



Subject: Biology

Lead Teacher: Mrs S Dainty

Year: 9

Curriculum organisation

Students are taught in mixed groups of 30 for two hours per week. They are not grouped by ability.

| Overview of Topics & Key Information | | | | | How will your child be learning? |
|--------------------------------------|--|--|--|---|--|
| Term | Unit(s) of Work | Key Enquiry Questions | Key Content/ Terminology | Skills developed | |
| Autumn Term | <ul style="list-style-type: none"> Cells Animal organisation and digestion Transport across membranes | <ul style="list-style-type: none"> How do structural differences between cells enable them to perform specific functions within an organism? What factors affect the rate of enzyme reactions? How do cells control which substances move in and out of them? | <ul style="list-style-type: none"> Prokaryotic and eukaryotic cells Aseptic technique Binary fission Growth curve Electron microscope Diffusion Osmosis Active transport | <ul style="list-style-type: none"> Using a microscope Biological drawing Culturing microbes using aseptic technique Calculating magnification Calculating rates of reaction Calculating surface area:volume ratio | <ul style="list-style-type: none"> Whole class discussion Pair work Practical activities Problem-solving tasks Watching short video clips |
| Spring Term | <ul style="list-style-type: none"> Transport across membranes - continued Plant organisation Circulatory system | <ul style="list-style-type: none"> How does water move up a plant, against gravity without using energy? Which structures constitute the circulatory system? What is the function of the circulatory system? How are the parts of the circulatory system adapted to be able to carry out their function | <ul style="list-style-type: none"> Transpiration Vascular tissue Xylem Phloem Artery, vein, capillary, heart and blood as a tissue. Gas exchange Inspiration Expiration | <ul style="list-style-type: none"> Calculating rates of transpiration Relate form to function. Evaluating data and drawing conclusions | |
| Summer Term | <ul style="list-style-type: none"> Circulatory system- continued Non-communicable disease. Infection and response | <ul style="list-style-type: none"> What are the causes of non-communicable disease? How do pathogens cause disease in humans? How do our bodies respond to minimise infection? How have humans exploited this knowledge to enhance our ability to deal with pathogens? Infection and response in plants | <ul style="list-style-type: none"> What is cardiovascular disease? Diabetes Risk factors Protist Antibiotics Drug trials Monoclonal antibodies | <ul style="list-style-type: none"> Evaluating and drawing conclusions from data Applying biological facts. Data analysis Graph interpretation | |

| Equipment needed for lessons | How will learning and progress be assessed? |
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| <ul style="list-style-type: none"> • Standard school stationery • Exercise book • Calculator | <ul style="list-style-type: none"> • End of unit tests (subject knowledge focus) • Formal assessment week (May) • Peer and self assessment • Homework tasks • Retrieval practice activities |

| Extension & Enrichment opportunities | What can you do to support your child? |
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| <ul style="list-style-type: none"> • Lunch time drop in • Biology Google site. Students will have the address in their exercise book. • Websites which are very helpful are: <ul style="list-style-type: none"> - Cognito https://www.youtube.com/@Cognitoedu - Mr Exham https://www.youtube.com/@MrExhambio - Free Science Lessons https://www.youtube.com/@Freesciencelessons - The Amoeba Sisters https://www.youtube.com/@AmoebaSisters - Miss Estruch https://www.youtube.com/@MissEstruchBiology | <ul style="list-style-type: none"> • Encourage your child to use the resources on the google site. • Help your child to learn content using retrieval practice methods for example use of flash cards. |

| Inclusion | |
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| In lessons | Subject specific |
| <ul style="list-style-type: none"> • All teachers read the individual student passports and SEND requirements. • Teachers will make reasonable adjustments and adapt aspects of their teaching delivery to accommodate viable changes and modifications to allow all pupils to access the subject content. • Exams access - We follow the JCQ guidelines on access in unit tests, end-of-year assessments and mock examinations. • Light sensitivity – students can wear coloured glasses in lessons to reduce glare • Visual impairment – sat in front, larger fonts where possible or magnified photocopies if the article/activity is not available for modification digitally • Hearing impairment – sat in front or where student passport suggests is the best position • Physical impairment – student can under certain circumstances be allocated a word processor. They can also photocopy of classmate’s notes, take photos of a classmate’s notes to print, change classrooms for mobility or room access • Dyslexia – Word processor as advised by school SEND coordinator • ADHD – Movement breaks, fidget toys • Autism spectrum – clear and logical set of instructions, writing homework on the board, use of ear defenders | <ul style="list-style-type: none"> • For pupils with visual impairment, enlarged graph paper for plotting graphs during experiments • Physical impairment – where possible we amend practical equipment or provide a magnifying glass to view instruments • Hearing impaired – show videos with subtitles • Some laboratories have height-adjustable benches for wheelchair access • Cater for latex allergies by providing disposable gloves |

If you have any questions about this Learning Overview, please contact the named Teacher above.