Edexcel International GCSE Biology 4BI1 Learning Plan

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| **Unit: 3. Plant Physiology** | | **Chapter: 10. Plants and Food** | | **Hours: 8** |
| Content coverage | Learning outcomes | Resources | Assessment | |
| **Section 2: Structures and functions in living organisms**  **e)** Nutrition | **2.18** understand the process of photosynthesis and its importance in the conversion of light energy to chemical energy  **2.19** know the word equation and the balanced chemical symbol equation for photosynthesis  **2.23** practical: investigate photosynthesis, showing the evolution of oxygen from a water plant, the production of starch and the requirements of light, carbon dioxide and chlorophyll.  **2.20** understand how varying carbon dioxide concentration, light intensity and temperature  affect the rate of photosynthesis  **2.21** describe the structure of the leaf and explain how it is adapted for photosynthesis  **2.22** understand that plants require mineral ions for growth, and that magnesium ions are needed for chlorophyll and nitrate ions are needed for amino acids.  **2.41B understand gas exchange (of carbon dioxide and oxygen) in relation to**  **respiration and photosynthesis**  **2.42B understand how the structure of the leaf is adapted for gas exchange**  **2.43B describe the role of stomata in gas exchange.**  **2.44B understand how respiration continues during the day and night, but that the net exchange of carbon dioxide and oxygen depends on the intensity of light**  **2.45B practical: investigate the effect of light on net gas exchange from a leaf, using hydrogen-carbonate indicator.** | Video: Biology – Section 2 – Lesson 2 – Nutrition – Flowering Plants  Biology – Section 2 – Lesson 4 Respiration and Gaseous Exchange; 15.52 to end  Powerpoint: Biology Section 2 Lesson 2 Biology Section 2 Lesson 4 – Slide 59 to end  Textbook pages:  135 – Plants make starch  138 – Photosynthesis  145 – Mineral nutrition | Page 148 – 151 Qs. 1 to 11  Textbook Answers (PDF)  Chapter 10 - exam question - pdf  Chapter 10 - exam question mark scheme – pdf  Chapter 10 - Talking paper video | |

Videos – [www.igcsesciencecourses.com](http://www.igcsesciencecourses.com)

Textbook Ref: Edexcel International GCSE (9-1) Biology Student Book - Pearson (Bradfield and Potter)