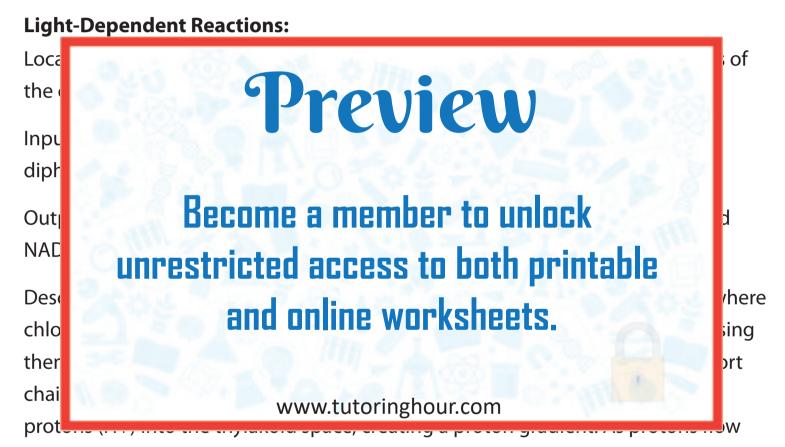
#### Understanding the Marvels of Photosynthesis

Photosynthesis, the magical process that sustains life on Earth, is a captivating journey that unfolds within the green cells of plants. At its heart are two remarkable stages: the light-dependent reactions and the light-independent reactions.



back into the stroma through ATP synthase, ATP is synthesized. Meanwhile, water molecules are split by the process of photolysis, releasing oxygen and electrons. These electrons are used to reduce NADP+ to NADPH.

#### **Light-Independent Reactions (Calvin Cycle):**

Location: The light-independent reactions, also known as the Calvin cycle, occur in the stroma of the chloroplasts.

Input: The primary inputs are carbon dioxide (CO<sub>2</sub>), ATP, and NADPH from the light-dependent reactions.

Output: The main output is glucose  $(C_6H_{12}O_6)$ .



NADPH, and use that energy to synthesize glucose and other organic compounds from carbon dioxide. This process is essential for providing energy and organic matter for plants and, ultimately, for all living organisms on Earth.

Check the correct options to answer the questions.

Check the correct ophons to answer the questions.		
1)	Where do the light-dependent reaction a) nucleus c) stroma	b) mitochondria d) thylakoid membrane
2)	What is the primary output of the light-independent reactions (Calvin cycle)?	
3)	Preview  Become a member to unlock unrestricted access to both printable and online worksheets.	
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1)	The light-independent reactions occur i	n the thylakold membranes.
2) Oxygen is produced during the light-independent reactions.		
3)	ATP and NADPH are products of the ligh	t-dependent reactions.

4) The Calvin cycle uses ATP and NADPH from the light-dependent

reactions to convert carbon dioxide into glucose.

Read each question and write your answer in the space provided.

1) Where does the Calvin cycle take place, and what are its primary inputs?

2)

3)

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4) How does the light-independent reaction (Calvin cycle) contribute to the production of glucose?