Edexcel International GCSE Biology 4BI1 Learning Plan

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| **Unit: 2. Animal Physiology** | | **Chapter: 4. Food and Digestion** | | **Hours: 11** |
| Content coverage | Learning outcomes | Resources | Assessment | |
| **Section 2: Structures and functions in living organisms**  c) Biological molecules  **Section 2: Structures and functions in living organisms**  **e)** Nutrition | **2.7** identify the chemical elements present in carbohydrates, proteins and lipids (fats and oils)  **2.8** describe the structure of carbohydrates, proteins and lipids as large molecules made up from smaller basic units: starch and glycogen from simple sugar; protein from amino acids; lipid from fatty acids and glycerol  **2.9** practical: investigate food samples for the presence of glucose, starch, protein and fat.  **2.24** understand that a balanced diet should include appropriate proportions of  carbohydrate, protein, lipid, vitamins, minerals, water and dietary fibre  **2.25** identify the sources and describe the functions of carbohydrate, protein, lipids (fats and oils), vitamins A, C and D, the mineral ions calcium and iron, water and dietary fibre as components of the diet.  **2.26** understand how energy requirements vary with activity levels, age and pregnancy  **2.27** describe the structure and function of the human alimentary canal, including the  mouth, oesophagus, stomach, small intestine (duodenum and ileum), large intestine  (colon and rectum) and pancreas  **2.28** understand how food is moved through the gut by peristalsis.  **2.29** understand the role of digestive enzymes, including the digestion of starch to glucose by amylase and maltase, the digestion of proteins to amino acids by proteases and the digestion of lipids to fatty acids and glycerol by lipases.  **2.30** understand that bile is produced by the liver and stored in the gall bladder  **2.31** understand the role of bile in neutralising stomach acid and emulsifying lipids  **2.32** understand how the small intestine is adapted for absorption, including the structure of a villus.  **2.33** describe an experiment to investigate the energy content in a food sample. | Video: Biology Section 2 – Lesson 3 – Nutrition - Humans  Powerpoint: Biology Section 2 – Lesson 3  Textbook pages:  52 – A balanced diet  59 – Energy from food  62 – Digestion  62 - Peristalsis  63 – The digestive system  65 – Absorption in the ileum  66 – The Large intestine – elimination of waste | Page 67 – 69 Qs 1 to 10  Textbook Answers (PDF)  Chapter 4 - exam question - pdf  Chapter 4 - exam question mark scheme – pdf  Chapter 4 - 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)