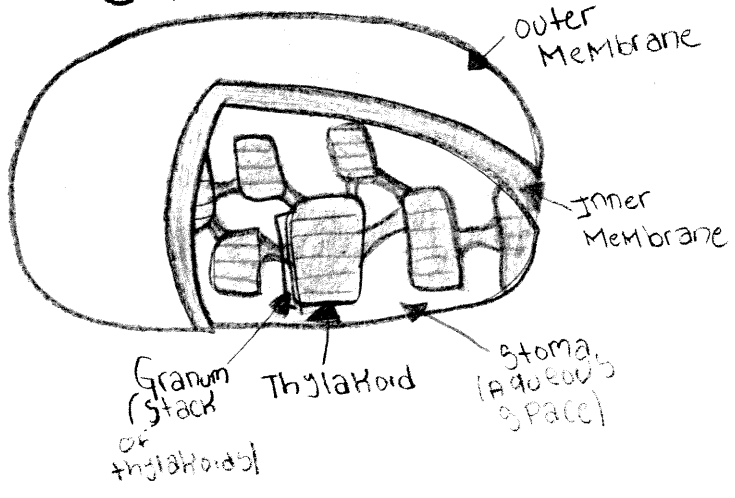


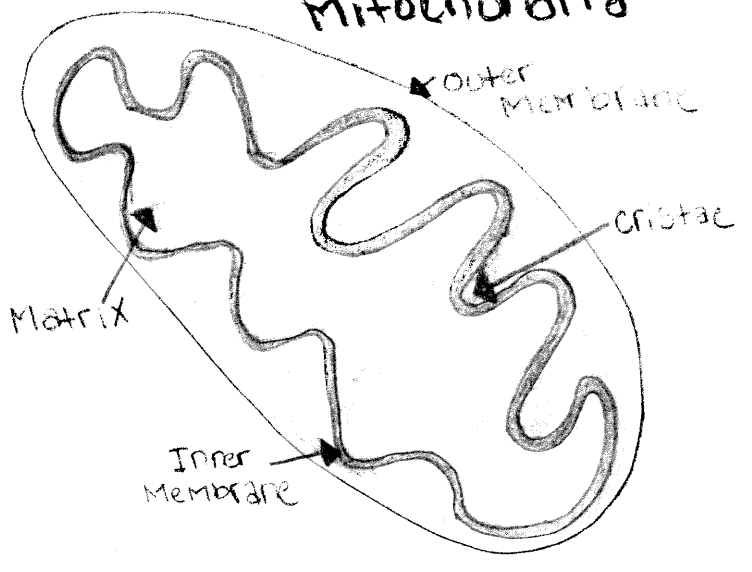
# Photosynthesis 104

# Cellular Respiration 114

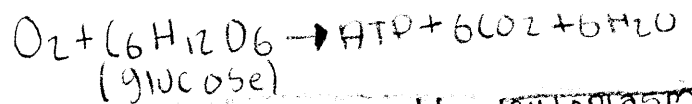
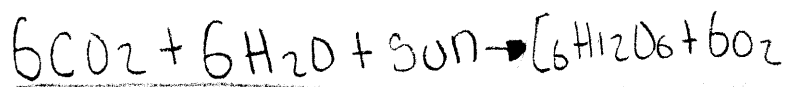
## Chloroplast



## Mitochondria



# Metabolism - Energy Transformations



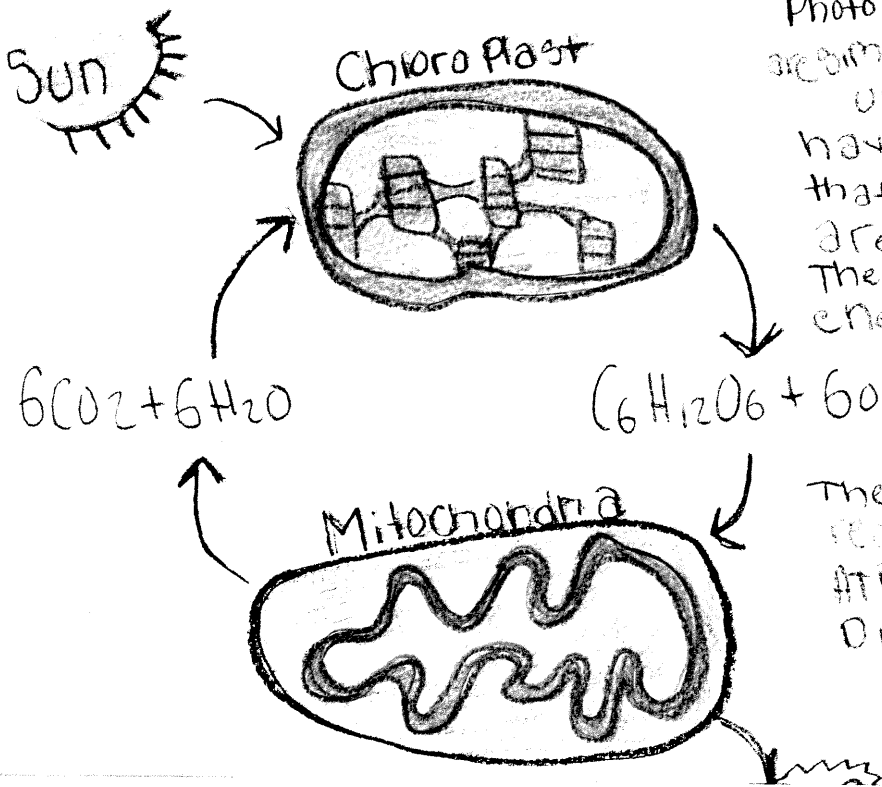
In light-dependent reactions sunlight is absorbed to create an excited electron. Then the electron moves down the ETC to make ATP. The product of this was  $6\text{O}_2$ .

Glycolysis occurs in the cytoplasm and is the splitting of glucose into two pyruvic acid molecules. The products of glycolysis is pyruvic acid and it creates 2 ATP.

In the light-independent reaction ATP is the energy that is used. Carbon Dioxide then enters and then the  $\text{CO}_2$  is broken down. An organic compound is made to create glucose.

The Krebs cycle takes pyruvic acid from glycolysis and then makes  $\text{CO}_2$ ,  $\text{NADH}$ , 2 ATP, and  $\text{FADH}_2$ . The Krebs cycle takes place in the Matrix of the Mitochondria.

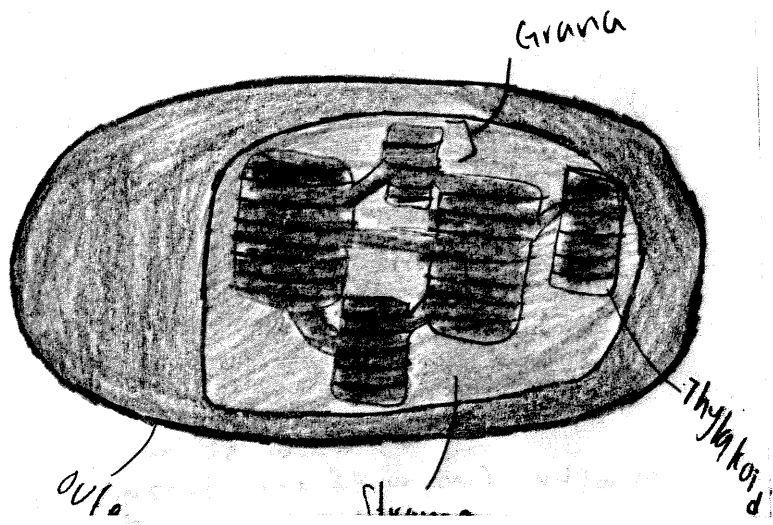
The Electron Transport Chain takes place in the Cristae of the Mitochondria. The electrons are supplied by  $\text{FADH}_2$  and  $\text{NADH}$ . The products are  $\text{H}_2\text{O}$  and 34 ATP.



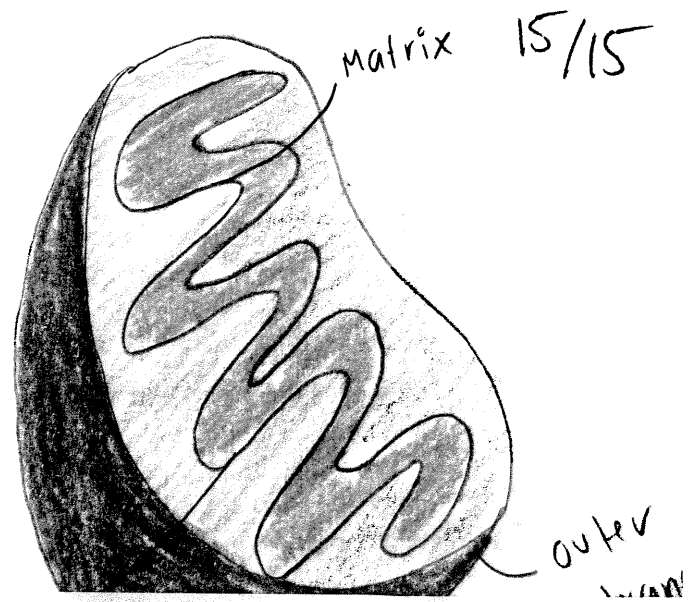
Photosynthesis and cellular respiration are similar in the way that they both use the same molecules. They both have an equation and a process that the cell follows. Both processes are completed in organelles. They both use and create energy (ATP). The products and reactants that are used in each equation are  $\text{O}_2$ ,  $\text{H}_2\text{O}$ , ATP,  $\text{C}_6\text{H}_{12}\text{O}_6$ . These molecules that are recycled in each process are ATP, oxygen, and carbon dioxide.

Metabolism - Energy Transformations

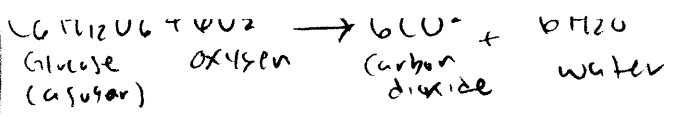
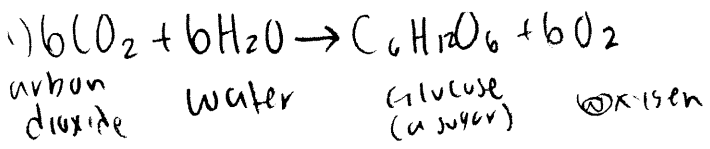
Photosynthesis (104)



Cellular Respiration (114)



Metabolism - Energy Transformation



- a). 1). Energy absorbed from sunlight.  
 2). Energy carried along thylakoid such as ATP.  
 3). CO<sub>2</sub> is added to cyclic of chemical reactions  
 4). Glucose is formed

- b). 2 three part molecule of glucose happens in the matrix  
 c). Krebs cycle produces molecules that carry energy takes place in matrix, 2 ATP.  
 d). Electron transport chain is when chlorophyll enters, series of proteins in membrane of thylakoid, takes place in mitochondria membrane, 34 ATP

c). Use energy from light-dependent reactions, occur in stroma of chloroplast, uses CO<sub>2</sub> during photosynthesis

