

Science - Vision



SCIENCE

Curriculum Intent

The Science department at St Pauls is committed in ensuring we uphold and display the values of the school and encourage students to follow the school motto of 'love, serve and do the best that is possible' at every possible opportunity. Within our subject area we seek to instil in students an expectation of achieving beyond expectations through challenge built into lessons and the feedback given to students. Our aim is to deliver good and outstanding lessons to every student, every day. The role played by support staff in the progress of our students is valued highly, as is the input of parents and carers. We maintain strong links with all stakeholders involved with the achievement of our students in Science.

We want students regardless of ability, age, gender or race to see that Science:

- Explains the why and the how of the world around us
- Allows us to think logically about how the world works and how people function.
- Make more informed decisions about our lifestyle in order to make more informed choices.
- Gives us skills that can be applied across the curriculum to many other subjects.
- Is highly collaborative
- Opens the doors to endless possibilities.

Develop and Incorporate:

- The gifts we grow
- Show service to others
- Display respect and forgiveness
- Nurture spiritual and moral development
- Embrace positive relationships
- The knowledge that each student is equally important
- Consistency of expectations
- Celebration of success
- Key group needs and individual pupil needs

Monitoring of Impact:

- Teaching review
- Live lesson experiences
- Book scrutiny
- Learning walks
- Scheme of Learning evaluations
- Attainment and progress data
- Curriculum mapping
- Learning Talent mapping
- Independent Learning mapping
- Pupil interviews
- Staff mentoring
- Environment
- Pupil engagement
- Post-16 recruitment

Vision for Success

Our methodology will implement the school teaching and learning policy including strategies for:

- Planning for progress over time
- Teaching to the top and then differentiate to ensure that all students have access to the curriculum
- Plan for the acquisition of subject skills and knowledge alongside the development of the learning talents.
- Planning activities that promote thinking, creativity, risk taking and independence, using higher order thinking and questioning in order to achieve this
- Are modelling high quality use of scientific language, literacy and numeracy so that students can access examination questions, provide answers both verbal and written that include the correct scientific terminology
- As leaders across the curriculum and within our classrooms we are dedicated to embracing new ideas to ensure that our curriculum and teaching styles are constantly being developed and honed.

Science is a practical based subject leading to practical based careers so our lessons reflect this. So to deepen understanding and contextualise the subject where possible lessons will include meaningful, purposeful practical work.



Science - Road Map

All of our curriculum is underpinned by the ten big ideas in Science with disciplinary knowledge weaved throughout.

Disciplinary



Forces



Electromagnets



Energy



Waves



Matter



Reactions



Earth



Organisms



Ecosystems



Genes



Key Stage 3 Overview

Year 7

Year 8

Advent term

Practically a Scientist



Earth and Space



Advent term

Building Blocks



Waves and Energy Transfer



Lent term

Fields in Physics

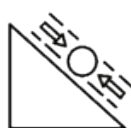


Electrons and Patterns



Lent term

Motion and Forces and Sound



Reactions and Bonding



Pentecost term

Cells at Work

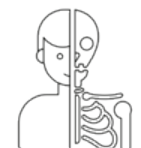


Plants Energy Photosynthesis



Pentecost term












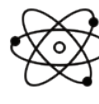


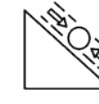

















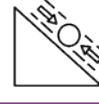











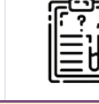
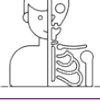



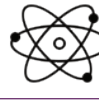

Respiring our Muscles



Birth to Death



Science - Road Map

Key Stage 3 & 4 Overview									
Year 9			Year 10			Year 11			
Biology	Chemistry	Physics	Biology	Chemistry	Physics	Biology	Chemistry	Physics	
Advent term	Ecosystems 	Particles and Mixtures 	Light and Particles 	DNA and Enzymes 	Matter and Reactions 	Forces and Motion 	Inheritance and evolution 	Equilibria 	Energy Transfer 
Advent term	Monitoring the Environment 	Separating Mixtures 	Changes of State 	Respiration 	Chemical Reactions 	Forces and Motion Work Done 	Feeding the Human Race 	Equilibria, Products and Recycling 	Work and Power 
Lent term	Cells 	Atomic Structure 	Electricity and Circuits 	Photosynthesis 	Controlling Reactions 	Work Done 	Monitoring Health 	Environmental Chemistry 	Efficiency/ Beyond Earth 
Lent term	Transport Across the Cell 	Bonding 	Circuits 	Nervous System 	Energetics 	Forces in Action/[EM Spectrum] 	Maintaining Health 	Environmental Chemistry 	Revision of Disciplinar Chemistry 
Pentecost term	Animal Transport 	Properties of Materials 	Powering Earth 	Hormones 	Electrolysis 	EM Spectrum and Waves 	Revision of Disciplinar Biology 	Revision of Disciplinar Chemistry 	Powering the Earth/ Beyond Earth 
Pentecost term	Plant Transport 	Chemical Reactions 	Magnets and Fields 	Maintaining the internal environment 	Products and Recycling 	Radioactivity 	GCSE Exams		
Pentecost term									