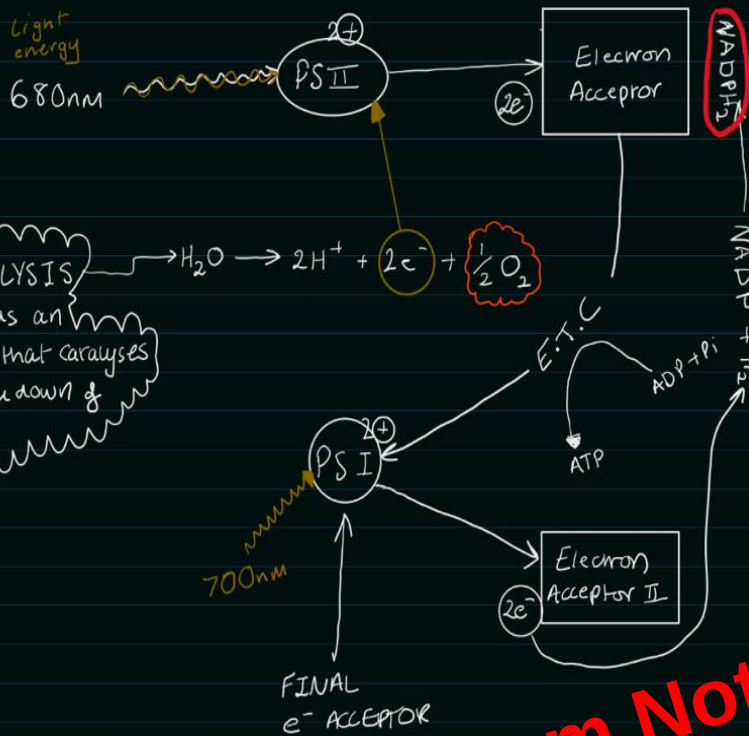


NON CYCLIC PHOTOPHOSPHORYLATION (Z-Scheme).



- Oxygen is given off as a waste product and the electrons replace those lost from PSII.

- The electrons which have passed to the electron acceptor now pass down a series of electron carriers losing energy as they go. This energy is used to produce ATP. Also occurs with PSI

- Light also strikes PSI. Again, electrons become excited, leave the chlorophyll (primary pigment), pass to an electron acceptor and leave the chlorophyll molecule positively charged.

- The electrons from photosystem I also pass down a series of electron carriers. They are used, together with the hydrogen ions from the photolysis of water, to reduce NADP⁺ to NADPH₂ (reduced NADP₂).

In CYCLIC PHOTOPHOSPHORYLATION - photosystem II is NOT used! ← Only PSI

- Doesn't produce NADPH₂, not enough protons for e⁻ to bond with → they move back down to produce more ATP.

The light independent reaction - The Calvin Cycle.

- These reactions are very temperature sensitive.
- Can't take place without products produced by light dependant stage.
- They're catalysed by enzymes. → These are activated indirectly by light.