| Biology Curriculum ELC-GCSE | KS2 | KS3 | KS4 |
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| Organisms | • Some organs and some organ systems.<br>• Life cycles.<br>• Organisms need nutrition.<br>• Simple understanding of skeletal, muscular, digestive<br>• Food, drugs and lifestyle can cause harm to humans. | • Cell structure and function.<br>• Simple specialised cells.<br>• Role of diffusion.<br>• Fuller understanding of organisation hierarchy.<br>• Fuller understanding of breathing, circulatory and digestive systems.<br>• Healthy diets and effects of malnutrition.<br>• Effects of recreational drug on humans. | • Cell structure and how specialist function is connected to structure.<br>• Prokaryotic and eukaryotic cell differences.<br>• Enzymes and factors effecting enzymes.<br>• Breathing, circulatory and digestive systems linking structure to function.<br>• Carbohydrates, lipids and proteins and key biological molecules.<br>• Need for transport in all organisms.<br>• Communicable and non-communicable diseases.<br>• Homeostasis and endocrine system. |
| Ecosystems | • Food chains.<br>• Habitats.<br>• What plants need. | • Food chains and webs.<br>• Connect habitats to simple animal adaptations.<br>• Simple photosynthesis and respiration with word equations.<br>• Importance of photosynthesis.<br>• Leaf structure including adaptations and function of stomata.<br>• Differences between aerobic and anaerobic respiration.<br>• Idea of maintaining biodiversity. | • Interactions within food chains and webs. Levels of organisation in ecosystems.<br>• Cycles in ecosystem.<br>• Wider understanding of animal adaptation.<br>• Photosynthesis and respiration including symbol equations and circumstances that affect it.<br>• Importance of respiration and photosynthesis.<br>• Importance of biodiversity.<br>• Negative and positive human interactions with ecosystems. |

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| **Genes** | • Children look like their parents.<br>• Organisms vary.<br>• Basic development of humans.<br>• Reproduction in humans and plants.<br>• Living things can be grouped.<br>• Know what fossils are and that animals have changed over time. | • Reproduction from a structure and function point of view.<br>• Simple understanding of menstruation.<br>• Reproduction in plants including seed dispersal and fruit formation.<br>• Contraception types. | • Genomes.<br>• Role of hormones in the control of reproduction.<br>• Single gene inheritance and single gene crosses with dominant and recessive phenotypes<br>• Sex determination in humans<br>• The process of natural selection leading to evolution<br>• The evidence for evolution<br>• The importance of selective breeding of plants and animals in agriculture<br>• The uses of modern biotechnology including gene technology; some of the practical and ethical considerations of modern biotechnology. |