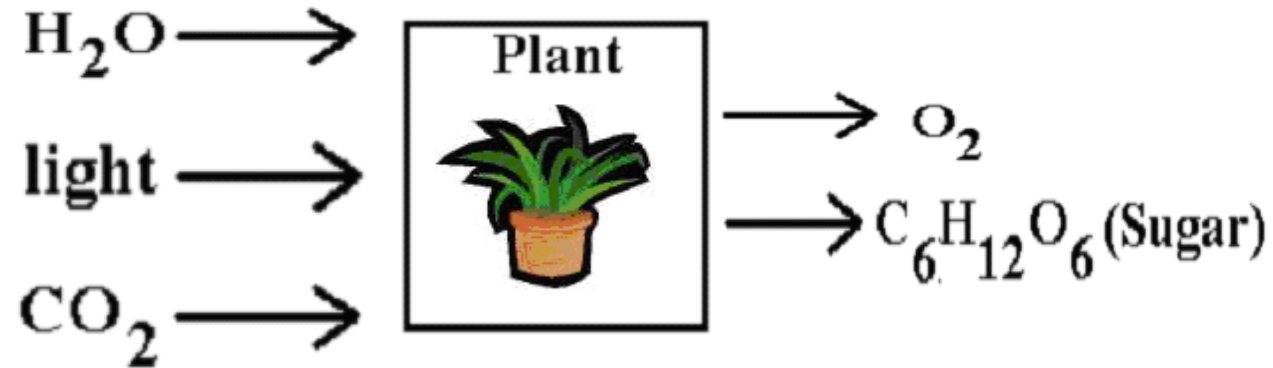
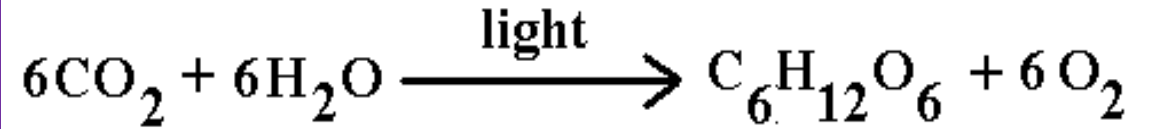


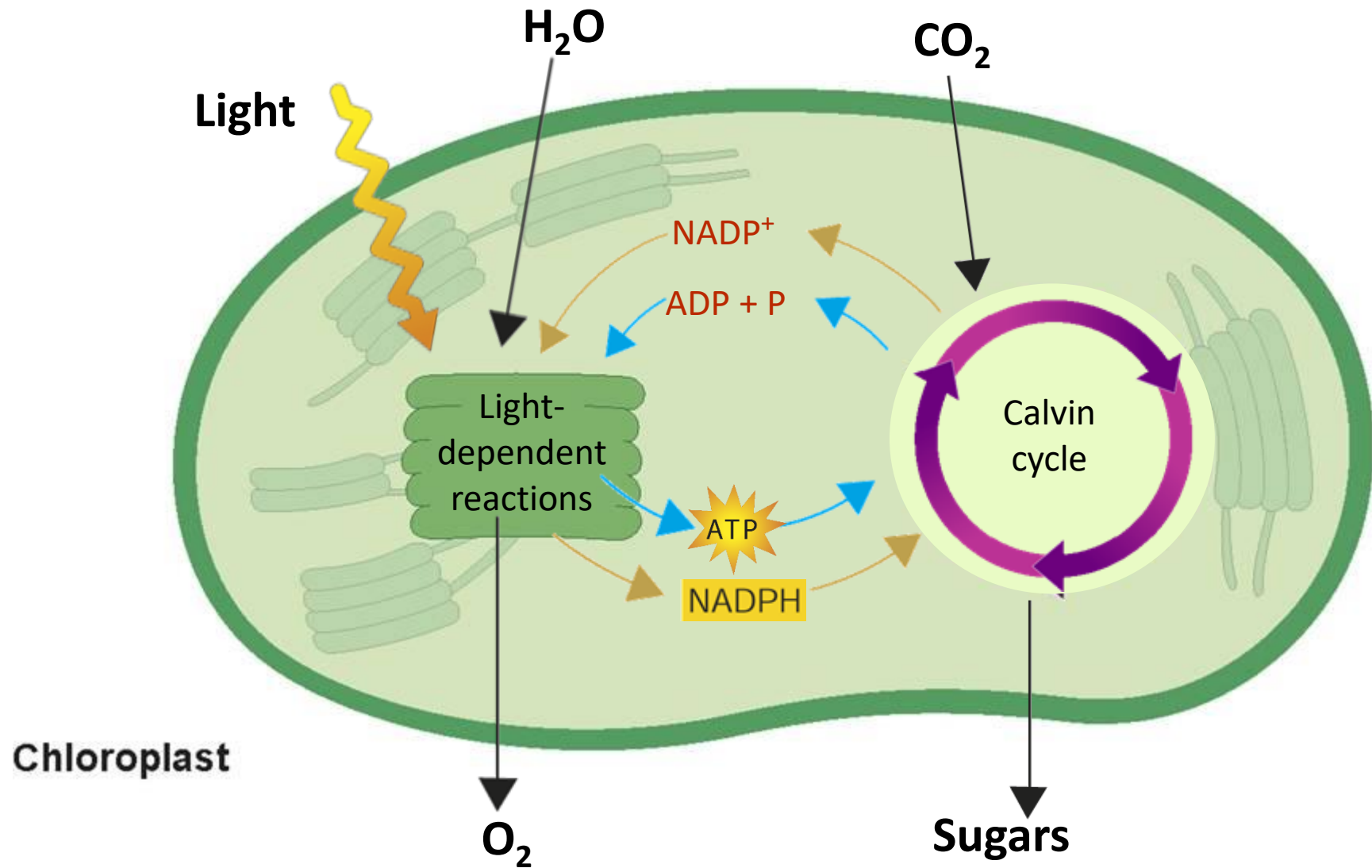
Photosynthesis

EQ: Can you describe the
process of
Photosynthesis?

- Sun light gives the chloroplast the energy to do the reactions.
- Inputs (go into the reaction) the Reactants
- Outputs (come out of the reaction) the Products
- In the chloroplast there are two processes for photosynthesis:
 - Light Dependent Reaction
 - Light Independent Reaction (aka Calvin Cycle)



Photosynthesis

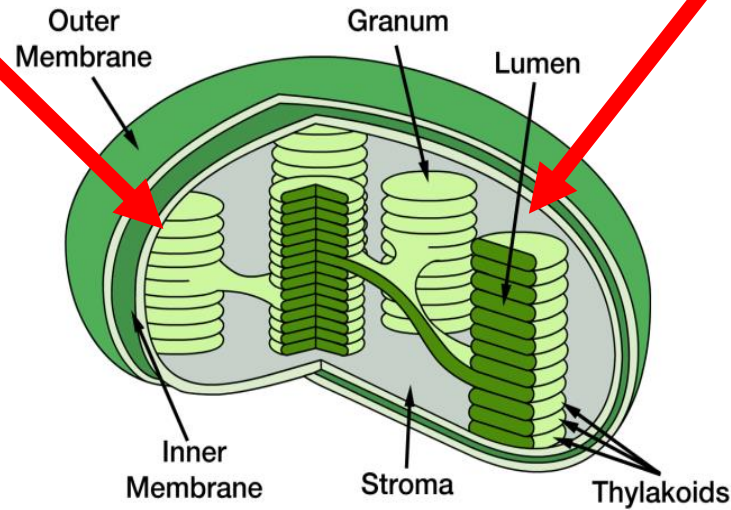


The first set of reactions in photosynthesis are known as the **Light Dependent Reactions**.

- Takes place on the Thylakoid membrane with Chlorophyll
- Input: Light energy and water
- Outputs: ATP (energy), NADPH (electron carrier) & Oxygen
- Oxygen is released, then the ATP & NADPH transfer to the Calvin Cycle.

Summary:

Water is split, and then oxygen is released, and the Hydrogen is used.



The second set of reactions in photosynthesis are known as the **Calvin Cycle**.

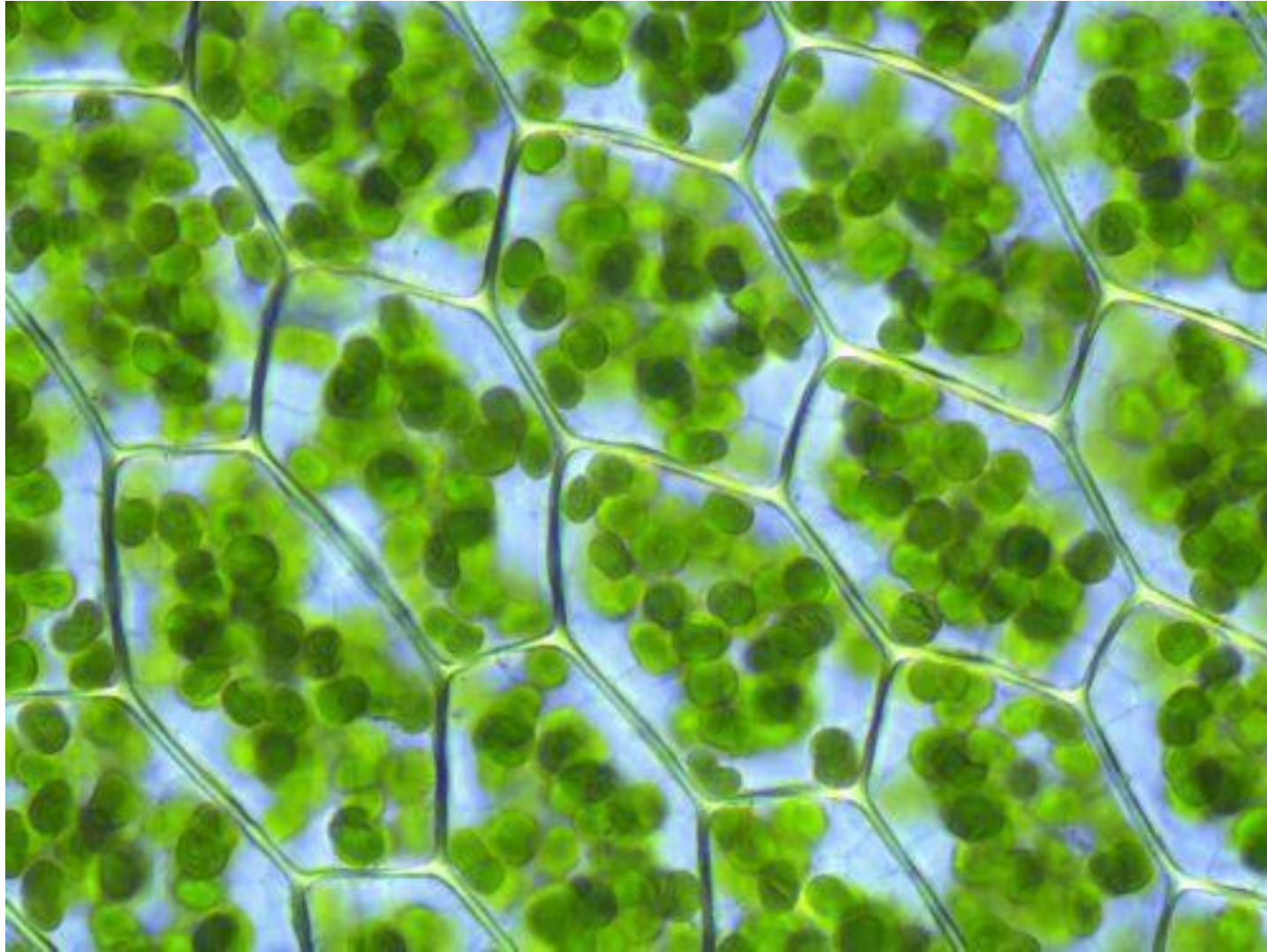
- Taking place in the Stroma
- Input: Using the products from the Light Dependent Reactions... ATP & NADPH and adding CO₂
- Output: The production of a carbohydrate called Glucose (sugar)

Summary:

Carbon Dioxide is transformed many times until Sugar is produced.

Let's Talk About It...

Why are Plants Green?



- Photosynthesis occurs in the chloroplasts of plants
- Chlorophyll is the pigment inside the chloroplast that absorbs light for photosynthesis
- Pigments absorb some wavelengths of light and reflect others—the color our eyes see is the color that the pigment reflects