



KS3 Science Curriculum 2020-21

Intent:

The Science curriculum is intended to teach pupils about the incredible world that they live in and how they grow as humans and develop and thrive in the incredible, diverse and ever changing planet we live on. Pupils will gain a range of skills and knowledge throughout their science lessons including teamwork and practical skills when completing scientific experiments and debating and literary techniques when considering the impact of scientific theories and practices. Development of pupil's scientific knowledge will be vital to pupil's progression and the sciences are separated into Biology, Chemistry and Physics, to ensure pupils are able to fully comprehend the breadth and depth of this awe inspiring subject. The schemes of work have been carefully planned to ensure pupils develop in depth knowledge and understanding of the sciences and are scaffolded to ensure that complex concepts are accessible and are explicitly developed from Key Stage 3 into Key Stage 4. Practical work is at the heart of the 3 sciences and pupils complete a vast, variety of investigations throughout both Key Stages, to allow pupils to fully immerse themselves into their learning journey. Pupils will have many opportunities to develop their spiritual, moral, ethical, social and cultural understanding and discuss their personal interpretations and ideas, to develop themselves as a well-rounded, scientifically aware citizen of the world.

Implementation:

In Science pupils are taught using a range of learning resources, scientific equipment and modelling practices. Pupils will explore the sciences through practical experimental work, research and independent work using a variety of resources, such as laptops, interactive presentations, whiteboards, online learning experiences and visualisers to model key concepts and examples. Pupils will also experience science in action with regular practical activities, both inside and outside of the classroom, where they can undertake scientific investigations to explain key ideas, develop their understanding and practical skills. There are regular real-life opportunities of scientific experiences both in the classroom, during lessons, CSI experiences and science clubs, as well as externally at the Big Bang Show and university events. Pupil progress is facilitated through detailed planning of lessons and practical activities, revision classes and scaffolded concepts across the Key Stages.

Impact:

Science is a very popular subject at Studley with an average of 60 students a year opting to take our Triple Science provision. We know that each individual pupil begins their scientific journey at Studley at a different starting point and we have built a curriculum that supports positive pupil progress and skill development across the Sciences. Progression is measured through both formative and summative assessments, including practice papers, teacher questioning, regular feedback, classroom observation and individual discussions. The practical nature of Science equally allows pupils to develop a range of life skills, such as decision making, evaluating, team working, independent questioning and the ability to work safely and precisely with complex equipment. These transferable skills will be vital in their further education, apprenticeships and the world of work, as well as preparing them for building their own independent lives in their future. We aim to create learners that are accountable, considerate, compassionate and able to articulate their opinions in a factual and balanced manner, which will not only support their studies at Studley but throughout their adult lives.



Programme of Study, Key Stage 3:

Pupils at KS3 will be assessed throughout the year with formal exam questions and 'How Science Works' investigation to ascertain the grade at which they are working and how they have improved during their studies. The topics they cover are listed under the separate year group headings.

Year 7 Science Topics:

In Year 7 students look at topics covering the full range of sciences, Biology, Chemistry and Physics in an interesting way which links these subjects with day to day life.

Areas covered are:-

- Working In A Lab
- Cells, Reproduction and Photosynthesis
- Electricity and Energy Resources
- Particles and Reactions
- Earth's Geology
- Forces and Speed

Year 8 Science Topics:

In Year 8 students continue their studies from Year 7 in Biology, Chemistry and Physics. The topics still link the subjects with day to day life and areas covered are:-

- Atoms and Elements
- Health and Disease
- Environment and the Universe
- Waves and Energy
- Chemical Reactions
- Food and Digestion



	AUTUMN 7.5 WEEKS	7AUTUMN 7 WEEKS	SPRING 6 WEEKS	SPRING 6 WEEKS	SUMMER 6 WEEKS	SUMMER 7 WEEKS
YEAR 7 3 LESSONS EACH WEEK	WORKING IN A LAB	CELLS, REPRODUCTION & PHOTOSYNTHESIS	ELECTRICITY & ENERGY	PARTICLES AND REACTIONS	FORCES AND SPEED	ENVIRONMENT & CLASSIFICATION
	ASSESSMENT POINT: 1 HSW-BURNING FUELS	ASSESSMENT POINT: 1 HSW- GROWING CRESS SEEDS 2 CELLS COMPETITION	ASSESSMENT POINT: 1 HSW- RESISTANCE IN A WIRE	ASSESSMENT POINT: 1 HSW- DISSOLVING JELLY	ASSESSMENT POINT: 1-HSW- STREAMLINING	ASSESSMENT POINT: 1 HSW- QUADRATS
	SKILLS FOCUS- CONTENT PRACTICAL WORK AND LAB SAFETY LITERACY	SKILLS FOCUS- CONTENT IMAGINATION LITERACY PRACTICAL WORK AND LAB SAFETY	SKILLS FOCUS- CONTENT CITIZENSHIP PRACTICAL WORK NUMERACY	SKILLS FOCUS- CONTENT PRACTICAL WORK DATA ANALYSIS EVALUATION NUMERACY	SKILLS FOCUS- CONTENT PRACTICAL WORK DATA ANALYSIS EVALUATION	SKILLS FOCUS- CONTENT CITIZENSHIP ENVIRONMENTAL VALUES INDEPENDENT LEARNING
YEAR 8 3 LESSONS EACH WEEK	FOOD AND DIGESTION	ATOMS & ELEMENTS	HEALTH & DISEASES	CHEMICAL REACTIONS	WAVES & ENERGY	MAGNETS AND UNIVERSE
	ASSESSMENT POINT: 1 HSW- ENERGY IN CRISPS	ASSESSMENT POINT: 1 HSW- RATES OF REACTION CARBONATES	ASSESSMENT POINT: 1 HSW- DISINFECTANT (MICROBES)	ASSESSMENT POINT: 1 HSW- TITRATIONS	ASSESSMENT POINT: 1 HSW-REFLECTION	ASSESSMENT POINT: 1 HSW-MAKING AN ELECTROMAGNET
	SKILLS FOCUS- CONTENT LITERACY	SKILLS FOCUS- CONTENT DATA COLLECTION	SKILLS FOCUS- CONTENT CITIZENSHIP	SKILLS FOCUS- CONTENT DATA COLLECTION	SKILLS FOCUS- CONTENT ANALYSIS	SKILLS FOCUS- CONTENT CITIZENSHIP



STUDLEY HIGH SCHOOL

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	CALCULATIONS GRAPHS	GRAPHS ANALYSIS PRACTICAL WORK AND LAB SAFETY	MORAL VALUES	PRACTICAL WORK AND LAB SAFETY ANALYSIS	CITIZENSHIP	NUMERACY IMAGINATION
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