**Curriculum Map: Biology Year 8**

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| **Content**<br>Declarative knowledge<br>'I Know' | Topic: Organisms<br>Know the composition of air<br>Know how humans breathe<br>Know how humans absorb oxygen from the air<br>Define medicinal drugs and recreational drugs<br>Know some of their effects of drugs (including alcohol and nicotine) on health and behaviour<br>Know the key constituents of food<br>Know how nutrients are absorbed from our food and the role of enzymes and bacteria | | Topic: Genes<br>Know the theory of natural selection<br>Know some factors that may lead to extinction<br>Define the key words DNA, chromosomes, genes, and mutation<br>Know how characteristics are inherited<br>Know that DNA has a double helix structure<br>Know how selective breeding and genetic modification can be used | | Topic: Ecosystems<br>Define aerobic respiration, anaerobic respiration, and fermentation<br>Know the difference between aerobic respiration, anaerobic respiration in animals, and anaerobic respiration in plants/yeast<br>Know some real-life uses of fermentation<br>Know the limiting factors of photosynthesis<br>Know what fertilisers are and what they are used for | |
| **Skills**<br>Procedural Knowledge<br>'I know how to' | Know how to test foods for the presence of starch, sugars, protein, and lipids<br>Interpret colour changes in food tests | | Know how to complete Punnett squares to predict how characteristics will be inherited<br>Know how to construct a timeline showing the key steps in the discovery of DNA | | Know how to write word equations to describe aerobic respiration, anaerobic respiration in animals and in plants/yeast, and photosynthesis<br>Know how to test a leaf for starch<br>Know how to measure the rate of photosynthesis<br>Interpret photosynthesis limiting factor graphs | |
| **Strategies**<br>Conditional Knowledge<br>'I know when to' | Evaluate the benefits and risks of some medicinal drugs<br>Evaluate the risks of recreational drugs<br>Deduce whether a food group is present or not by carrying out a food test | | Evaluate the evidence behind natural selection<br>Evaluate how humans can play a role in extinction, and what we can do to prevent it<br>Evaluate the ethics of selective breeding and genetic modification | | Deduce how bread would be different if produced without yeast<br>Deduce the effect of plant mineral deficiencies on their health | |
| Key Questions | How does your body exchange gases with the environment?<br>How can drugs affect your body?<br>How does the body break down the foods you eat? | | What is the theory of evolution by natural selection?<br>How do you inherit characteristics from your parents?<br>What is the likelihood of you inheriting a characteristic? | | How does the body transfer energy from food by respiration?<br>What is the difference between aerobic and anaerobic respiration?<br>How do plants produce food by photosynthesis? | |
| Assessment topics | End of topic test (after 10 lessons of topic) and this will be re tested at the end of the term. | | End of topic test (after 8 lessons of topic) and this will be re tested at the end of the term. | | End of topic test (after 7 lessons of topic) and this will be re tested at the end of the term. | |
| Cross curricular links/Character Education | Chemistry – composition of air, diffusion<br>PE – how we breathe<br>PSHCE – drugs education<br>Food tech – healthy eating and digestion | | RE – evidence for evolution by natural selection<br>Maths – probability | | PE – aerobic respiration, anaerobic respiration, and exercise<br>Chemistry – word equations | |
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