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| **What will we be learning?****Year 13 Photosynthesis** | **Why this? Why now?**Previous Learning Year 12 cell and membrane structureProteins and enzymesBiomoleculesFuture Learning Year 13 Plant responsesEnquiry ProcessesAnalyse Patterns, Draw conclusions, Present data, Justify opinions, Collect data, Present data, Plan variables | **Key Words:****Adenosine triphosphate (ATP)****Calvin cycle****Electron carrier molecule****Glycerate-3-phosphate****Granum****Light-dependent reactions****Light-independent reactions****Limiting factor****Mesophyll****NADP (nicotinamide adenine dinucleotide phosphate)****Oxidation****Oxidation-reduction****Photolysis****Producer****Reduction****Ribulose bisphosphate****Stroma****Thylakoid****Triose phosphate** |
| **What will we learn?*** The interrelationship between the process of photosynthesis and respiration
* The structure of a chloroplast and the sites of the two main stages of photosynthesis
* The importance of photosynthetic pigments in photosynthesis
* Practical investigations using thin layer chromatography (TLC) to separate photosynthetic pigments
* The light-dependent stage of photosynthesis
* The fixation of carbon dioxide and the light independent stage of photosynthesis
* The uses of triose phosphate (TP)
* The factors that affect photosynthesis
* Practical investigations into factors affecting the rate of photosynthesis

**Misconceptions in this topic*** Be careful with language surrounding the idea of ‘energy’ and speak in terms of stores and transfers
* Be careful of ‘learning’ the diagram for Z-scheme, arrangement of photosystems – these can be represented in different ways
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| **What opportunities are there for wider study?**CareersAgriculture Biochemistry Biotechnology Ecology Environmental science Forensics Horticulture Laboratory Work Pharmacology Teaching STE(A)M <https://highcliffe.sharepoint.com/sites/LearnSTEM> |
| **How will I be assessed?**End of topic assessment PAG 6.3 |