Life Science 7

Chapter 4-2 p 94-97 "Cell Energy **Objectives**

- Describe <u>photosynthesis</u>, and be able to write the chemical equation for it.
- Describe <u>cellular respiration</u>, and be able to write the chemical equation for it.
- Compare cellular respiration with <u>fermentation</u>. **From Sun to Cell: Photosynthesis**

•The ultimate source of all the energy on Earth is the _____

•photosynthesis: _____

-takes place in the ______of plant cells, which

contain the green pigment _____

-the end product of photosynthesis is the simple sugar,

_____(_____)

•The equation for photosynthesis is:

Getting Energy from Food

• Organisms use two methods of getting energy (ATP)

and

Cellular Respiration

•Converts ______ into _____

•Requires ______ to operate

•Takes place in the ______ of cells (both plant and animal cells)

| •Produces about | ATP | per | glucose |
|-------------------|-----------------|------|------------|
| –ATP is then used | to provide ener | gy t | o the cell |

•The equation for cellular respiration is:

•Note: this is basically the reverse equation for photosynthesis!

Fermentation

- Only produces _____ ATP per glucose.
- So why use it?

– Does not require _____!

- Some types of bacteria use it exclusively

- When muscle cells are out of oxygen, they also switch to fermentation (during strenuous exercise, for example)

• Two types of fermentation - <u>lactic acid fermentation</u>: produces ______ (ex: muscle cells.... feel the *burn!*)

ethyl alcohol fermentation: produces ______
(yeast, bacteria)