**UNIT OVERVIEW:** Photosynthesis

1. **ENQUIRY:** Why is photosynthesis essential for life?

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| **Unit intention:** Photosynthesis is the process whereby light from the Sun is harvested and used to drive the production of chemicals, including ATP, and used to synthesise large organic molecules from inorganic molecules. Respiration is the process whereby energy stored in complex organic molecules are transferred to ATP. In this module, the biochemical pathways of photosynthesis and respiration are considered, with an emphasis on the formation and use of ATP as the source of energy for biochemical processes and synthesis of biological molecules. |
| **Success criteria: I can explain** | 🗸 | X |
| 1. The interrelationship between the process of photosynthesis and respiration and the synthesis of ATP.
2. The structure of a chloroplast and the sites of the two main stages of photosynthesis.
3. The importance of photosynthetic pigments in photosynthesis. (ii) practical investigations using thin layer chromatography
4. The light-dependent stage of photosynthesis.
5. The fixation of carbon dioxide and the light independent stage of photosynthesis including use of triose phosphate.
6. factors affecting photosynthesis -practical investigations into factors affecting the rate of photosynthesis.
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| **Unit summative and formative assessment details:** Weekly Seneca, factual re-call  Extended writing Practical ResearchEnd of unit test | **Topic Sequence**1.Energy Cycles and ATP synthesis2. Structure of Chloroplast3. Photosynthetic pigments4.Light dependent stage5. Light independent stage6. Factors affecting photosynthesis |
| **Home Learning (What and how often):** **Home Learning (What and how often):**Homework once a week (flip learning and Seneca)Revisit class content (make notes)Research activities for practical  |
| <https://vimeo.com/246149114><http://www.chem4kids.com/files/bio_metabolism.html> |

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| **Success criteria** – Have you met them? Show your evidence in the boxes below. |
| **1.** |
| **2.** |
| **3.** |
| **4.** |
| **5.** |
| **6.** |
| **How will you improve your work?**<http://www.saps.org.uk/secondary/teaching-resources/283-photosynthesis-how-does-chlorophyll-absorb-light-energy><https://quizlet.com/70561638/photosynthesis-flash-cards/> |

**End of Unit EVALUATION**