

| Year 11  |  |  |  |
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|          | Key content  | Before and After<br>[Why we teach this]  | Assessment and Links to<br>Specialism(s)   |
| Autumn 1 | <p>Homeostasis and control</p> <p>Reproduction, Inheritance and Genetics</p> | <p>Students will learn about coordination and control and how the human nervous system, brain and the eye work. Students will also learn about how the body regulates itself through the use of hormones. The use of plant hormones and regulation will also be examined.</p> <p>Students will learn about the differences between sexual and asexual reproduction, building on knowledge gained in KS3 science. Ethical issues surrounding the use of contraception and hormones to treat infertility will also be discussed. This will lead into learning about the importance of DNA and genetic inheritance.</p> | <p><b>Assessment:</b> Knowledge is assessed by a half term test comprising of multiple choice and written answers.</p> <p><b>Links to Health Sciences and Social Care:</b> Understanding how the body regulates and controls itself is very important for understanding the varying care requirements of different patients. For example, those with reduced mobility,</p>                     |
|          |  |  | <p>sensory impediments or spinal problems. Ethical issues surrounding the use of contraception and hormones to treat infertility are key aspects of health sciences and social care.</p> <p><b>Links to Engineering:</b> Creation of prosthetic limbs by medical engineers require extensive knowledge of coordination and the nervous system.</p>   |
| Autumn 2 | Variation and evolution  | With a knowledge of genetics, reproduction and inheritance from the previous half term, students will now learn about variation, the theory of evolution and the process of natural selection and 'how a species is made'. The ethical arguments of genetic engineering and cloning will be explored. Students will also be taught how living organisms are classified.  | <p><b>Assessment:</b> Knowledge is assessed by a half term test comprising of multiple choice and written answers.</p> <p><b>Links to Engineering:</b></p>   |
| Spring 1 | Ecology and Human interactions and the ecosystem                             | Students will investigate how humans interact with the natural environment and explore the human impacts leading to environmental change including land use, deforestation, global warming, factors affecting food security, farming techniques and sustainability. The role of biotechnology will also be discussed.  | <p><b>Assessment:</b> Knowledge is assessed by a half term test comprising of multiple choice and written answers.</p> <p><b>Links to Health Sciences and Social Care:</b> Understanding of how being mindful of the natural environment around us can aid mental wellbeing.</p> <p><b>Links to Engineering:</b> How engineering practices are helping to reduce our environmental impact.</p> |

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|          |                 |                 | Use of technology to monitor animal populations for ecology field research. |
| Spring 2 | REVISION PERIOD | REVISION PERIOD | REVISION PERIOD   |
| Summer 1 | EXAMINATIONS    | EXAMINATIONS    | EXAMINATIONS  |
| Summer 2 | EXAMINATIONS    | EXAMINATIONS    | EXAMINATIONS  |