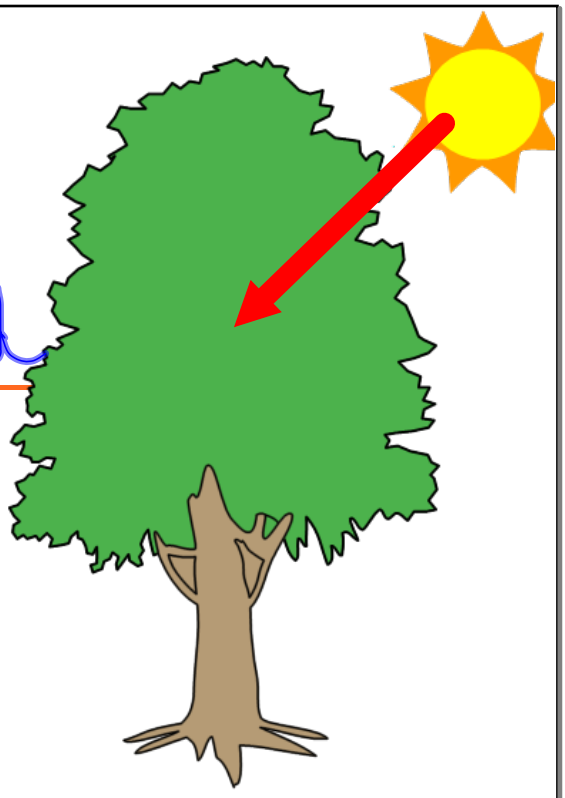
Photosynthesis

3 stages

Oct 25 - 2:51 PM

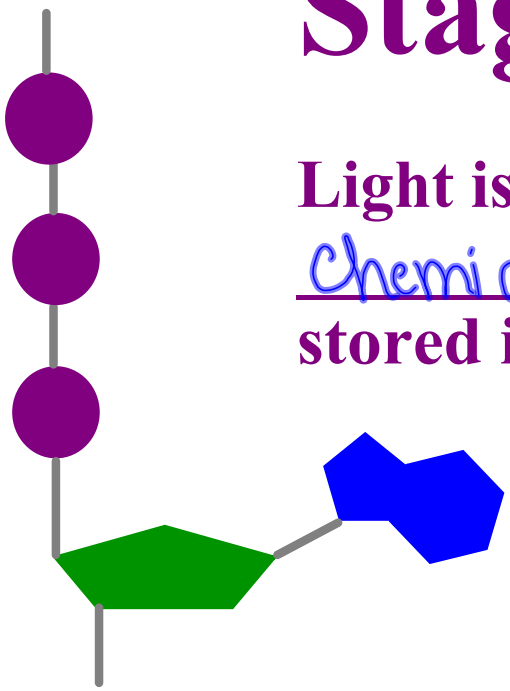
Stage 1

Energy is captured from sunlight.



Oct 25 - 2:57 PM

Stage 2



Light is converted to Chemical **energy and stored in** ATP

Oct 25 - 2:58 PM

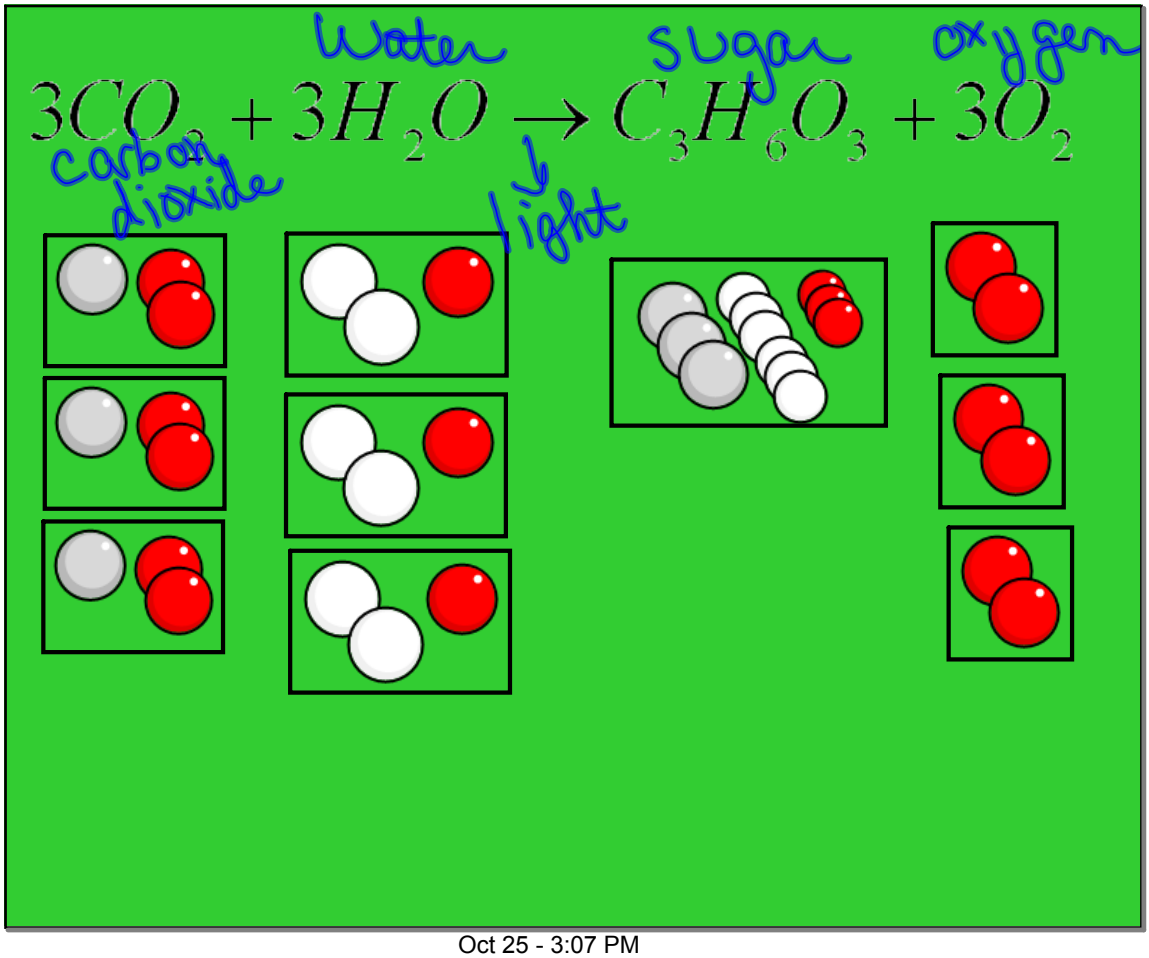
Stage 3

"to make"

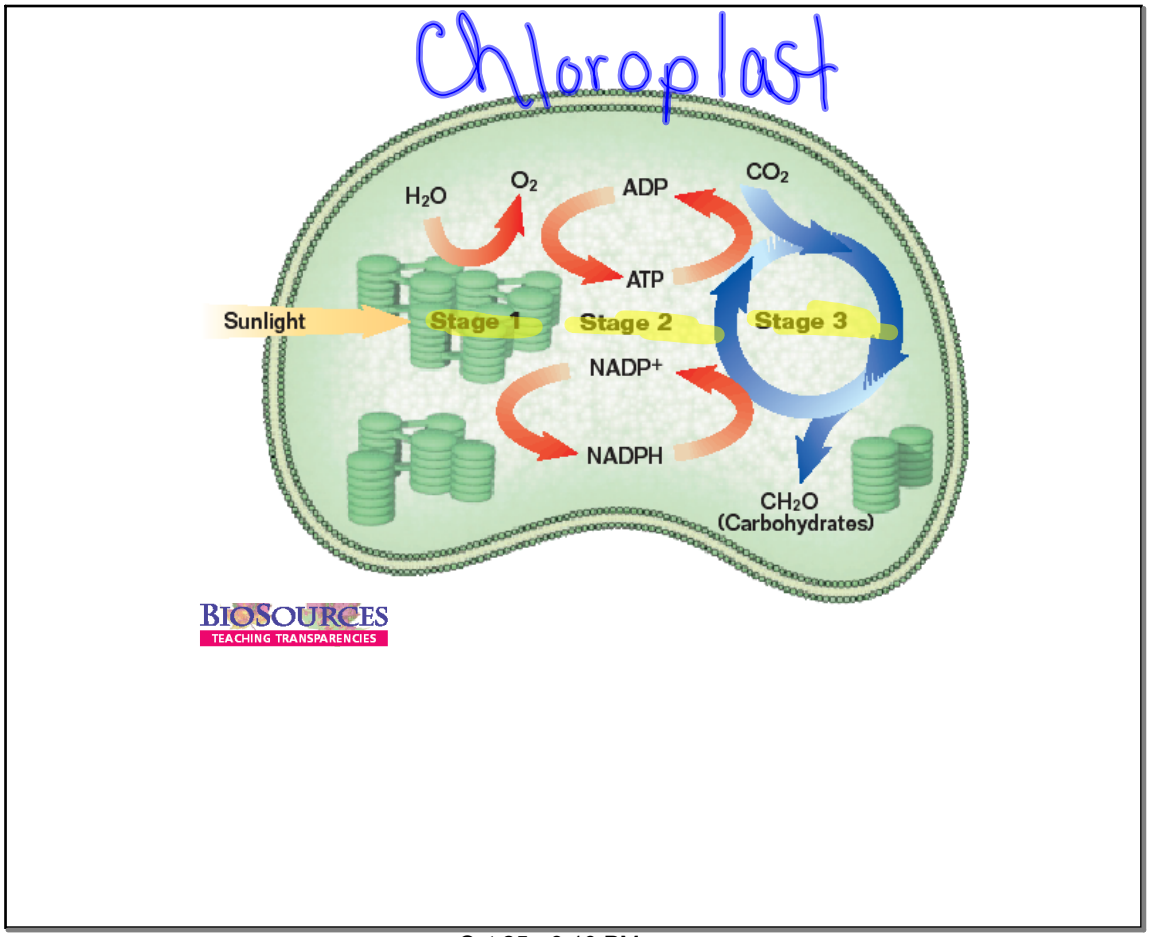
The ATP powers formation **of ~~organic compounds~~** sugar **using CO_2**

carbon dioxide

Oct 25 - 3:00 PM



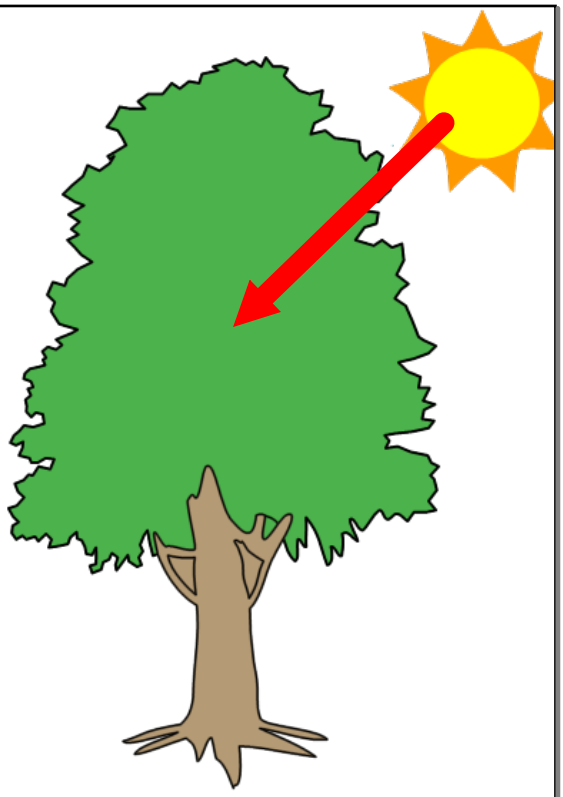
Oct 25 - 3:07 PM



Oct 25 - 3:10 PM

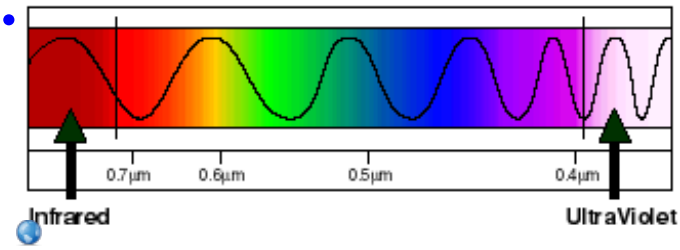
Stage 1

Energy is captured from sunlight.



Oct 25 - 2:57 PM

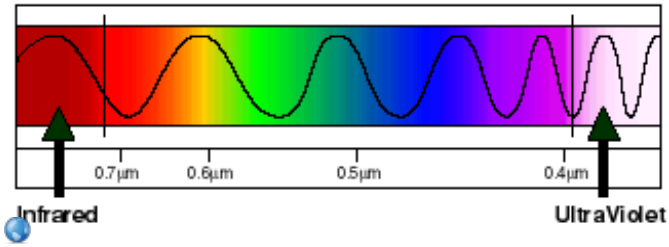
There are different wavelengths **of light.**



http://imagers.gsfc.nasa.gov/ems/visible.html

Oct 25 - 3:11 PM

Pigments absorb only certain **wavelengths and** reflect **others.**



http://imagers.gsfc.nasa.gov/ems/visible.html

Oct 25 - 3:14 PM

Chlorophyll- the primary pigment in photosynthesis **absorbs mostly** blue **and** red **light and reflect** green **and** yellow.

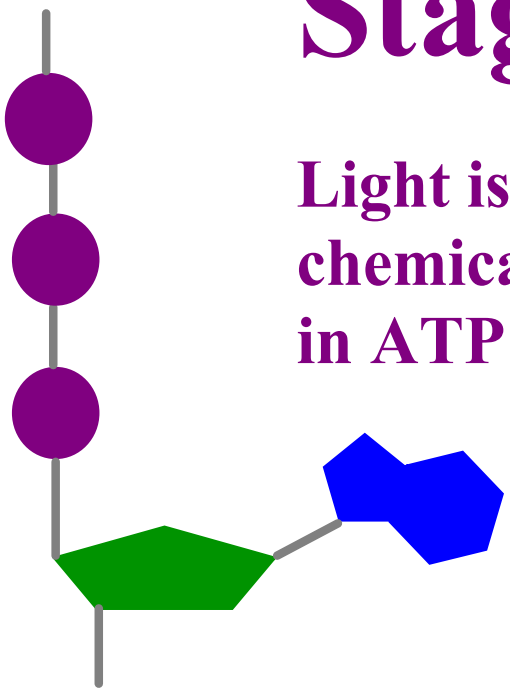
Oct 25 - 3:13 PM

Thylakoids-disk shaped structures with clusters of pigments embedded in the membranes

Excited electrons jump around in the thylakod membrane.

Oct 26 - 7:23 PM

Stage 2



Light is converted to chemical energy and stored in ATP

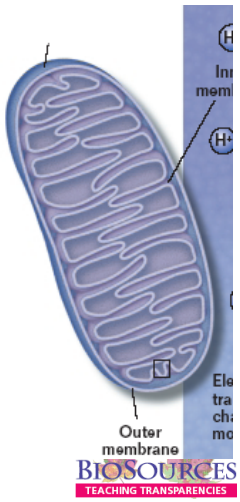
Oct 25 - 2:58 PM

Electron Transport Chain- series of molecules through which the excited electrons pass along the thylakoid membrane.

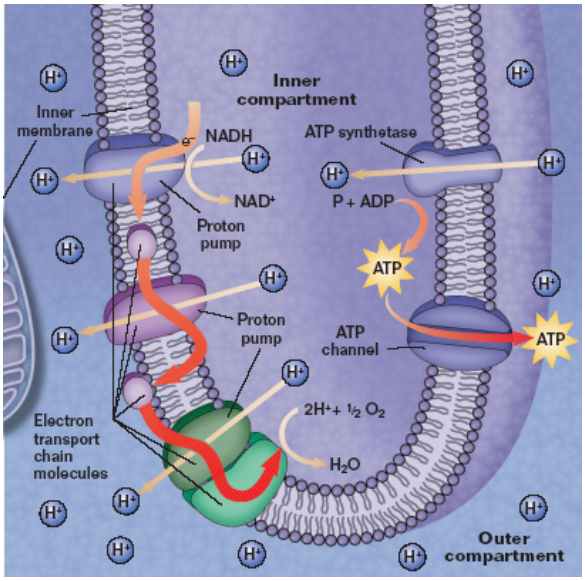
Oct 26 - 7:32 PM

What is this?

Mitochondria

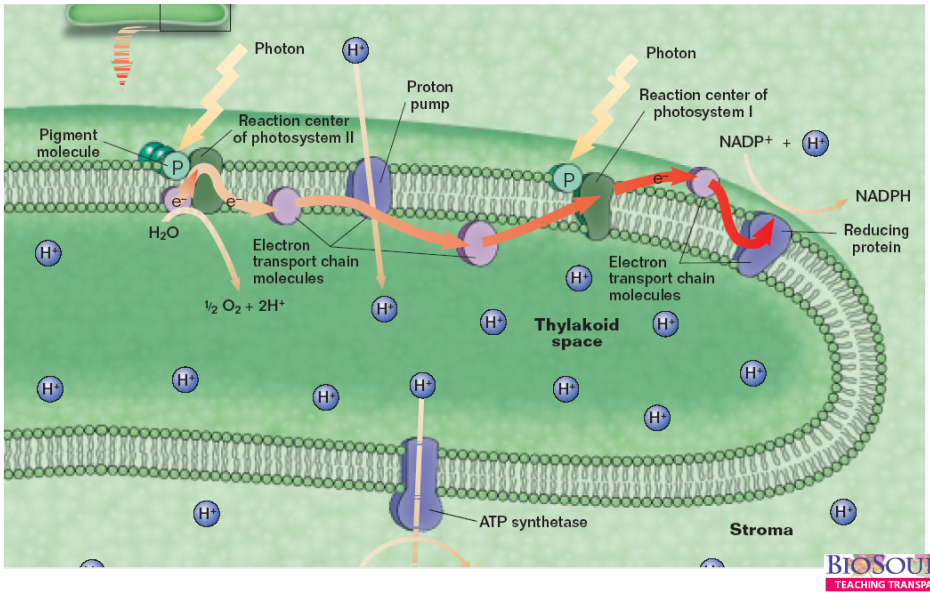


Oct 26 - 7:34 PM



BIOSOURCES TEACHING TRANSPARENCIES

Oct 26 - 7:34 PM



BIOSOURCES TEACHING TRANSPARENCIES

Oct 26 - 7:38 PM

Movement of electrons provide the energy to make ATP.

Oct 26 - 7:37 PM

Stage 3

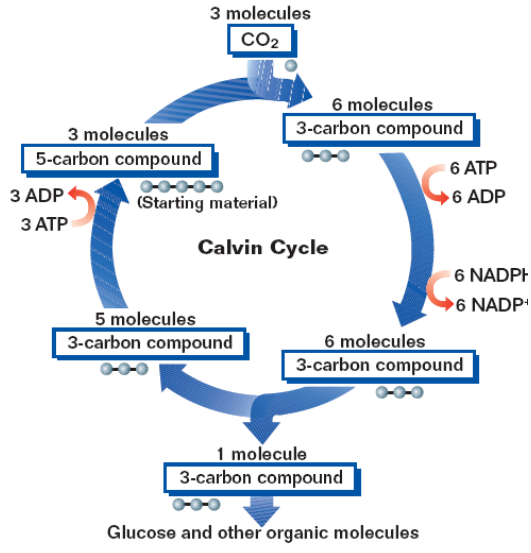
The ATP powers formation of organic compounds using CO_2

Oct 25 - 3:00 PM

$$3CO_2 + 3H_2O \rightarrow C_3H_6O_3 + 3O_2$$

Transfer of carbon dioxide **to organic compounds in called carbon dioxide** fixation . ACA Calvin Cycle

Oct 26 - 7:34 PM

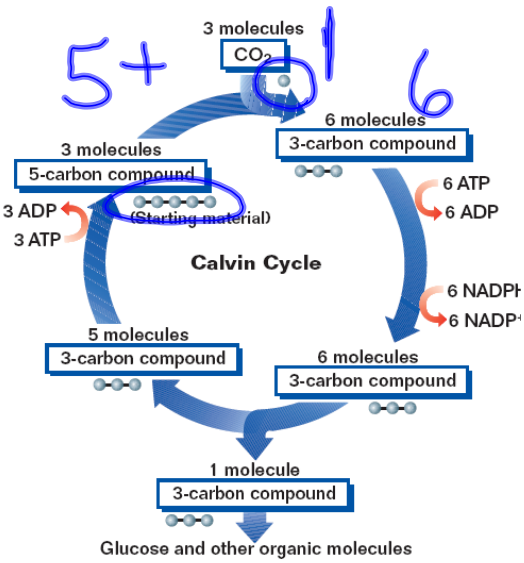


Go to this website for an Interactive Calvin Cycle

http://www.science.smith.edu/departments/Biology/Bio231/calvin.html

Oct 26 - 7:43 PM

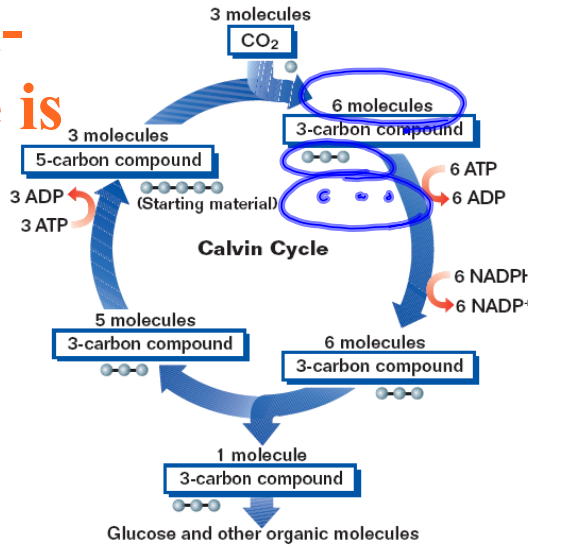
The Calvin Cycle begins when a carbon atom from a CO_2 molecule is added to a 5 - carbon molecule.



BIOSOURCES TEACHING TRANSPARENCIES

Oct 26 - 7:43 PM

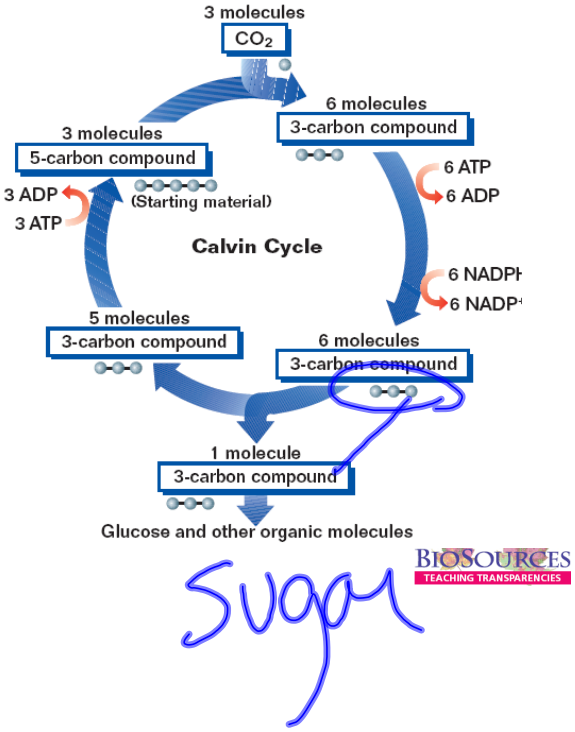
The resulting six-carbon molecule is unstable and splits into two.



BIOSOURCES TEACHING TRANSPARENCIES

Oct 26 - 7:43 PM

One of the 3 carbon molecules is used to make organic compounds like sugar.



sugar

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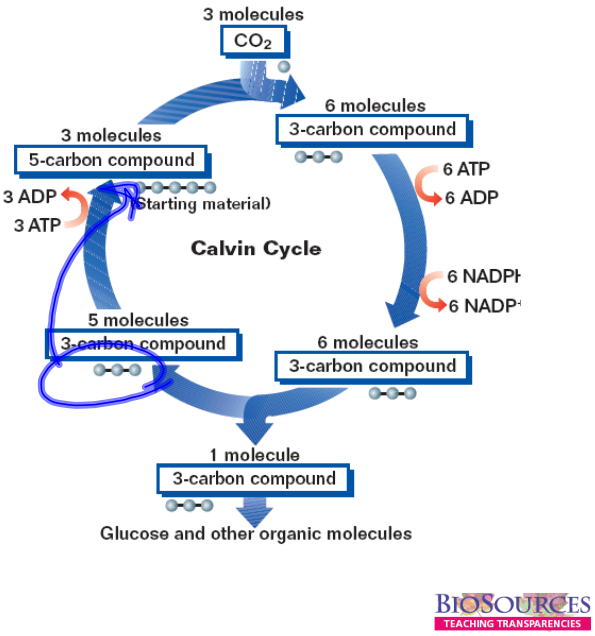
The other 3 carbon molecules is used to make a five-carbon molecules.



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