PHOTOSYNTHESIS PROCESS

Conversion of Light Energy into Chemical Energy

6COâ,, + 6Hâ,,O â†’ Light â†’ Câ,†Hâ,□â,,Oâ,† + 6Oâ,,

1. Light-Dependent Reactions

- **Location:** Thylakoid Membranes
- Chlorophyll absorbs solar energy
- Water molecules (Hâ,,O) are split
- Oxygen (Oâ,,) is released as a byproduct
- ATP and NADPH are produced

2. Light-Independent (Calvin Cycle)

- **Location:** Stroma
- Carbon Dioxide (COâ,,) is captured
- Uses ATP and NADPH from Stage 1
- Chemical energy converts COâ,, into Glucose
- Sugar (Câ,†Hâ,□â,,Oâ,†) is stored for plant growth