

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? \_\_\_\_\_
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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