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| **What will we be learning?**  **Year 13 Photosynthesis** | **Why this? Why now?**  Previous Learning  Year 12 cell and membrane structure  Proteins and enzymes  Biomolecules  Future Learning  Year 13 Plant responses  Enquiry Processes  Analyse 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 | |
| **What opportunities are there for wider study?**  Careers  Agriculture 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 | |