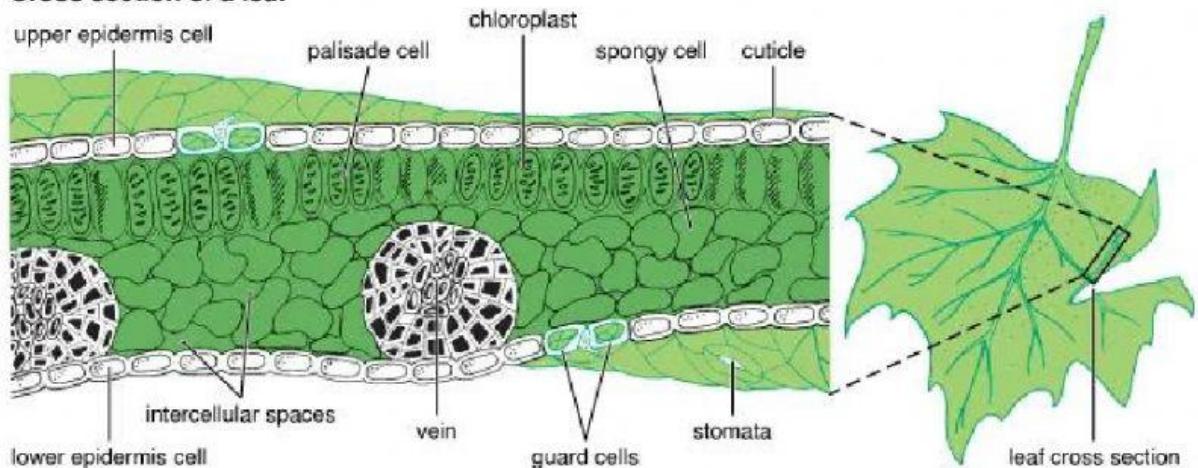


# Photosynthesis

Match each item with the correct statement below.

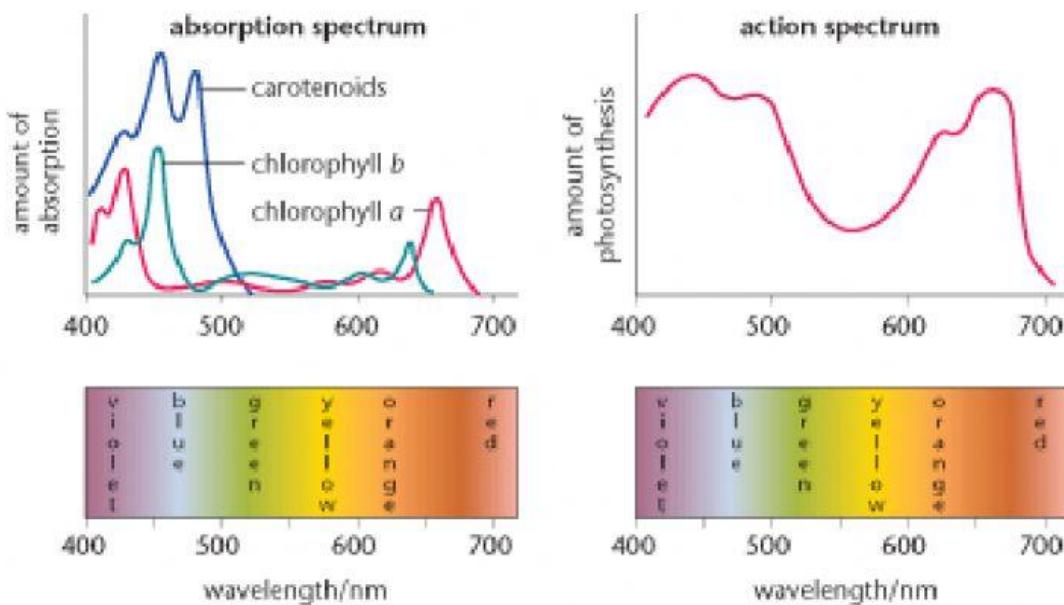
## Cross section of a leaf



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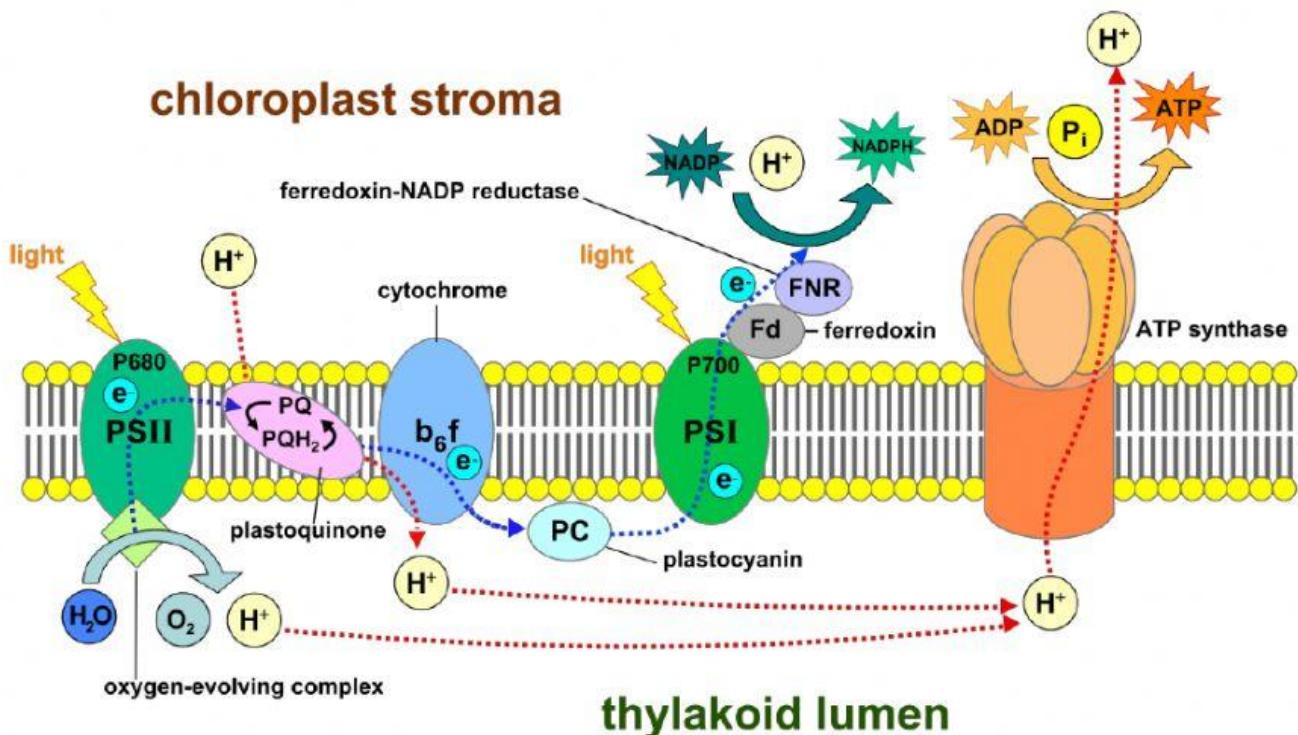
chlorophyll	Term used to describe the loss of water vapour from plants.
chloroplasts	Name of the principle light-absorbing pigment in plants.
stomata	Cells that regulate gas exchange in plants.
mesophyll layers	Tubes through which water and nutrients move in higher plants.
vascular bundles	Most photosynthesis takes place in these tissues.
transpiration	Name of the opening that regulates gas exchange in plants.
guard cells	Cells found just below the cuticle of a leaf or stem.
epidermis layer	Major cellular site of photosynthesis.

Match each item with the correct statement below.



light reactions	Photosynthetic pigments gathering light energy.
carbon fixation	Effectiveness of different wavelengths promoting photosynthesis.
photons	Cycle occurring in the stroma
photosystems	Incorporating carbon dioxide into carbohydrates
Calvin cycle	Small packets of electromagnetic radiation
photosynthetically active radiation (PAR)	Synthesis of ATP and NADPH.
absorption spectrum	Effectiveness of different wavelengths being absorbed.
action spectrum	Light between 400 and 700 nm that powers photosynthesis.

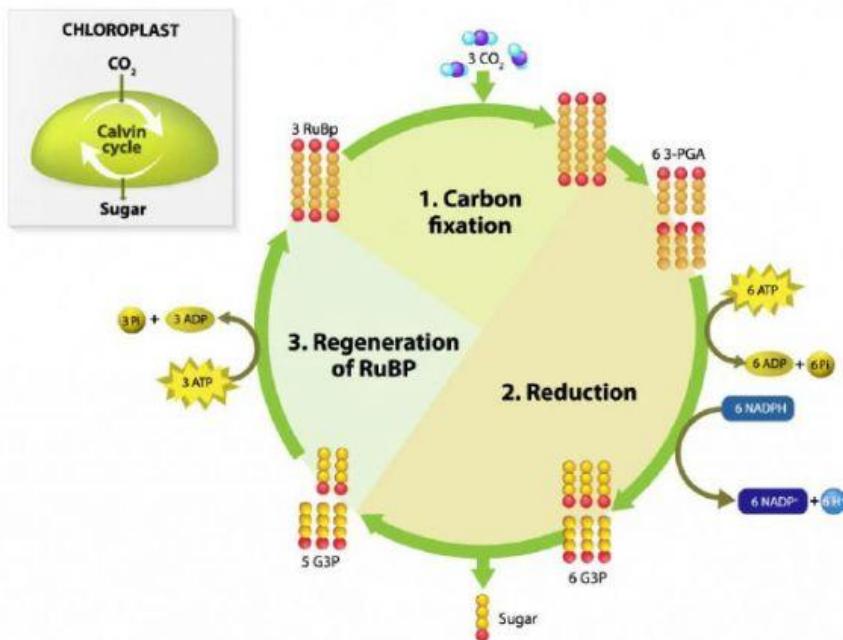
*Match each item with the correct statement below.*



ground state	The release of energy as light as an electron returns to ground state.
photosystem I	The absorption of energy by an electron.
excitation	The lowest possible potential energy level of an electron
photosystem II	Photon-energized electrons move to produce ATP and NADPH.
fluorescence	Compound that is reduced by an excited chlorophyll electron.
noncyclic electron flow	Contains chlorophyll P680
primary electron acceptor	Transmembrane protein of chlorophyll a that absorbs light energy.
Z protein	Contains chlorophyll P700
antenna complex	Web of chlorophyll molecules that transfers energy to a reaction centre.
photophosphorylation	Light-dependent formation of ATP
reaction centre	Photon-energized electrons move to produce only ATP.
cyclic electron flow	Protein that helps split water into hydrogen ions, oxygen and electrons.

Match each item with the correct statement below.

## CALVIN CYCLE



carbon fixation	First phase of the Calvin cycle.
RuBP regeneration	Second phase of the Calvin cycle
ATP	Third phase of the Calvin cycle
3-phosphoglycerate	Major carbon fixing enzyme of the Calvin cycle.
reduction reactions	Reductant used in the Calvin cycle.
glyceraldehyde-3-phosphate	Source of energy to regenerate RuBP
NADPH	First product of carbon fixation
rubisco	Molecule utilized in the synthesis of glucose, starch and sucrose.