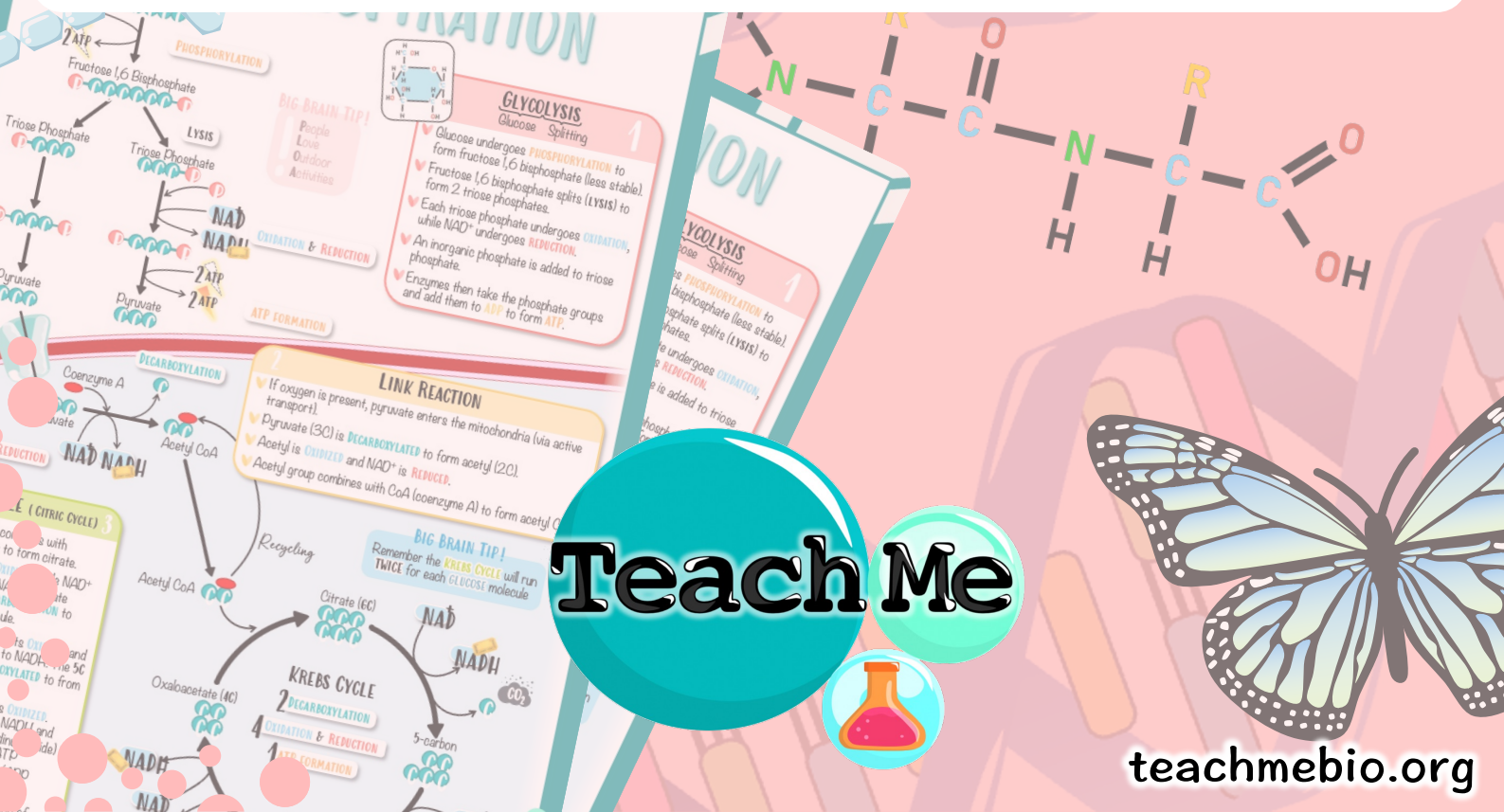


TeachMe

STUDY NOTES

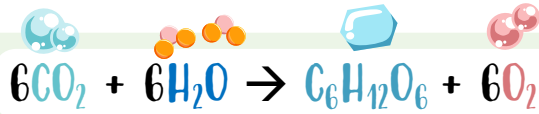
CHAPTER 13 - PHOTOSYNTHESIS

PHOTOSYNTHETIC PROCESS

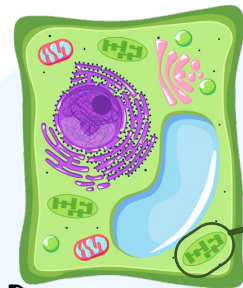


PHOTOSYNTHETIC PROCESS

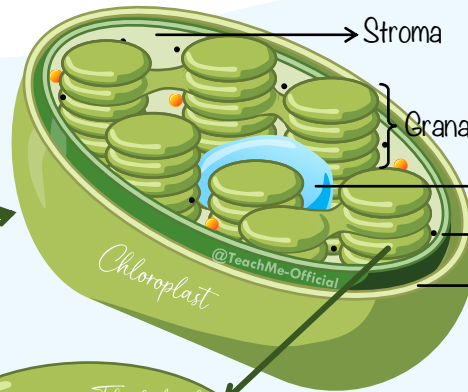
PHOTOSYNTHESIS – Synthesis of organic molecules (e.g. **GLUCOSE**) from inorganic matter (**LIGHT ENERGY** and **CARBON DIOXIDE**).



Note the similarity of the **PHOTOSYNTHESIS** equation with the one of **CELLULAR RESPIRATION**!

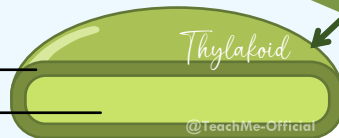


PLANT CELL

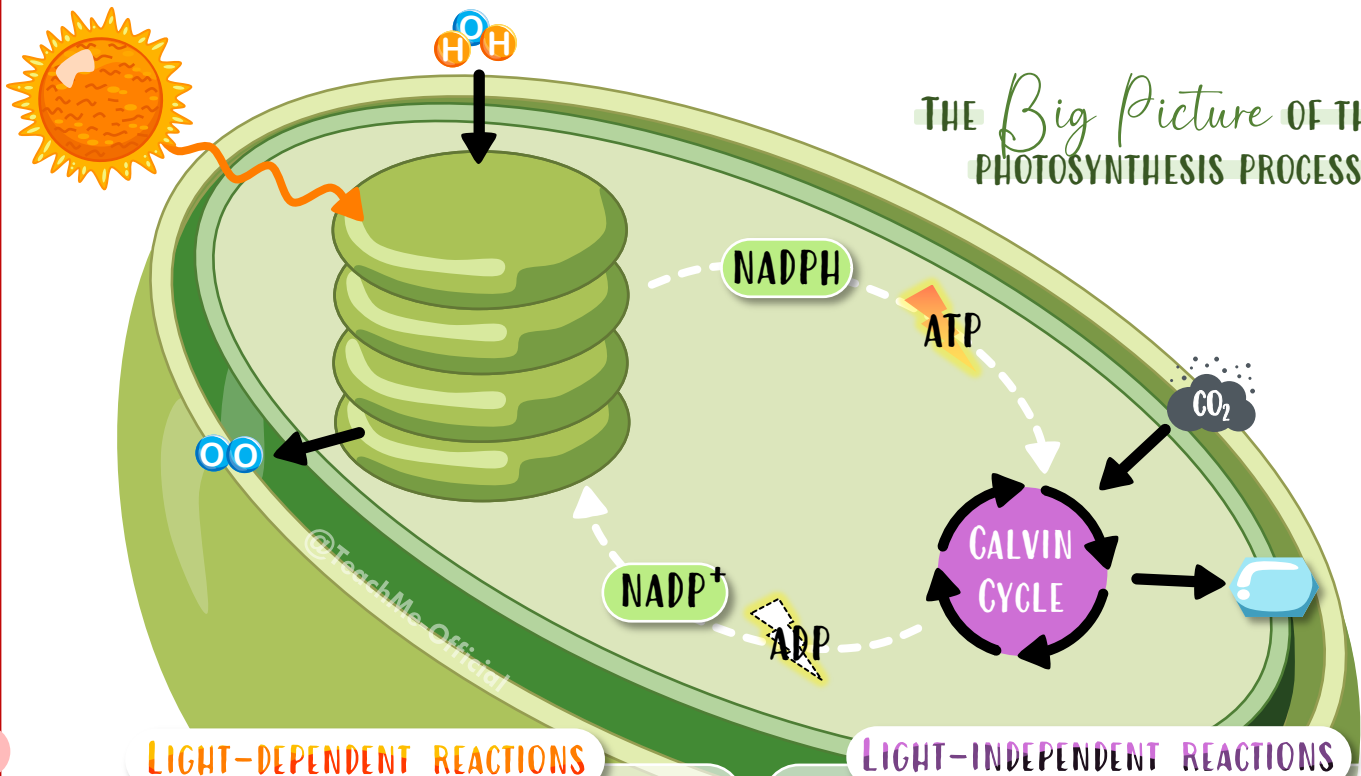


Structures
OF A PLANT CELL

Thylakoid membrane
Thylakoid space



Electron microscope image of a chloroplast



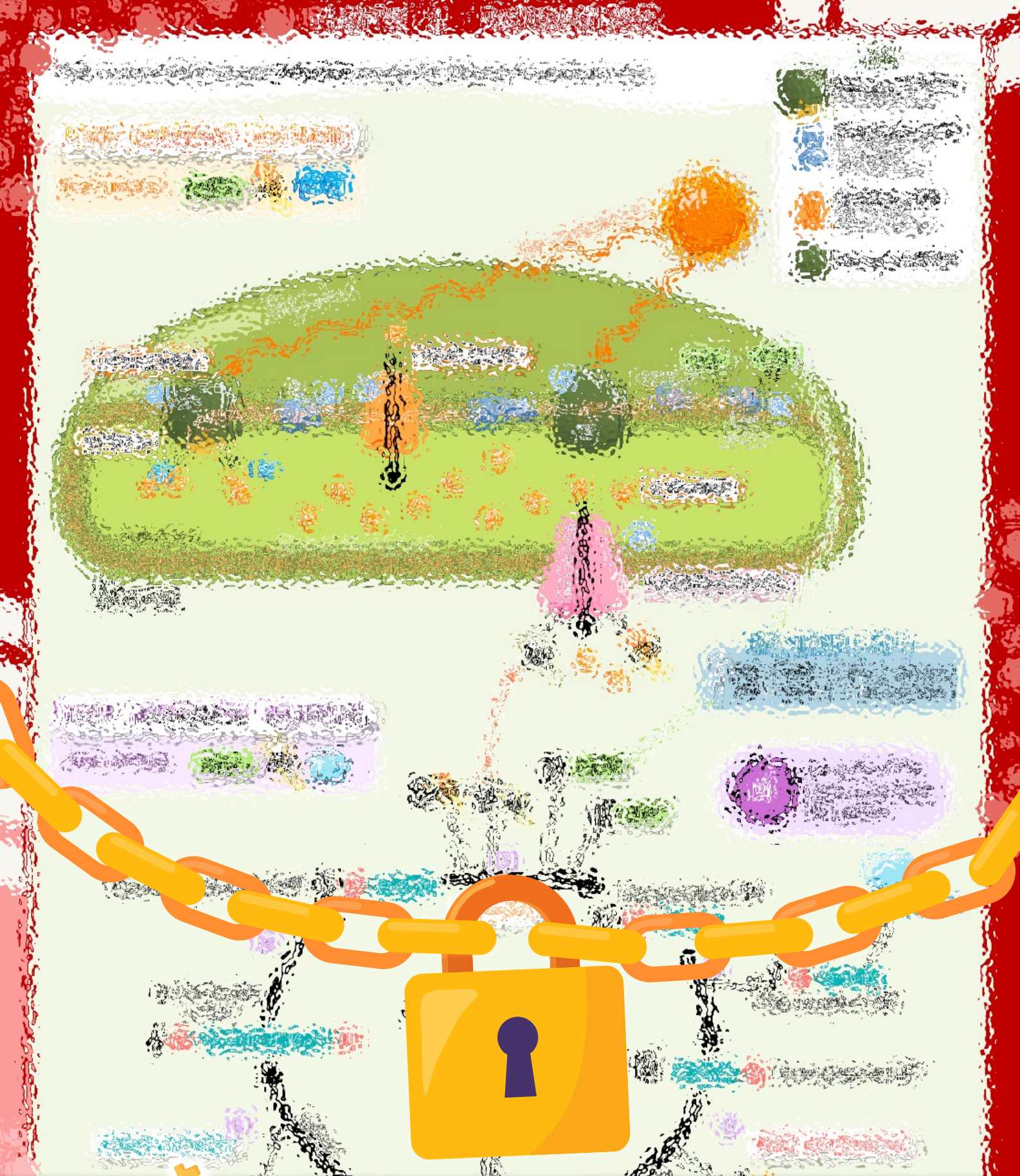
THE Big Picture OF THE
PHOTOSYNTHESIS PROCESS

LIGHT-DEPENDENT REACTIONS

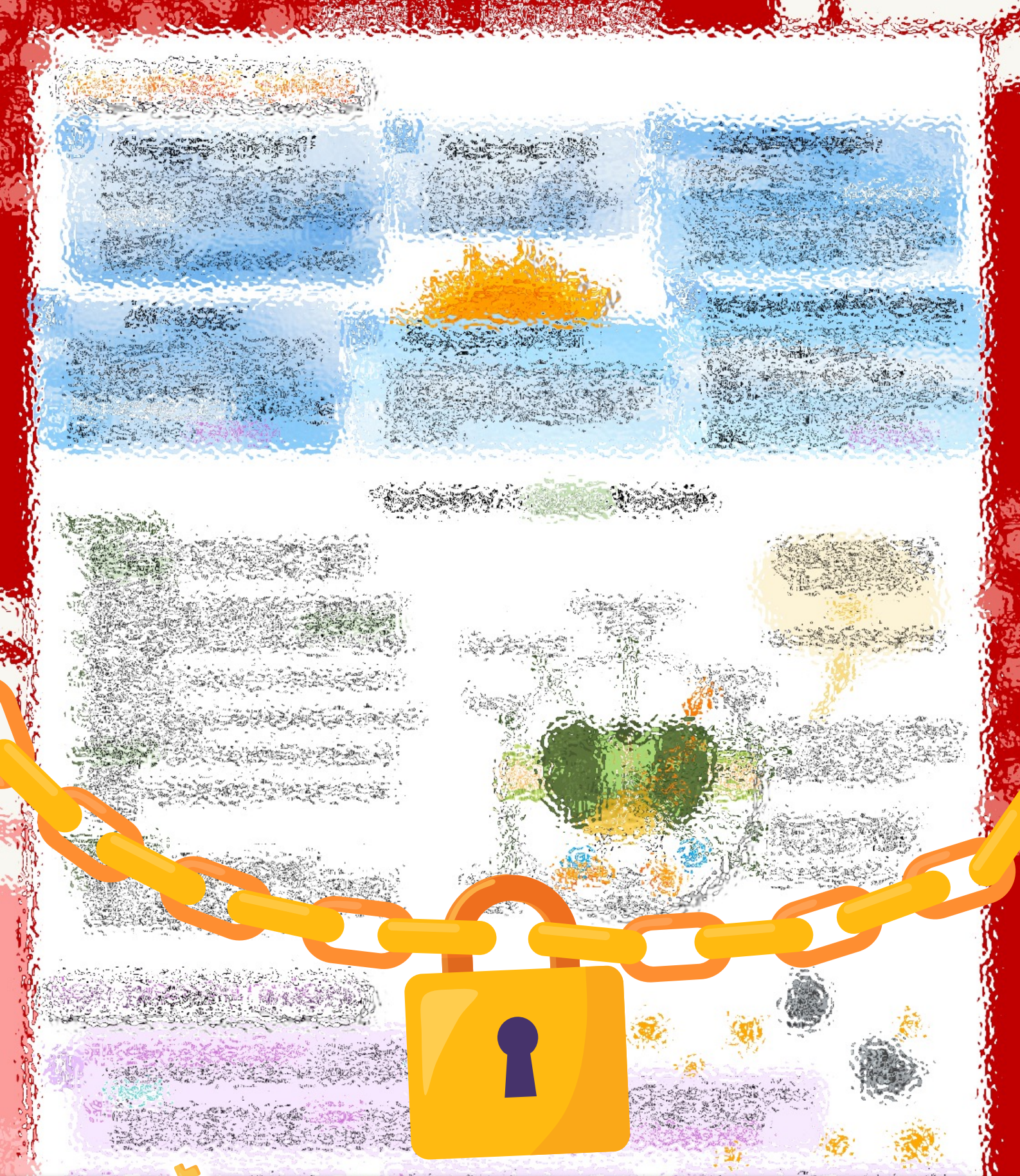
Occurs in the thylakoid membranes of the chloroplasts, where light energy is absorbed by chlorophyll, leading to the production of **ATP** and **NADPH**. Water molecules (**H₂O**) are split, releasing oxygen (**O₂**) as a byproduct.

LIGHT-INDEPENDENT REACTIONS

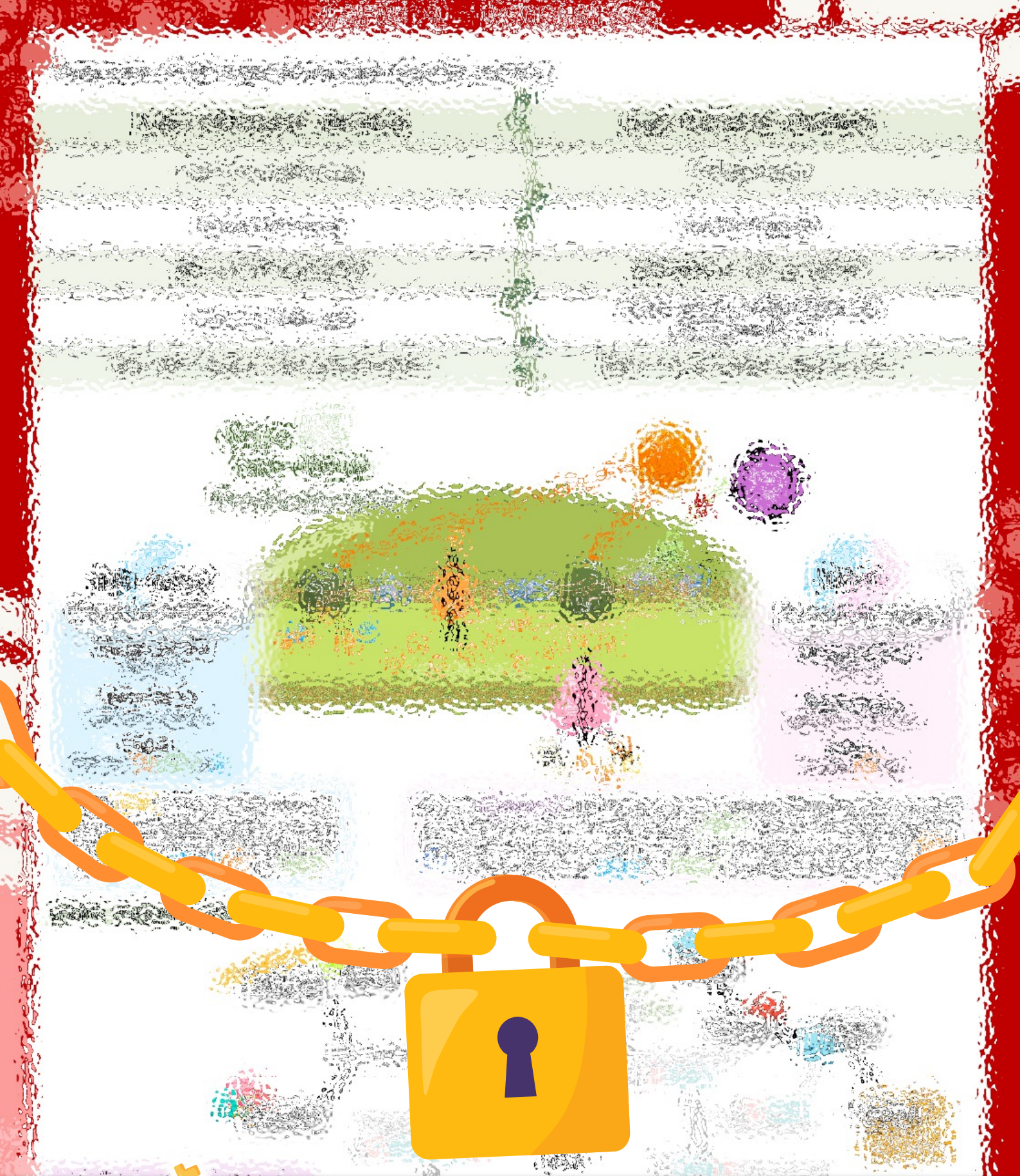
Occurs in the stroma of chloroplasts. The **ATP** and **NADPH** generated in the light-dependent reactions are used to convert **CO₂** into **GLUCOSE**. This cycle does not require light and is also known as the **CALVIN CYCLE**.



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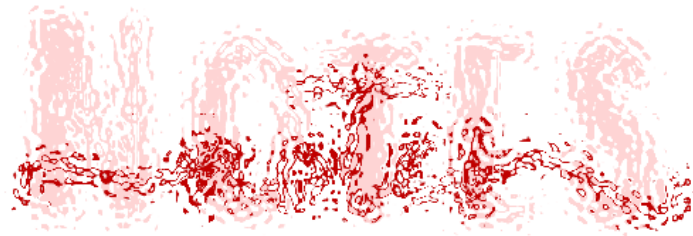
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A graphic of a yellow padlock and chain. The padlock is yellow with a dark blue keyhole. It is attached to a yellow chain that runs horizontally across the image. The background is white with faint, repeating text patterns in a light blue color. The left and right edges of the image have a red, textured border.

