

Springwood High School Science Curriculum Plan

Our Vision:

To ensure that we provide an excellent quality of Science provision for all students in the local area, enabling them to access higher level Science based careers.

Exam boards: GCSE AQA trilogy and separate sciences, Year 12/13 OCR Chemistry A and Physics A, Year 12/13 AQA Biology, Applied Science BTec

Brief overview of topics, themes, skills or key questions for each term:

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7 – Throughout practical skills, numeracy skills and application will be developed	Matter Electricity Spaced practice	Matter Electricity Cells Chemical reactions	Cells Chemical reactions Spaced practice	Chemical reactions Forces Ecology	Forces Ecology	Forces Ecology
8 - Throughout practical skills, numeracy skills and application will be developed	Energy Solutions Spaced practice	Energy Solutions Space Organ systems Spaced practice	Organ systems Space Disease and evolution Spaced practice	Principles of chemistry Disease and evolution Spaced practice	Principles of chemistry Disease and Evolution Spaced practice	Bronze Crest Award Skills lessons

Springwood High School Science Curriculum Plan

9 Throughout practical skills, numeracy skills and application will be developed	<p>Biology – Cells, spaced practice</p> <p>Chemistry – Atoms and the periodic table, spaced practice</p> <p>Physics – Energy, spaced practice</p> <p>Astronomy – Planet Earth, celestial observation</p>	<p>Biology – Cells, health, spaced practice</p> <p>Chemistry – Atoms and the periodic table, bonding, spaced practice</p> <p>Physics – Energy, Electricity, spaced practice</p> <p>Astronomy – Celestial observation, the lunar disc</p>	<p>Biology – Health</p> <p>Chemistry – Bonding</p> <p>Physics – Electricity</p> <p>Astronomy – The lunar disc, exploring the moon, exploring the Solar System</p>	<p>Biology – Health, ecology, spaced practice</p> <p>Chemistry – Bonding, spaced practice</p> <p>Physics – Electricity, spaced practice</p> <p>Astronomy – Exploring the Solar System, Solar System observations</p>	<p>Biology – Ecology, spaced practice</p> <p>Chemistry – Earth</p> <p>Physics – Electricity, forces</p> <p>Astronomy – Early models of the Solar System, planetary motion and gravity</p>	<p>Biology – Ecology, spaced practice</p> <p>Chemistry – Earth, spaced practice</p> <p>Physics - Forces, spaced practice</p> <p>Astronomy – Solar astronomy, The Earth-moon-sun system</p>
10 Throughout practical skills, numeracy skills and application will be developed	<p>Biology – Cell biology and organisation</p> <p>Chemistry – States of matter and separation techniques, chemical reactions</p> <p>Physics – Atomic structure, energy</p> <p>Astronomy – Time and the Earth-moon-sun</p>	<p>Biology – Organisation and spaced practice</p> <p>Chemistry – Chemical reactions</p> <p>Physics – Energy, spaced practice, electricity</p> <p>Astronomy – Formation of</p>	<p>Biology – Organisation</p> <p>Chemistry – Bonding</p> <p>Physics – Electricity, spaced practice, particle model</p>	<p>Biology – Infection and response</p> <p>Chemistry – Quantitative chemistry</p> <p>Physics – Particle model</p> <p>Astronomy – Stellar evolution, our place in the galaxy</p>	<p>Biology – Spaced practice and bioenergetics</p> <p>Chemistry – energy changes, rates</p> <p>Physics – Particle model, spaced practice, forces</p> <p>Astronomy - Cosmology</p>	<p>Biology – Bioenergetics and homeostasis</p> <p>Chemistry – analysis</p> <p>Physics– Forces</p>

Springwood High School Science Curriculum Plan

	cycles, formation of planetary systems	planetary systems, exploring starlight	Astronomy – Exploring starlight, stellar evolution			
11 Recap of content and exam preparation all year, key skills, practical's and math's	<p>Biology – Homeostasis and inheritance</p> <p>Chemistry – analysis/organic</p> <p>Physics – Waves, paper 1 recap of content exam preparation</p>	<p>Biology – Inheritance, spaced practice, homeostasis and ecology</p> <p>Chemistry – earth 1</p> <p>Physics – Waves, electromagnetism</p>	<p>Biology – Ecology</p> <p>Chemistry – earth 2</p> <p>Physics - Electromagnetism, Paper 2 recap of content exam preparation</p>	<p>Biology: Ecology, exam lead in</p> <p>Chemistry - exam lead in</p> <p>Physics - Space, revision</p>	<p>Triple: Exam lead in</p> <p>Combined: revision pack</p> <p>Physics - Revision</p>	
12	<p>Biology – biological molecules and cell structures</p> <p>Chemistry – Atoms and reactions (I), electrons bonding and structure (I), basic organic chemistry and hydrocarbons (I).</p> <p>Physics – Quantities and units, electricity</p>	<p>Biology – biological molecules, cell structures, spaced practice, gas exchange</p> <p>Chemistry – Atoms and reactions (II), electrons bonding and structure (II), basic organic chemistry and hydrocarbons (II)</p> <p>Physics – Electricity, motion, forces</p> <p>Applied Science - working with</p>	<p>Biology – Spaced practice, transport across membranes, immunity and gas exchange</p> <p>Chemistry – Atoms and reactions (III), periodic table (I), Alcohols, Haloalkanes & Analysis (I)</p> <p>Physics – Waves, work energy and power, materials</p>	<p>Biology – Transport across membranes, immunity, exchange and transport and spaced practice</p> <p>Chemistry – periodic table (II), physical chemistry (I), Alcohols, Haloalkanes & Analysis (II)</p> <p>Physics – Waves, materials</p>	<p>Biology – protein synthesis, diversity and selection, classification and diversity, exchange and transport</p> <p>Chemistry – Physical chemistry (II), periodic table (II), Alcohols, Haloalkanes & Analysis (III)</p> <p>Physics – Newton's laws, quantum physics, circular</p>	<p>Biology – diversity and selection, spaced practice, exchange and transport, populations and ecosystems, required practical catch up</p> <p>Chemistry (Yr13) – Aromatic Compounds, Carbonyls & Acids (I), Rates equilibrium and pH(I), Energy (I)</p>

Springwood High School Science Curriculum Plan

	Applied Science – working with waves, cells structure and function, structure and bonding unit 2 practical's/assignments	waves, cells structure and function, structure and bonding unit 2 practical's/assignments	Applied Science – waves in communication, Cell specialisation, production and uses of substances, unit 2 practical's/assignments	Applied Science - Uses of electromagnetic waves in communication, Tissue structure and function and uses of substances, unit 2 practical's/assignments	motion, gravitational fields Applied Science – Uses of electromagnetic waves in communication, Tissue structure and function, production and uses of substances, Exam preparation. Completion of unit 2 assignments	Physics – Oscillations, thermal physics Applied Science – Unit 3 preparation, optional unit assignments begin
13	<p>Biology – spaced practice, energy transfer, populations and evolution, respiration and photosynthesis</p> <p>Chemistry – Equilibrium & pH (I), carbonyls & carboxylic acids, energy (I)</p> <p>Physics – Electric fields, oscillations, capacitors</p>	<p>Biology – Gene expression, photosynthesis, homeostasis and spaced practice</p> <p>Chemistry – Equilibrium & pH (II), energy (II), carbonyls & carboxylic acids (II)</p> <p>Physics – Electromagnetism, capacitors, astrophysics and cosmology</p>	<p>Biology – Gene technology, genetics, stimuli and response and nervous coordination</p> <p>Chemistry – organic nitrogen compounds (I), analysis (I)</p> <p>Physics – Astrophysics and cosmology, nuclear particle physics, electromagnetism, medical imaging</p>	<p>Biology – nervous coordination and spaced practice</p> <p>Chemistry – organic nitrogen compounds (II), analysis (II), Transition metals</p> <p>Physics – spaced practice, medical imaging</p> <p>Applied Science - optional unit assignments and</p>	<p>Biology – Practical skills, essay skills, numeracy skills and spaced practice</p> <p>Chemistry – Exam preparation</p> <p>Physics – Exam preparation</p>	

Springwood High School Science Curriculum Plan

	Applied Science – optional unit assignments and unit 3 practical's and content	Applied Science - optional unit assignments and unit 3 practical's and content	Applied Science - optional unit assignments and unit 3 practical's and content	unit 3 practical's, content and exam preparation	Applied Science – Exam preparation	
--	--	--	--	--	------------------------------------	--

Enrichment Activities:

Super Learning Days: Year 7 zoo trip, CREST Award, Space day

Competitions: CREST Award end of year 8, British Physics Olympiad Senior Challenge in year 12, British Science Week

Trips: Year 12 Sizewell trip, Year 12 Holkham trip

Clubs & Support: After school support sessions, Year 7 and 8 Discovery Crest Award, Year 9 Silver Crest Award, Uplearn, Seneca, GCSEpod