

Curriculum Intent, Implementation and Impact

Science Curriculum

Subject Rationale and Intent

Science is taught to inspire curiosity and show students where their learning can take them. At Key Stage 3, lessons follow the Trust scheme of work, adapted by UTC staff and linked to real-life situations and careers, including the Year 7-9 Science Fairs and guided practicals. At Key Stage 4, the Meridian scheme of learning is followed, tailored to be inclusive and engaging, with links to current news and research. At Key Stage 5, OCR A Levels are offered in Biology, Chemistry and Physics for students who achieve a grade 6 or higher at GCSE, with practical work forming a valued part of learning.

Enrichment is a key feature of the offer: the UTC Health-Tech Challenge, subject-specific Olympiads and UCAT preparation for medicine and dentistry pathways all extend learning beyond the classroom, alongside trips such as the Big Bang Exhibition, Astra Zeneca and the Wellcome Genome Campus. Additional investment has recently supported new A Level microscopes for Biology and new equipment for Chemistry practical assessed work.

Assessment and feedback follow a consistent, half-termly cycle, with clear target grades shared with students and regular analysis of assessment data used to identify where intervention is needed, particularly for Pupil Premium and SEND students.

This approach is intended to raise engagement and enjoyment in Science, embed careers into every stage of the curriculum, and ensure that increased practical experience and varied activities in lessons translate into improved outcomes for all students, closing gaps between different groups over time.

YEAR 7	Curriculum Content	Assessment Criteria	Parent Support
Term 1	Trust scheme of work covering biology, chemistry and physics, linked to real-life contexts and careers, including the Year 7-9 Science Fairs and guided practicals.	Teacher-assessed through half-termly assessed pieces and topic tests, tracked against target grades. There is no external examination at Key Stage 3.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
Term 2	Trust scheme of work covering biology, chemistry and physics, linked to real-life contexts and careers, including the Year 7-9 Science Fairs and guided practicals.	Teacher-assessed through half-termly assessed pieces and topic tests, tracked against target grades. There is no external examination at Key Stage 3.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
Term 3	Trust scheme of work covering biology, chemistry and physics, linked to real-life contexts and careers, including the Year 7-9 Science Fairs and guided practicals.	Teacher-assessed through half-termly assessed pieces and topic tests, tracked against target grades. There is no external examination at Key Stage 3.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science

YEAR 8	Curriculum Content	Assessment Criteria	Parent Support
Term 1	Trust scheme of work covering biology, chemistry and physics, linked to real-life contexts and careers, including the Year 7-9 Science Fairs and guided practicals.	Teacher-assessed through half-termly assessed pieces and topic tests, tracked against target grades. There is no external examination at Key Stage 3.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
Term 2	Trust scheme of work covering biology, chemistry and physics, linked to real-life contexts and careers, including the Year 7-9 Science Fairs and guided practicals.	Teacher-assessed through half-termly assessed pieces and topic tests, tracked against target grades. There is no external examination at Key Stage 3.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
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YEAR 9	Curriculum Content	Assessment Criteria	Parent Support
Term 1	Trust scheme of work covering biology, chemistry and physics, linked to real-life contexts and careers, including the Year 7-9 Science Fairs and guided practicals.	Teacher-assessed through half-termly assessed pieces and topic tests, tracked against target grades. There is no external examination at Key Stage 3.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
Term 2	Trust scheme of work covering biology, chemistry and physics, linked to real-life contexts and careers, including the Year 7-9 Science Fairs and guided practicals.	Teacher-assessed through half-termly assessed pieces and topic tests, tracked against target grades. There is no external examination at Key Stage 3.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
Term 3	Trust scheme of work covering biology, chemistry and physics, linked to real-life contexts and careers, including the Year 7-9 Science Fairs and guided practicals.	Teacher-assessed through half-termly assessed pieces and topic tests, tracked against target grades. There is no external examination at Key Stage 3.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science

YEAR 10	Curriculum Content	Assessment Criteria	Parent Support
Term 1	Meridian-based scheme of learning leading to GCSE Combined Science or separate GCSE Biology, Chemistry and Physics, with core practicals embedded throughout.	Exams assess AO1 (knowledge and understanding) and AO2 (application), underpinned by a minimum of 21 required practicals. Combined Science is examined over six equally-weighted papers (two each of Biology, Chemistry and Physics) and awards two GCSE grades; separate sciences are examined over two papers per subject. Foundation tier covers grades 1-5; Higher tier covers grades 4-9.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
Term 2	Meridian-based scheme of learning leading to GCSE Combined Science or separate GCSE Biology, Chemistry and Physics, with core practicals embedded throughout.	Exams assess AO1 (knowledge and understanding) and AO2 (application), underpinned by a minimum of 21 required practicals. Combined Science is examined over six equally-weighted papers (two each of Biology, Chemistry and Physics) and awards two GCSE grades; separate sciences are examined over two papers per subject. Foundation tier covers grades 1-5; Higher tier covers grades 4-9.	BBC Bitesize: Science (exam-board specific) Seneca Learning

YEAR 10	Curriculum Content	Assessment Criteria	Parent Support
	Chemistry and Physics, with core practicals embedded throughout.	grades; separate sciences are examined over two papers per subject. Foundation tier covers grades 1-5; Higher tier covers grades 4-9.	Oak National Academy: Science
Term 3	Meridian-based scheme of learning leading to GCSE Combined Science or separate GCSE Biology, Chemistry and Physics, with core practicals embedded throughout.	Exams assess AO1 (knowledge and understanding) and AO2 (application), underpinned by a minimum of 21 required practicals. Combined Science is examined over six equally-weighted papers (two each of Biology, Chemistry and Physics) and awards two GCSE grades; separate sciences are examined over two papers per subject. Foundation tier covers grades 1-5; Higher tier covers grades 4-9.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science

YEAR 11	Curriculum Content	Assessment Criteria	Parent Support
Term 1	Meridian-based scheme of learning leading to GCSE Combined Science or separate GCSE Biology, Chemistry and Physics, with core practicals embedded throughout.	Exams assess AO1 (knowledge and understanding) and AO2 (application), underpinned by a minimum of 21 required practicals. Combined Science is examined over six equally-weighted papers (two each of Biology, Chemistry and Physics) and awards two GCSE grades; separate sciences are examined over two papers per subject. Foundation tier covers grades 1-5; Higher tier covers grades 4-9.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
Term 2	Meridian-based scheme of learning leading to GCSE Combined Science or separate GCSE Biology, Chemistry and Physics, with core practicals embedded throughout.	Exams assess AO1 (knowledge and understanding) and AO2 (application), underpinned by a minimum of 21 required practicals. Combined Science is examined over six equally-weighted papers (two each of Biology, Chemistry and Physics) and awards two GCSE grades; separate sciences are examined over two papers per subject. Foundation tier covers grades 1-5; Higher tier covers grades 4-9.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
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YEAR 12	Curriculum Content	Assessment Criteria	Parent Support
Term 1	OCR A Level Biology, Chemistry and Physics for students who achieve grade 6 or above at GCSE, with enrichment through the UTC Health-Tech Challenge, subject Olympiads and UCAT preparation.	Three written exam papers per subject, with a minimum of 15% of marks assessing practical skills and 15% assessing mathematical skills, alongside a separately-reported pass/not-classified Practical Endorsement based on 12 required practical activities.	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science
Term 2	OCR A Level Biology, Chemistry and Physics for students who achieve grade 6 or above at GCSE, with enrichment through the UTC Health-Tech Challenge, subject Olympiads and UCAT preparation.	Three written exam papers per subject, with a minimum of 15% of marks assessing practical skills and 15% assessing mathematical skills, alongside a separately-reported pass/not-classified Practical	BBC Bitesize: Science (exam-board specific) Seneca Learning Oak National Academy: Science

YEAR 12	Curriculum Content	Assessment Criteria	Parent Support
		Endorsement based on 12 required practical activities.	
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