



KS3 Biology: Year 8 curriculum overview for 2024 - 2025

| | Key content (knowledge) | Key skills | Assessments | Challenge and enrichment |
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| Autumn half term 1 | Breathing, gas exchange, effects of smoking. | Revisit use of microscopes. Measure lung volumes, present data graphically and draw conclusions consistent with the evidence. Analysing data on the effect of recreational drugs on the risk of disease. | Test 1: Breathing and gas exchange. | Extension tasks about data presentation. |
| Autumn half term 2 | Digestive system, food tests, enzymes. | Testing for a range of biological molecules in different foods. Safely measuring the energy content of different foods and linking it to the nutrients it contains. Interpreting risk factors in CVD. Designing a healthy diet. | Test 2: Digestive system and enzymes. | Vitamin C assay. |
| Spring half term 1 | Aerobic and anaerobic respiration. Photosynthesis and leaf structure and adaptations. | Investigation of the effect of temperature on fermentation. Planning an investigation into the effect of exercise on breathing rate. Interpreting data on changes in heart rate, breathing rate | Assessed homework for respiration and photosynthesis. | Microbiology in Schools Advisory Committee (MiSAC) annual poster competition. |

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| | | and pattern of blood flow during exercise. Stomatal peel investigation. | | |
| Spring half term 2 | Natural selection, the work of Charles Darwin and extinction. | Explaining evolution in terms of natural selection. Interpreting fossil evidence. Identifying reasons why organisms are endangered and evaluating conservation methods. | Test 3: Bioenergetics test. | |
| Summer half term 2 | Inheritance, DNA and genetic modification. | Modelling a DNA molecule. Using Punnet squares to predict the potential characteristics of offspring in Guinea pigs. | Test 4: Evolution and genetics test. End of year examination | How the work of different scientists contributed to our understanding of DNA. |
| Summer half term 2 | | Skills based project work. | End of year 8 exam. | <ul style="list-style-type: none"> • Newstead Science Expo competition. • Royal Society of Biology Nancy Rothwell Prize biological drawing competition. |