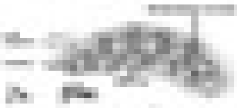
Bio. I - Name: Answers

-Cells and Energy-

1. What is "photosynthesis"?

How autotrophs use sunlight to convert CO_2 + H_2O into food (glucose)



*In what organelle does it occur? Chloroplast

*How does structure relate to function in this organelle?

Plants need chlorophyll to trap sunlight and chlorophyll is found in the thylakoids in a chloroplast. Chloroplasts have tons of thylakoids to capture tons of sunlight!!

2. Think about the equation for photosynthesis and complete the following:

*Name 2 materials needed for Photosynthesis: CO_2 + H_2O

*Name 2 materials produced by Photosynthesis: glucose ($C_6H_{12}O_6$) + O_2

3. What is Cellular Respiration?

How cells convert food/sugar (glucose) into ATP energy (cellular energy)

4. Think about the equation for Cell Respiration [illegible] and complete the following:

*Name 2 materials needed for cell respiration: (glucose) $C_6H_{12}O_6$ + O_2

*Name 2 materials produced by cell respiration: CO_2 + H_2O

*What is the "energy" product that is created??? ATP

5. In what cell organelle does respiration take place in your body? Mitochondria

*How does structure relate to function in this organelle?

Mitochondria have a lot of inner membrane (all folded up) and this membrane contains the enzymes that build ATP. So more inner membrane = more ATP energy!

6. Photosynthesis and cell respiration [illegible] each other. * Explain what is meant by this.

The [illegible] produced by each process are what's needed for the other process! [illegible] of photo are the products of C.R., and products of C.R. are [illegible] of photo!

7. Describe the flow of ENERGY through ecosystems.

Energy can only flow from Sunlight → food energy (glucose) → ATP → heat energy in the ecosystem