

Concept 8.3

The Calvin cycle makes sugar from carbon dioxide.

A trip around the Calvin Cycle:

- RuBP (a sugar with 5 carbons) is regenerated with each turn of the Calvin cycle
- The cycle starts with the input of CO₂, energy from ATP and electrons and hydrogen ions from the NADPH.
- The output is a sugar named G3P which plant cells use to make glucose and other molecules.

Refer to p.169 Figure 8-13

Summary of Photosynthesis:



The light reactions, which take place in the thylakoid membranes, convert light energy to the chemical energy of ATP and NADPH. The light reactions use the reactant water from the equation and release the product oxygen. The Calvin Cycle, which takes place in the stroma, uses ATP and NADPH to convert CO₂ to sugar.