Respiration

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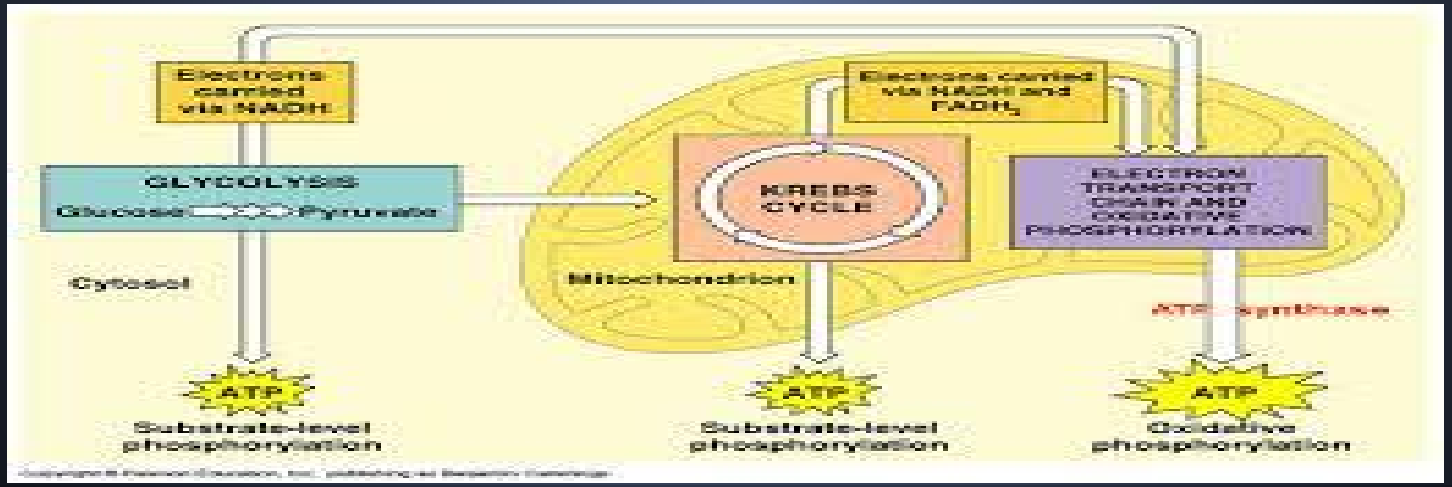
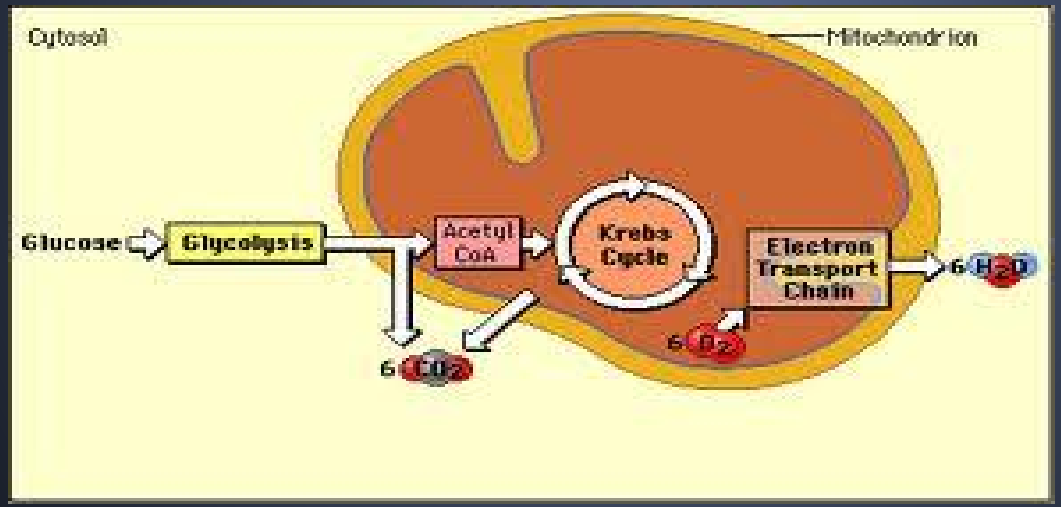
Respiration:

"The process in which pyruvic acid is broken down to release CO_2, H_2O, and 34 ATP."

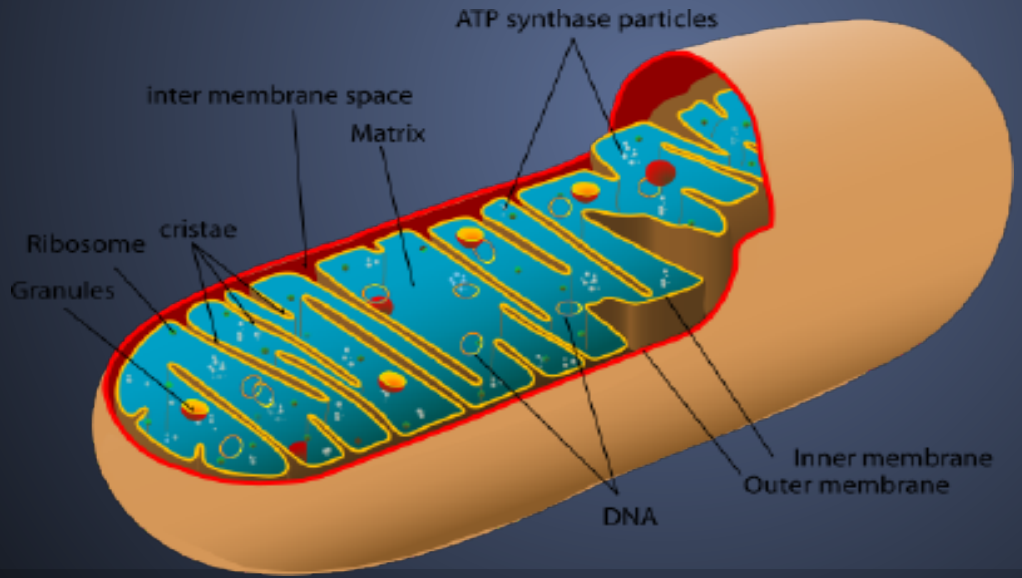


Function

Add O_2 to glucose to make ATP (energy).



Organelle Structure



Vocabulary

Cellular Respiration - The process of releasing energy from organic substance (glucose/food) and being stored as energy (ATP) to be use as needed throughout the cells in an organism.

ATP - adenosine triphosphate is a nucleotide that contains a large amount of chemical energy; formula $C_{10}H_{16}N_5O_{13}P_3$

Vocabulary

continued

Glucose - monosaccharide sugar that is a very important source in cellular respiration that provide the source of energy; relating back to ATP; formula ($C_6H_{12}O_6$).

Mitochondria - a type of organelle found in most cell in large quantities.

Fermentation - anaerobic form of respiration due to the result of low supply of ATP produced; chemical breakdown.

KEY

C: Carbon

H: Hydrogen

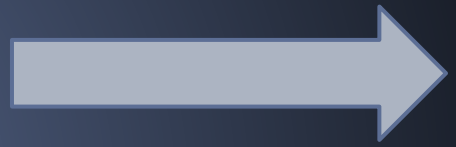
O: Oxygen

CO_2: Carbon Dioxide

$C_6H_{12}O_6$: Glucose

ATP: Adenosine Triphosphate

Equations

$C_6H_{12}O_6 + 6O_2$ 

$6CO_2 + 6H_2O + ATP$

THAT MEANS

A glucose and six oxygens make six carbon dioxide, six water and some energy.

GLYCOLYSIS

In the cytoplasm, 2 ATP are used on a glucose.

Makes two pyruvate and makes a profit of 2 ATP

“The process in which glucose is converted to pyruvic acid to release 2 molecules of ATP.”

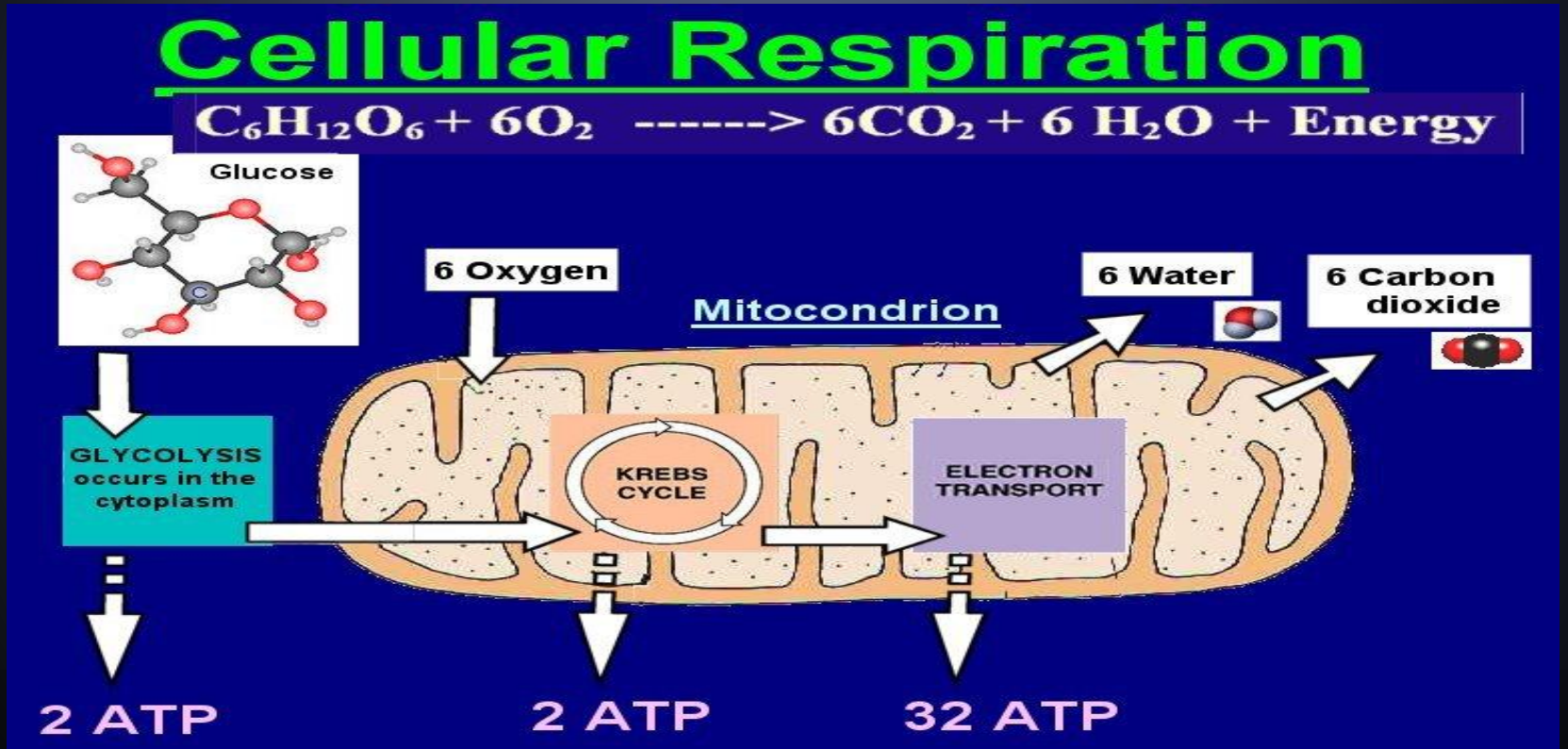
KREBS CYCLE

NAD+ and carbons and NADH make ATP.

ELECTRON TRANSPORT CHAIN

Electrons move between cytochromes, forcing proton movements. The pull of the protons makes ATP form.

Diagram


Cellular Respiration
$C_6H_{12}O_6 + 6O_2$ ------> $6CO_2 + 6\ H_2O$ + Energy
Glucose
6 Oxygen
Mitocondrion
6 Water
6 Carbon dioxide
GLYCOLYSIS occurs in the cytoplasm
KREBS CYCLE
ELECTRON TRANSPORT
2 ATP
2 ATP
32 ATP

IN CONCLUSION

Starting with glucose, there area series of ATP producing cycles.

IN REVIEW

What are the three main steps?

IN REVIEW, ANSWERS

1. Glucose splits into pyruvate (glycolysis)
2. pyruvate is broken down into CO_2 (Krebs Cycle)
3. ATP is made when CO_2 is made. (electron transport chain)

THANK YOU

You have now learned more.

BIBLIOGRAPHY

http://www.youtube.com/watch?v=00jbG_cfGuQ

https://www.youtube.com/watch?v=0IJMRsTcwcg