

## 15.2 Photosynthesis

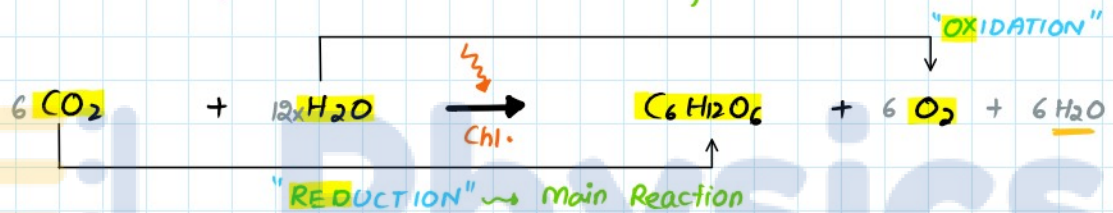
PLANTS, ALGAE →  
↓ CYANOBACTERIA  
Auto-trophic Organisms

### PHOTOSYNTHESIS

Redox Reaction  
(Predominantly Reduction)  
Anabolic Reaction

- Simple Molecules
- Inorganic Molecules
- Energy Poor
- Oxides of C, H

- Complex Molecules
- Organic molecules
- Energy Rich
- Hydrates



#### REACTANTS

- $\text{CO}_2$  → 0.03 - 0.04 %
- $\text{H}_2\text{O}$
- Light → "Limiting Reactant"
- Chlorophyll

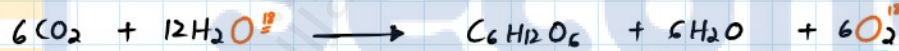
#### PRODUCTS

- $\text{C}_6\text{H}_{12}\text{O}_6$
- $\text{O}_2$

#### VAN NEIL HYPOTHESIS

" $\text{O}_2$  came from water molecules"

Group - I



Group - II



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#### LIGHT REACTION

- Light Dependant
- Granum / Thylakoid
- Energy conversion

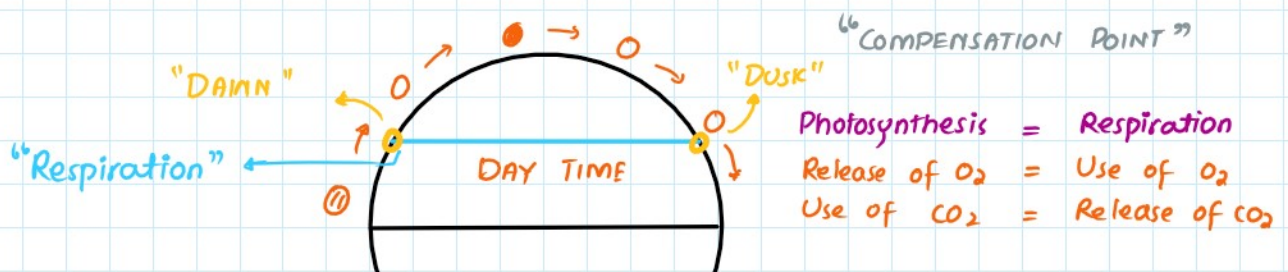
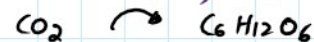
light → Chemical Energy

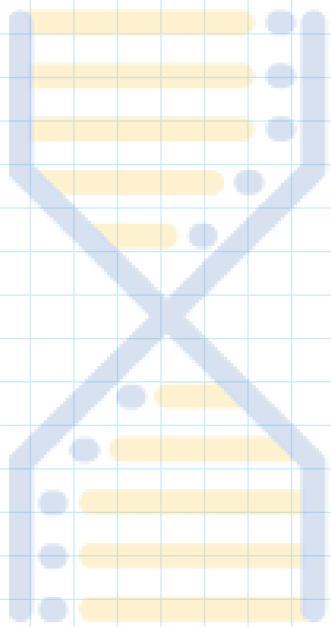
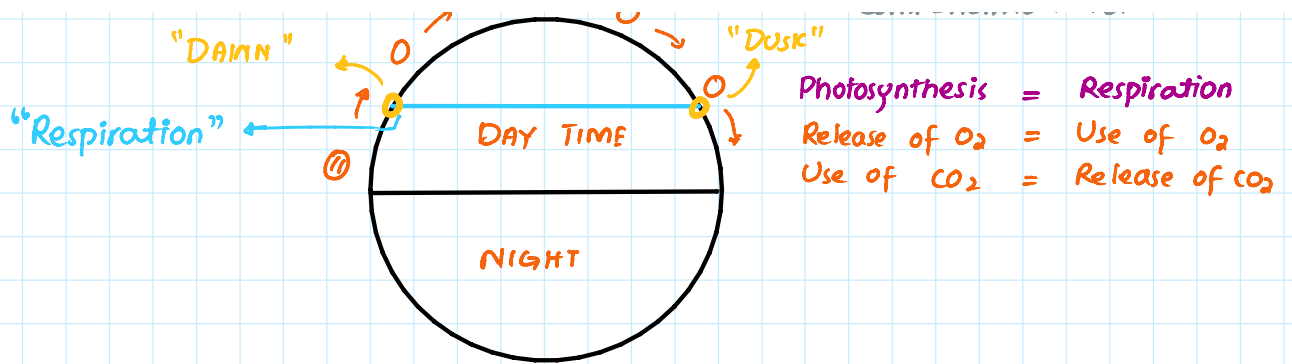
Assimilatory Power . ATP

Reducing Power . NADPH

#### DARK REACTION

- Light independant
- Stroma / Ground substance
- Reduction / Sugar formation





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