

# Science Curriculum Overview

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*Last updated 24/11/2019*

## Students in year 7

*If a student has 1 teacher for Science they will follow the rota below. Sometimes a topic may start a little earlier or later than shown.*

Term	Topic
Autumn	Blast off (introduction to Key Stage 3 Science)
Autumn	May the force be with you 1 (forces & motion)
Autumn	It's Alive 1 (cells, microscopes, the human body, food)
Spring	Tumbling down (acids, alkalis & rocks)
Spring	HSW (Scientific investigation)
Spring	Hubble bubble 2 (states of matter, atoms, elements, compounds)
Summer	Sparks will fly 1 (energy & fuels)
Summer	HSW (scientific investigation)
Summer	Green fingers 2 (ecology & plant and animal adaptations)

*If a student has 2 teachers they will follow the rota below. Sometimes a topic may start a little earlier or later than shown.*

Term	Teacher A Topic	Teacher B Topic
Autumn	May the force be with you 1 (forces & motion)	Blast off (introduction to Key Stage 3 Science)
Autumn / Spring	Tumbling down (acids, alkalis & rocks)	It's Alive 1 (cells, Microscopes, the human body, food)
Spring	HSW (scientific investigation)	
Spring / Summer	Sparks will fly 1 (energy & fuels)	Hubble bubble 2 (states of matter, atoms, elements, compounds)
Summer	Green fingers 2 (ecology & plant and animal adaptations)	HSW (scientific investigation)

## Students in year 8

*Students will follow the rota below. Sometimes a topic may start a little earlier or later than shown.*

<b>Term</b>	<b>Teacher A Topic</b>	<b>Teacher B Topic</b>
Autumn	HSW (scientific investigation)	Fatal reactions 1 (periodic table & chemical reactions)
Autumn	May the force be with you 2 (space, gravity, pressure)	Circle of life (plant and animal reproduction)
Autumn/Spring	Fatal reactions 2 (more chemical reactions, reactivity, polymers)	Sparks will fly 2 (light, sound, electromagnetic spectrum)
Spring	It's Alive 2 (skeleton, microbes, lungs, heart, health)	HSW (scientific investigation)
Spring/Summer	It's Electrifying (electricity & magnetism)	Hubble bubble 1 (solubility, crystallisation, separating mixtures)
Summer	HSW (Scientific investigation)	Green Fingers 1 (photosynthesis & respiration)

## Students in years 9, 10 & 11 studying AQA GCSE Combined Science Trilogy

*Students will follow the rota below. Sometimes a topic may start a little earlier or later than shown.*

Year	Term	Biology		Chemistry		Physics	
		Podule Code	Podule Title	Podule Code	Podule Title	Podule Code	Podule Title
9	Autumn	BL1	Cells, Tissues, organs	CH1	Atomic structure	PH0	Maths Skills/WS
	Autumn/Spring	BL1A	Cells, tissues, organs	CH2	Periodic table	PH1	Forces 1
	Spring	BL2	Communicable diseases				
	Spring/Summer	BL3	Prevention and treatment	CH3	Chemical changes	PH3	Motion 1
	Summer	BL4	Non-communicable diseases	CH4	Rates of reaction	PH4	Motion 2
10	Autumn	BL5	Biological processes	CH5	Crude oil and fuels	PH5	Waves 1
	Autumn	BL6	Tissues and organs	CH6	Bonding		
	Autumn/Spring	BL7	Nervous system	CH7	Structure and properties	PH6	Waves 2
	Spring	BL8	Hormones	CH8	Energy changes	PH10	Magnetism 1
	Spring/Summer	BL9	Homeostasis	CH9	Organic reactions and polymers	PH7	Energy 1 and 2
	Summer	BL10	Ecology	CH10	Chemical calculations		
	Summer	BL11	Effects of humans	CH11	Electrolysis	PH12	Particle model
11	Autumn	BL12	Genetics	CH12	Analysis	PH8	Electricity 1
	Autumn/Spring	BL13	Changing organisms	CH13	Atmosphere and resources	PH9	Electricity 2
	Spring	BL14	Variation and Evolution	CH14	Using materials	PH13	Atoms 1

## Students in years 9, 10 & 11 studying AQA GCSE Biology, GCSE Chemistry & GCSE Physics (triple science)

*Students will follow the rota below. Sometimes a topic may start a little earlier or later than shown.*

Year	Term	Biology		Chemistry		Physics	
		Podule Code	Podule Title	Podule Code	Podule Title	Podule Code	Podule Title
9	Autumn	BL1	Cells, Tissues, organs	CH1	Atomic structure	PH0	Maths Skills/WS
	Autumn	BL1A	Cells, tissues, organs	CH2	Periodic table	PH1	Forces 1
	Autumn / Spring	BL2	Communicable diseases	CH3	Chemical changes	PH2	Forces 2
	Spring	BL3	Prevention and treatment				
	Spring / Summer	BL4	Non-communicable diseases	CH4	Rates of reaction	PH3	Motion 1
	Summer	BL5	Biological processes	CH5	Crude oil and fuels	PH4	Motion 2
10	Autumn	BL6	Tissues and organs	CH6	Bonding	PH5	Waves 1
	Autumn	BL7	Nervous system	CH7	Structure and properties	PH6	Waves 2
	Spring	BL8	Hormones	CH8	Energy changes	PH10	Magnetism 1
	Spring	BL9	Homeostasis	CH9	Organic reactions and polymers	PH11	Magnetism 2
	Summer	BL10	Ecology	CH10	Chemical calculations	PH7	Energy 1 and 2
	Summer	BL11	Effects of humans	CH11	Electrolysis	PH12	Particle model
11	Autumn	BL12	Genetics	CH12	Analysis	PH15	Space
	Autumn	BL13	Changing organisms	CH13	Atmosphere and resources	PH8	Electricity 1
	Autumn / Spring					PH9	Electricity 2
	Spring	BL14	Variation and Evolution	CH14	Using materials	PH13	Atoms 1
	Spring					PH14	Atoms 2

## Students in years 12 and 13 studying OCR A-Level Biology

*Students will follow the rota below. Sometimes a topic may start a little earlier or later than shown.*

Year	Term	Teacher A	Teacher B
12	Autumn	Exchange in animals	Foundations in biology
	Autumn	Exchange in plants	Cells
	Spring	Immunology	Biochemistry
	Spring	Ecology	Biochemistry
	Summer	Classification	Enzymes
	Summer	Evolution	Cell division
13	Autumn	Excretion	Respiration
	Autumn	Responses	Homeostasis
	Autumn	Photosynthesis	Nerves
	Spring	Ecology	Endocrine system
	Spring	Biotechnology	Genetics
	Summer	Exam Preparation	Exam preparation

## Students in years 12 and 13 studying OCR A-Level Chemistry

*Students will follow the rota below. Sometimes a topic may start a little earlier or later than shown*

Year	Term	Teacher A	Teacher B
12	Autumn	2.1.1: Atomic structure & Isotopes	2.1.2: Compounds, formulae & equations
		2.1.3: Amount of substance	2.2: Electrons, bonding & structure
		2.1.4: Acids	2.1.5: Redox
		3.1.1: Periodicity	4.1.1: Basic Organic Chemistry
		3.1.2: Group 2	
	Spring	3.1.3: The Halogens	4.1.2: Alkanes
		3.1.4: Qualitative analysis	4.1.3: Alkenes
		3.2.1: Enthalpy changes	4.2.1: Alcohols
		3.2.2: Reaction rates	4.2.2: Haloalkanes
	Summer	3.2.3: Chemical equilibrium	4.2.3: Organic Synthesis
5.1: Rates, equilibrium & pH (start)		4.2.4: Analytical techniques	
13	Autumn	5.1: Rates, equilibrium & pH (complete)	6.1: Aromatic compounds, carbonyls & acids
	Autumn /Spring	5.2: Energy	6.2: Nitrogen compounds, polymers & synthesis
	Spring	5.3 Transition Elements	6.3: Analysis
	Summer	Revision & exams	Revision & exams

## Students in years 12 and 13 studying OCR A-Level Physics

*Students will follow the rota below. Sometimes a topic may start a little earlier or later than shown*

Year	Term	Topics
12	Autumn	<ul style="list-style-type: none"> <li>• Practical skills required for A-level Physics</li> <li>• Foundations of Physics</li> <li>• Forces and Motion</li> <li>• Materials</li> </ul>
	Spring	<ul style="list-style-type: none"> <li>• Work, energy and power</li> <li>• Newton's laws of motion</li> <li>• Electricity, power and resistance</li> </ul>
	Summer	<ul style="list-style-type: none"> <li>• Waves</li> <li>• Quantum Physics</li> </ul>
13	Autumn	<ul style="list-style-type: none"> <li>• Thermal Physics</li> <li>• Circular motion</li> <li>• Oscillations and gravitational fields</li> <li>• Astrophysics and cosmology</li> </ul>
	Spring	<ul style="list-style-type: none"> <li>• Electric fields</li> <li>• Capacitors</li> <li>• Electromagnetism</li> </ul>
	Summer	<ul style="list-style-type: none"> <li>• Nuclear and particle Physics</li> <li>• Medical imaging</li> <li>• Revision &amp; exam preparation</li> </ul>