

Learning Target: I can explain how the process of photosynthesis allows organisms to capture and store energy.

3.5 Daily Video 2 – Photosynthesis

1. During photosynthesis, _____ absorb energy from light.
 - What role do chlorophylls play in this process? _____
 - What happens to chlorophyll electrons when light absorption occurs, and what is the importance of this? _____
2. Photosystems I and II are embedded in the _____.
 - What is a photosystem? _____
 - Why is the hydrolysis of water necessary as it relates to PSII and the light-dependent reactions? _____
3. When electrons are transferred between molecules in a reaction, they pass through the _____.
 - How are PSII and PSI functionally related to the electron transport chain (ETC)? _____
 - What is an electrochemical/proton gradient? _____
4. The formation of the _____ is linked to the _____.
 - Photosynthesis uses a form of passive transport to generate _____.
 - What is ATP synthase? _____
5. The energy captured in the light powers the production of _____.
 - The Calvin cycles uses _____ produces _____
 - What is the ultimate goal of the Calvin cycle reactions? _____
 - Where do plants and other organisms mainly get their carbon dioxide from? _____

Skill Practice – Argumentation – Type your correct answer and explain why you chose this answer.

Review questions:

1. What is chlorophyll's role in boosting electron energy levels?
2. How do photosystem I and II (PSI and PSII) work together to create a proton gradient which facilitates ATP synthesis?
3. How are products of the light-dependent reactions used in the Calvin cycle?

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