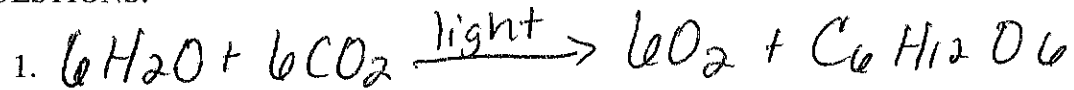


PHOTOSYNTHESIS STUDY GUIDE

QUESTIONS:



- ADP is used for storing energy and has two phosphate groups. ATP is used for quick bursts of energy and has three phosphate groups.
- Photosynthesis takes place in the chloroplast.
- Light Dependent Reactions take place in the Thylakoid Membrane while Light Independent Reactions take place in the stroma.
- The products of Light Dependent Reactions are ATP and Oxygen. The products of a Light Independent Reaction are Glucose and Oxygen.
- The Calvin Cycle gets its energy from ATP.
- Steps to a Light Dependent Reaction:

#1 – Photosystem II – Water is broken down by sunlight into Hydrogen Ions and Oxygen. The oxygen is released into the atmosphere.

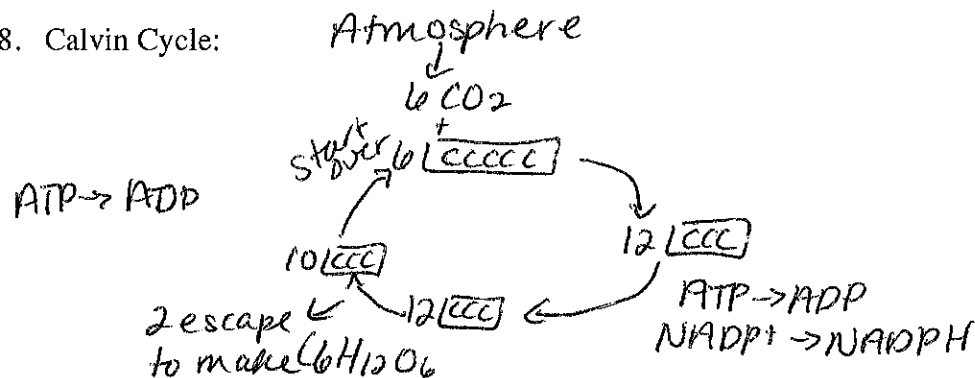
#2 – Electron Transport Chain – The hydrogen ions are carried by NADP⁺ to Photosystem I.

#3 – Photosystem I – NADP⁺ is converted in NADPH.

#4 – Hydrogen Ion Movement – The hydrogen ions are stacked neatly in the Thylakoid Membrane.

#5 – ATP Formation – ADP is converted into ATP inside the ATP Synthase.

- Calvin Cycle:



- They use the energy provided by ATP for Active Transport and protein synthesis.

10. ATP provides quick energy for the cells to do quick processes while glucose provides quick energy for your entire body to processes.
11. Plants need water in order to get Hydrogen Ions for the energy to make ATP and to combine with Carbon Dioxide in the Calvin Cycle to make glucose.
12. Plants absorb red and orange well.
13. Plants are green because green is the one color on the visible spectrum that they don't absorb well. Therefore they reflect the green color off of themselves like a mirror making them appear to be green to the human eye.