state to the ground state due to instability energy is lost as heat and some is fluoresced. Flouresced light has less energy and longer wavelength.

Photosystems and Reaction Centres

- Two types of photosystem, PSI and PSII
- PSI contains primary pigment P700
- PSII contains primary pigment P680
- Each contains a collection of accessory pigments which pass energy to primary pigment
- Accessory pigments group together in clusters of several hundred in an antenna complex which is anchored to a thykaloid membrane by special proteins
- Primary pigment is reaction centre where energy derived from sunlight is converted into chemical energy
- Energy passes from one pigment to another with each pigment a lower energy wavelength, thus increasing the range of wavelength which can be absorbed



Photosynthesis= Light Dependent Reactions + Light Independent Reactions

Light Dependent Reactions

Light Dependent reactions occur on the thykaloid membrane;

- Light falling on PSII causes electrons to be lost from P680, which are gained by acceptor X, therefore reduced
- Acceptor X passes these electrons onto a chain of electron carriers, acceptor X now oxidised, arranged in decreasing energy levels. Energy given out is used to form ATP
- Meanwhile, light falls on PSI, causing electrons to be lost from P700 to an acceptor Y, which is reduced.