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| **GVC #1 -- I can explain the basic chemistry, structure and function of cells.** |
| **Learning Target - d.** I can investigate the cycling of matter and energy on cellular level. |

**BOOK NOTES #6 – Photosynthesis and Respiration**

Pages 49-60

1. What molecule is the primary energy source for cells?
2. Define:
   1. Autotroph –
   2. Heterotroph –
3. Write down the chemical equation for photosynthesis:
4. What happens during the light reaction of photosynthesis?
5. What happens during the Calvin Cycle of photosynthesis?
6. Photosynthesis takes place in what organelle?
7. What is cellular respiration?
8. Cellular respiration converts \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. Write down the equation for cellular respiration:
10. Compare the equations for photosynthesis and cellular respiration, what do you notice about them?
11. Cellular respiration takes place in what organelle?
12. Fermentation is when cells do cellular respiration without oxygen. Give an example of fermentation in humans and describe what is produced.

Complete the Table using the words and phrases in the box below:

|  |  |  |
| --- | --- | --- |
| * Green plant cells | * Chloroplast | * Release energy from food |
| * CO2 + H2O + ATP | * Glucose + O2 | * All cells |
| * Mitochondria | * Capture & Store energy | * Glucose + O2 |
| * CO2 + H2O + light | | |

**Photosynthesis vs. Respiration**

|  |  |  |
| --- | --- | --- |
|  | **Photosynthesis** | **Respiration** |
| **What is its purpose?** |  |  |
| **What type of cells do this?** |  |  |
| **What organelle in the cell does this?** |  |  |
| **Reactants** |  |  |
| **Products** |  |  |

Which process:

Releases energy for the cell?

Stores energy for the cell?

What type of energy:

Is used to make food during photosynthesis?

Is made during respiration?