

## LIGHT REACTION

- light absorption, water splitting, oxygen release
- formation of high-energy chemical intermediates, ATP and NADPH
- The pigments are organised into two discrete photochemical light harvesting complexes (LHC) within the Photosystem I (PS I) and Photosystem II (PS II)
- PS I the reaction centre chlorophyll a has an absorption peak at 700 nm, hence is called P700
- PS II it has absorption maxima at 680 nm, and is called P680

### Splitting of Water

- splitting of water is associated with the PS II
- water is split into  $2\text{H}^+$ ,  $[\text{O}]$  and electrons

### Biosynthetic phase/Dark reaction

- Independent of light
- Carbohydrates
- Also known as Blackman's reaction

### Calvin cycle

- All Photosynthetic plants having  $\text{C}_3$  or  $\text{C}_4$  or any other pathways
- Carboxylation - fixation of  $\text{CO}_2$  into a stable organic intermediate.
- Reduction - These are a series of reactions that lead to the formation of glucose.
- Regeneration - Regeneration of the  $\text{CO}_2$  acceptor molecule RuBP is crucial if the cycle is to continue uninterrupted