Edexcel iGCSE Biology 4BI0 Learning Plan

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| **Section D14: Ecosystems** | | |
| Specification | Resources | Assessment |
| 4.1 understand the terms population, community, habitat and ecosystem  4.2 explain how quadrats can be used to estimate the population size of an organism in two different areas  4.3 explain how quadrats can be used to sample the distribution of organisms in their habitats.  4.4 explain the names given to different trophic levels to include producers, primary, secondary and tertiary consumers and decomposers  4.5 understand the concepts of food chains, food webs, pyramids of number, pyramids of biomass and pyramids of energy transfer  4.6 understand the transfer of substances and of energy along a food chain  4.7 explain why only about 10% of energy is transferred from one trophic level to the next.  **4.8 describe the stages in the water cycle, including evaporation, transpiration, condensation and precipitation**  4.9 describe the stages in the carbon cycle, including respiration, photosynthesis, decomposition and combustion  **4.10 describe the stages in the nitrogen cycle, including the roles of nitrogen fixing bacteria, decomposers, nitrifying bacteria and denitrifying bacteria (specific names of bacteria are not required).** | Video: Biology Section 4 Lesson 1 – Ecology and the Environment (Part 1); Biology Section 4 Lesson 2 – Ecology and the Environment (Part 2); Biology Section 4 Lesson 3 – Recycling in Natural Ecosystems  Powerpoint: Biology Section 4 Lesson 1; Biology Section 4 Lesson 2; Biology Section 4 Lesson 3  Textbook: Ch.14 - Ecosystems  Page 152 – The components of ecosystems.  Page 153 – Using quadrats to sample from a habitat.  Page 155 – Interactions in ecosystems.  Page 156 – Ecological pyramids  Page 158 – The flow of energy through ecosystems  Page 159 – Cycling nutrients through ecosystems  Page 159 – The carbon cycle  Page 160 – The nitrogen cycle  Page 161 – The water cycle  Page 162 – End of Chapter Checklist  Chapter 14 Ecosystems - Student checklist.doc  DVD Revision check list  <http://biology-igcse.weebly.com/energy-flow.html>  <http://biology-igcse.weebly.com/food-chain.html>  <http://biology-igcse.weebly.com/food-web.html>  <http://biology-igcse.weebly.com/food-pyramids.html>  <http://biology-igcse.weebly.com/energy-efficiency.html>  <http://biology-igcse.weebly.com/carbon--water-cycles.html>  <http://biology-igcse.weebly.com/nitrogen-cycle.html> | Textbook  Pages 162-163; Questions 1 to 6  Chapter D14 Textbook Answers (PDF)  DVD Multiple choice test  Section D14 - exam question - pdf  Section D14 - exam question mark scheme – pdf  Talking paper video – Section D14 – Ecosystems |

Videos – www.igcsesciencecourses.com

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

DVD Video Clips – see resource DVD in textbook.