

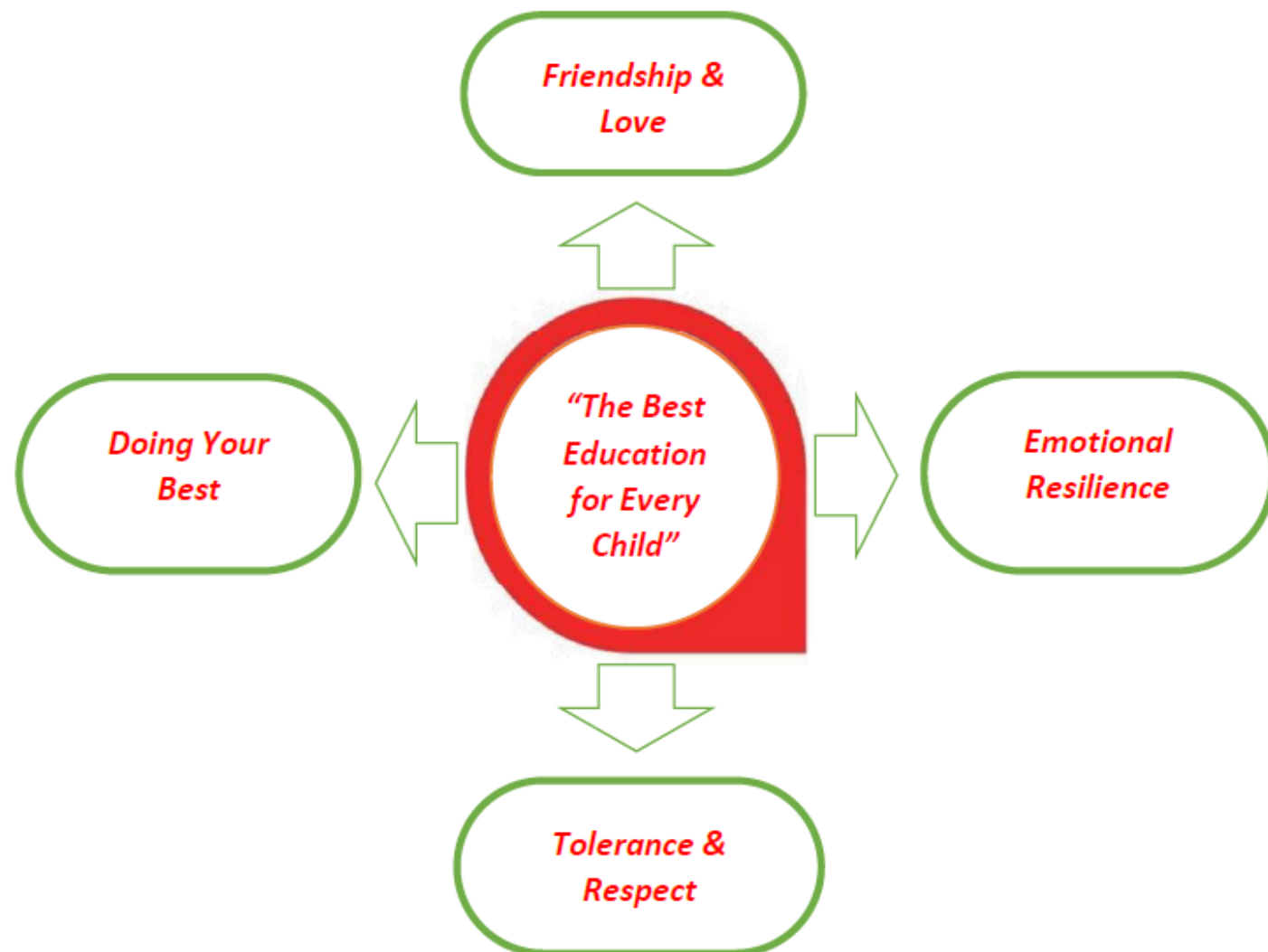
Science

Schedules & Long Term
Plans

Science Faculty

Head of Faculty: Catherine Hill

Date of last review: Spring 2020



Science Schedule OTS Foundation Stage (KS2)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Half-Term block	Notes: Each Half-Term block represents approximately 12 Lessons (45 minutes each) over 6-7 weeks. Mixed age sets: Year 3/5 curriculum content, stretched to incorporate teaching at the level of Year 4/6 children. In each set, the more difficult material is covered towards the end of the year to ensure progression for both sets of children. In Year 5/6, each set finishes with a 'Second Look Science' block that brings aspects of science together and helps to consolidate learning.					
Schedule A	<p>Title: Magnetic fun and games</p> <p>Context: 6 sessions including working scientifically. Looks at push & pull forces and magnetic force.</p> <p>Banding: SOLAR 1-7</p> <p>Progression Area: PHYSICS: Forces and magnets.</p>	<p>Title: Fit for Success</p> <p>Context: 6 sessions including working scientifically. Focus on food, nutrition and the human skeleton</p> <p>Banding: SOLAR 1-9</p> <p>Progression Area: BIOLOGY:</p>	<p>Title: A world of living things</p> <p>Context: 6 sessions including working scientifically. Looks closely at Classification</p> <p>Banding: SOLAR 1-8</p> <p>Progression Area: BIOLOGY: Living things and their habitats.</p>	<p>Title: Feast Of Flowers, Fruits & Seeds</p> <p>Context: 6 sessions including working scientifically. Focus on plant life cycles.</p> <p>Banding: SOLAR 1-8</p> <p>Progression Area: BIOLOGY: Life cycles.</p>	<p>Title: What's the matter?</p> <p>Context: 6 sessions including working scientifically. Looking at particle theory of solids, liquids and gases.</p> <p>Banding: SOLAR 1-9</p> <p>Progression Area: CHEMISTRY: States of matter.</p>	<p>Title: Sounds spectacular</p> <p>Context: 6 sessions including working scientifically. Understanding how sound travels and is made.</p> <p>Banding: SOLAR 1-9</p> <p>Progression Area: PHYSICS: sound</p>
Schedule B	<p>Title: This planet rocks</p> <p>Context: 6 sessions including working scientifically. Looking at how rocks, fossils and soil is formed and used.</p> <p>Banding: SOLAR : 2-8</p> <p>Progression Area: Chemistry & Sci Enq</p>	<p>Title: Shine the light</p> <p>Context: 6 sessions including working scientifically. Looking at how light travels, mirrors and shadows.</p> <p>Banding: SOLAR 2-9</p> <p>Progression Area: PHYSICS: Light</p>	<p>Title: Habitat Helpers</p> <p>Context: 6 sessions including working scientifically. Looking at habitats, adaptation and pollution.</p> <p>Banding: SOLAR 4-10</p> <p>Progression Area: BIOLOGY: Animals including humans.</p>	<p>Title: Greatly Green Growers</p> <p>Context: 6 sessions including working scientifically. Focus on plants and their needs and how they work.</p> <p>Banding: SOLAR 1-6</p> <p>Progression Area: BIOLOGY: Plants an function.</p>	<p>Title: The Circle of Life.</p> <p>Context: 6 sessions including working scientifically. Looking at the digestive system, teeth, food chains and webs</p> <p>Banding: SOLAR 1-9</p> <p>Progression Area: Biology: Health & Diet and Animals</p>	<p>Title: Electric Personalities</p> <p>Context: 6 sessions including working scientifically. Looking at electrical safety components, circuits and more.</p> <p>Banding: SOLAR 1-7</p> <p>Progression Area: PHYSICS: Electricity.</p>
Schedule C	<p>Title: Illustrating life cycles.</p> <p>Context: 6 sessions including working scientifically. Looking at the life cycle of plants, birds, mammals, reptiles and sexual and asexual reproduction</p> <p>Banding: SOLAR 1-9</p> <p>Progression Area: BIOLOGY:</p>	<p>Title: Material Consultants</p> <p>Context: 6 sessions including working scientifically. Properties and changes of materials.</p> <p>Banding: SOLAR 1-7</p> <p>Progression Area: PHYSICS</p>	<p>Title: The Human Species</p> <p>Context: 6 sessions including working scientifically. Learning about human development, healthy lifestyles and the circulatory system</p> <p>Banding: SOLAR 1-8</p> <p>Progression Area: BIOLOGY.</p>	<p>Title: Theatre lighting techniques.</p> <p>Context: 6 sessions including working scientifically. Learning about light, reflections, shadows, convex and concave mirrors and how the human eye sees</p> <p>Banding: SOLAR 1-9</p> <p>Progression Area: PHYSICS</p>	<p>Title: Electric art.</p> <p>Context: 6 sessions including working scientifically. Learning about electricity. Building parallel and series circuits and using variable resistors.</p> <p>Banding: SOLAR 1-9</p> <p>Progression Area: PHYSICS</p>	<p>Title: Medical Manoeuvres</p> <p>Context: 6 sessions including working scientifically. An opportunity to revise/cover all 5 previous sessions.</p> <p>Banding: 1-9</p> <p>Progression Area: BIO. CHEM. PHYS</p>
Schedule D	<p>Title: Special Effects Materials</p> <p>Context: 6 sessions including working scientifically.</p> <p>Banding: SOLAR 5-10</p> <p>Progression Area: CHEMISTRY</p>	<p>Title: Space Presenters</p> <p>Context: 6 sessions including working scientifically. A close look at the solar system, including, day and night, the planets and the lunar month.</p> <p>Banding: SOLAR 1-9</p> <p>Progression Area: PHYSICS</p>	<p>Title: Welcome to force-land</p> <p>Context: 6 sessions including working scientifically. Learning about forces in balance, air resistance, friction, water resistance, pulleys and gears</p> <p>Banding: SOLAR 3-9</p> <p>Progression Area: PHYSICS</p>	<p>Title: The Classification Code</p> <p>Context: 6 sessions including working scientifically. Understanding how to classify animals and plants using keys..</p> <p>Banding: SOLAR 2-8</p> <p>Progression Area: BIOLOGY</p>	<p>Title: Survival of the fittest</p> <p>Context: 6 sessions including working scientifically. Learning about Charles Darwin, Evolution, inheritance and fossils.</p> <p>Banding: SOLAR 8-11</p> <p>Progression Area: BIOLOGY</p>	<p>Title: Sensational Science</p> <p>Context: 6 sessions including working scientifically. Integrated revision</p> <p>Could be taught as a science week</p> <p>Includes more Y5/ 6 content on Properties and changes of materials</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: BIO, CHEM & PHY</p>

Science Schedule OTS Foundation Stage (KS3)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Half-Term block	Notes: Each Half-Term block represents approximately 18-21 Lessons (45 minutes each) over 6-7 weeks. There is an end of Year assessment of progress. Following this, remainder part of the Summer Term, is focussed on developing students confidence across the five enquiry types through a variety of enquiry driven activities working scientifically to answer scientific questions. The enquiry types are: observing over time, pattern seeking, identifying-classifying an grouping, comparative and fair testing and researching using secondary sources.					
Schedule A	Title: Working Scientifically, Biology 1.1 Cells & Chemistry 1.1 Particles Context: 20 sessions & 2 checkpoint assessments. Banding: SOLAR 1 - 10. Progression Area: Working Scientifically/ Biology/ Chemistry.	Title: Physics 1.1 Forces & Chemistry 1.2 Elements, Atoms & Compounds Context: 13-15 sessions & 2 checkpoint assessments. Banding: SOLAR 1-9 Progression Area: Physics/ Chemistry & Working Scientifically.	Title: Biology 1.2 Body Systems, Physics 1.2 Sound Context: 13-15 sessions & 2 checkpoint assessments. Banding: SOLAR 1-9 Progression Area: Biology/ Physics & Working Scientifically.	Title: Chemistry 1.3 Reactions & Physics 1.3 Light Context: 15 sessions & 2 checkpoint assessments. Banding: SOLAR 1-10 Progression Area: Chemistry/ Physics & Working Scientifically.	Title: Biology 1.3 Reproduction & Chemistry 1.4 Acids & Alkalis Context: 15 sessions & 2 checkpoint assessments. Banding: SOLAR 2-10 Progression Area: Biology/ Chemistry & Working Scientifically.	Title: Physics 1.4 Space & Skills Project. Context: 13-14 sessions & a checkpoint assessments. Banding: SOLAR 1-10 Progression Area: Physics/ Chemistry/ Biology & Working Scientifically.
Schedule B	Title: Physics 2.1 Electricity & Magnetism, Chemistry 2.1 Periodic Table Context: 17 sessions & 2 checkpoint assessments. Banding: SOLAR 3-10 Progression Area: Physics/ Chemistry & Working Scientifically.	Title: Biology 2.1 Health & Lifestyle, Physics 2.2 Energy Context: 16-18 sessions & 2 checkpoint assessment. Banding: SOLAR 2-10 Progression Area: Biology/ Physics & Working Scientifically.	Title: Chemistry 2.2 Separation Techniques, Biology 2.2 Ecosystem Processes Context: 13-14 sessions & 2 checkpoint assessments. Banding: SOLAR 3-10 Progression Area: Chemistry/ Biology & Working Scientifically.	Title: Physics 2.3 Motion & Pressure, Chemistry 2.3 Metals & Acids Context: 13-14 sessions & 2 checkpoint assessments. Banding: SOLAR 2-10 Progression Area: Physics/ Chemistry & Working Scientifically.	Title: Biology 2.3 Adaptation & Inheritance, Chemistry 2.4 The Earth Context: 14 sessions & 2 checkpoint assessments. Banding: SOLAR 3-11 Progression Area: Biology/ Chemistry & Working Scientifically.	Title: Physics 2.4 Environment, & Skills Project Context: 18 sessions & a checkpoint assessment. Banding: SOLAR 2-11 Progression Area: Physics/ Chemistry/ Biology & Working Scientifically.

Science Schedule OTS Options Stage (KS4)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Half-Term block	<p>Notes: Each Half-Term block represents approximately 12 Lessons (45 minutes each) over 6-7 weeks.</p> <p>Achieving the ASDAN Short Course, students have the option of accrediting up to 60 hours of science activities. For every 10 hours, you are awarded 1 credit e.g. 10 hours = 1 credit, 30 hours = 3 credits, 60 hours = 6 credits. You will need your own copy of the 'Short Course' book and a portfolio (file or folder) into which you will put your evidence. Student chooses either: 4 challenges from 'A' or up to 2 challenges from 'B' over 10 hours to attain 1 credit. Collate evidence to meet challenge objectives if folder. There are 3 Short Course Skills Sheets. They will help you to Plan your challenges and then Review your work when you've completed them e.g. Completed 10 to 20 hours—complete Skills Sheet 1, completed 30 to 40 hours—complete Skills Sheets 1 & 2, completed 50 to 60 hours—complete Skills Sheets 1, 2 & 3. Before submitting your portfolio of evidence and Skills Sheets, fill-in the Summary of Achievement and Personal Statement.</p>					
Schedule A	<p>Title: Module 1—Human Machine</p> <p>Context: 'A' challenges include: infra-red thermometer, research on the internet, mathematical challenges, surveys and nutritional properties of food. Portfolio of evidence.</p> <p>Banding: SOLAR 2-11</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ ASDAN Science Short Course 1 credit.</p>	<p>Title: Module 2—Force and Motion</p> <p>Context: 'A' challenges include: mass/volume investigation, spaghetti tower build, tensile strength, effect in a lift, air resistance, bone strength or care safety. Portfolio of evidence & *Skills Sheet 1</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: PHYSICS/ CHEMISTRY/ ENQUIRY/ ASDAN Science Short Course 1—2 credits.</p>	<p>Title: Module 3—Chemical Changes</p> <p>Context: 'A' challenges include: change in mass, acidity, temperature change, metals and water, exothermic reactions, indicators, crystalline. Portfolio of evidence.</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: CHEMISTRY/ ENQUIRY/ ASDAN Science Short Course 1—3 credits.</p>	<p>Title: Module 4—Biological Changes</p> <p>Context: 'A' challenges include: different cells, percentage cover, threat of extinction, the effect of stimulants, ecology, phototropism, extinction investigation. Portfolio of evidence & *Skills Sheets 1 & 2.</p> <p>Banding: SOLAR 2-11</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ ASDAN Science Short Course 1—4 credits.</p>	<p>Title: Module 5—Space Physics</p> <p>Context: 'A' challenges include: star watch, stop motion animation, the Solar System, shadow angles, meteor strikes, quiz and 1st man on the Moon. Portfolio of evidence.</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: PHYSICS/ ENQUIRY/ ASDAN Science Short Course 1—5 credits.</p>	<p>Title: Module 6—Performance in Sport</p> <p>Context: 'A' challenges include: activity survey & peak flow, pulse rate vs 'pose', measuring distance travelled, friction vs speed, grip strength, sporty or not? and performance enhancement. Portfolio of evidence & *Skills Sheets 1, 2 & 3.</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: BIOLOGY/ PHYSICS/ ENQUIRY/ ASDAN Science Short Course 1—6 credits.</p>
Schedule B	<p>Title: Module 1—Human Machine</p> <p>Context: 'B' challenges include: reaction speeds, human fertility, co-ordination, growth rate of children and research into beauty products. Portfolio of evidence.</p> <p>Banding: SOLAR 2-11</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ ASDAN Science Short Course 1 credit.</p>	<p>Title: Module 2—Force and Motion</p> <p>Context: 'B' challenges include: force protection, construction, friction, velocity, elasticity and earth quake resistance. Portfolio of evidence & *Skills Sheet 1</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: PHYSICS/ CHEMISTRY/ ENQUIRY/ ASDAN Science Short Course 1—2 credits.</p>	<p>Title: Module 3—Chemical Changes</p> <p>Context: 'B' challenges include: elasticity, geology, temperature changes, forensics and recycling. Portfolio of evidence.</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: CHEMISTRY/ ENQUIRY/ ASDAN Science Short Course 1—3 credits.</p>	<p>Title: Module 4—Biological Changes</p> <p>Context: 'B' challenges include: germination, pioneer planting, the environment, calorific intake and Latin squares. Portfolio of evidence & *Skills Sheets 1 & 2.</p> <p>Banding: SOLAR 2-11</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ ASDAN Science Short Course 1—4 credits.</p>	<p>Title: Module 5—Space Physics</p> <p>Context: 'B' challenges include: Mars challenge, space rover, solar-powered satellite, building construction and solar car challenge. Portfolio of evidence.</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: PHYSICS/ ENQUIRY/ ASDAN Science Short Course 1—5 credits.</p>	<p>Title: Module 6—Performance in Sport</p> <p>Context: 'B' challenge include: shuttle run, who's a kangaroo?, speed of cooling, world records & performance and sports challenges. Portfolio of evidence & *Skills Sheets 1, 2 & 3.</p> <p>Banding: SOLAR 1-11</p> <p>Progression Area: BIOLOGY/ PHYSICS/ ENQUIRY/ ASDAN Science Short Course 1—6 credits.</p>
Schedule C	<p>Title: Recording Documents</p> <p>Context: Summary of Achievement and Personal Statement to be completed. Ensure your portfolio of evidence is complete/ up to date. Submit to PJA for moderation.</p> <p>Banding: SOLAR 6-11</p> <p>Progression Area: ENQUIRY/ ASDAN Science Short Course 1—6 credits.</p>	<p>Title: Unit Award Scheme</p> <p>Context: The Unit Award Scheme (UAS) is a unique recording of achievement scheme, rather than a qualification. It offers learners the opportunity to have their achievements formally recognised with a certificate each time a short unit of learning is successfully completed.</p> <p>Banding: SOLAR Biology, Chemistry, Physics, Science enquiry 1—10</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ Pre-Entry Level to Level 3</p>	<p>Title: Unit Award Scheme</p> <p>Context: The Unit Award Scheme (UAS) is a unique recording of achievement scheme, rather than a qualification. It offers learners the opportunity to have their achievements formally recognised with a certificate each time a short unit of learning is successfully completed.</p> <p>Banding: SOLAR Biology, Chemistry, Physics, Science enquiry 1—10</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ :Pre-Entry Level to Level 13</p>	<p>Title: Unit Award Scheme</p> <p>Context: The Unit Award Scheme (UAS) is a unique recording of achievement scheme, rather than a qualification. It offers learners the opportunity to have their achievements formally recognised with a certificate each time a short unit of learning is successfully completed.</p> <p>Banding: SOLAR Biology, Chemistry, Physics, Science enquiry 1—10</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ Pre-Entry Level to Level 3</p>	<p>Title: Unit Award Scheme</p> <p>Context: The Unit Award Scheme (UAS) is a unique recording of achievement scheme, rather than a qualification. It offers learners the opportunity to have their achievements formally recognised with a certificate each time a short unit of learning is successfully completed.</p> <p>Banding: SOLAR Biology, Chemistry, Physics, Science enquiry 1—10</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ Pre-Entry Level to Level 3</p>	<p>Title: Unit Award Scheme</p> <p>Context: The Unit Award Scheme (UAS) is a unique recording of achievement scheme, rather than a qualification. It offers learners the opportunity to have their achievements formally recognised with a certificate each time a short unit of learning is successfully completed.</p> <p>Banding: SOLAR Biology, Chemistry, Physics, Science enquiry 1—10</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ PHYSICS/ ENQUIRY/ Pre-Entry Level to Level 3</p>

Science Schedule OTS Options Stage (KS4)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Half-Term block	<p>Notes: Each Half-Term block represents approximately 18 Lessons (45 minutes each) over 6-7 weeks.</p> <p>Entry Level Certificate is designed for students who may not achieve a Grade 1, but you can also use it as a motivational tool to build confidence for your Foundation Tier students.</p>					
Schedule A	<p>Title: Biology Component 1—The Human Body</p> <p>Context: 10 outcomes: cells, levels of organisation, digestive system, respiration, infectious diseases, white blood cells & vaccinations, medical drugs, CNS and reflex action, hormones and controlling fertility. 6 required practicals: using a microscope, pH on rate of reaction, food tests, disinfectant use and stimulants on reaction rate. <i>*End of unit Assessments.</i> UAS Entry Level: 72665, 72666, 0544, 72261, 83007, 93853, 108015 (Unit 1), 110438, 110440, 113477, 111146, 111248, 108016 (Unit 2), 108017 (Unit 3), 108120 (Unit 4), 113075 (Unit 3). Entry Level with support: 113258 (Unit 1), 111251 (Unit 2) and 113262 (Unit 3). Level One: 87274, 93855, 108937, 113477, 113560. Level Two: 113081 (Unit 2), 113075 (Unit 3), 113099 (Unit 7).</p> <p>Banding: SOLAR Biology 2-11, Scientific Enquiry 4-11.</p> <p>Progression Area: BIOLOGY/ SCIENTIFIC ENQUIRY</p>		<p>Title: Chemistry Component 3—Elements, mixtures and compounds.</p> <p>Context: 10 outcomes: atoms & elements, elements and compounds, states of matter, forms of carbon, mixtures, chromatography, metal extraction from ores, properties of metals, alloys and polymers. 9 required practicals: reaction of metals & oxygen, change in states, properties of graphite, separating substances, chromatography, model smelting, conductivity & density. <i>*End of unit Assessments.</i> UAS Entry Level: 82046, 108054 (Unit 1), 108055 (Unit 2), 108056 (Unit 3), 108057 (Unit 4), 108058, 108059, 108060, 108061, 111247, 15203, 113259, 113193. Entry Level with support: 113259 (Unit 1), 113263 (Unit 2), 113264 (Unit 3) and 113265 (Unit 4). Level One - 83187, 86162, 113192.</p> <p>Banding: SOLAR Chemistry 6-11, Scientific enquiry 4-11.</p> <p>Progression Area: CHEMISTRY/ SCIENTIFIC ENQUIRY</p>		<p>Title: Physics Component 5—Energy, forces and the structure of matter.</p> <p>Context: 10 outcomes: Changes in energy storage, energy transfers and efficiency, energy resources, types of forces, effects of forces, speed, stopping distance, reaction times and stopping distances, weather conditions and braking distances, radioactivity, 7 required practicals: specific heat capacity, thermal conductivity, voltage generation, pushes/ pulls, attraction/ repulsion, friction, speed and reaction time. <i>*End of unit Assessments.</i> UAS Entry Level: 75529, 86836, 10548, 10549, 15204, 108065 (Unit 1), 108066 (Unit 2), 108067 (Unit 3), 108073 (Unit 4), 111180, 111182. Entry Level with support: 113260 (Unit 1), 113266 (Unit 2), 113267 (Unit 3) and 113269 (Unit 4).</p> <p>Banding: SOLAR Physics 4-5 & 9-11, Scientific enquiry 4-11.</p> <p>Progression Area: PHYSICS/ SCIENTIFIC ENQUIRY</p>	
Schedule B	<p>Title: Chemistry Component 4: Chemistry in our world.</p> <p>Context: 10 outcomes: acids and metal reactions, neutralisation, energy and rate of reaction, increasing rate of chemical reaction, changes in Earth's atmosphere, current atmosphere, crude oil and fuels, burning fuels, human influences on the atmosphere and water for drinking. 9 required practicals: metals & acid, neutralisation reactions, temperature changes, reaction rates, oxygen production of aquatic plants, amount of CO₂ in air vs exhaled air, fractional distillation, products of combustion and distillation. <i>*End of unit Assessments.</i> UAS Entry Level : 98495, 10546, 10547, 15203, 108058 (Unit 1), 108059 (Unit 2), 108060 (Unit 3) and 108061 (Unit 4). Level One - 86162.</p> <p>Banding: SOLAR Chemistry 9-11, Biology 9-10, Scientific enquiry 4-11.</p> <p>Progression Area: CHEMISTRY/ BIOLOGY/ SCIENTIFIC ENQUIRY</p>		<p>Title: Physics Component 6— Electricity, magnetism and waves.</p> <p>Context: 10 outcomes: current in a circuit, d.c. & a.c. currents, wiring a plug, energy transfer, magnets, electromagnets, waves, wave properties, EMS, uses of the EMS. 10 required practicals: series circuits, oscilloscope patterns, plugs & fuses, meter readings, bar magnets and compasses, magnetic field & electromagnets, waves and their shapes, u.v. radiation and microwaves. <i>*End of unit Assessments.</i> UAS Entry Level: 73464, 15205, 10548, 108068 (Unit 1), 108069 (Unit 2), 108070 (Unit 3), 108072 (Unit 5), 110503, 111849, 111162. Entry Level with support: 113260 (Unit 1), 113266 and 113267. Level One: 71037.</p> <p>Banding: SOLAR Physics 4-11, Science enquiry 4-11.</p> <p>Progression Area: PHYSICS/ SCIENTIFIC ENQUIRY</p>		<p>Title: Biology Component 2— Environment, evolution and inheritance.</p> <p>Context: 10 outcomes: photosynthesis, adaptation, food chains & webs, decay cycle, competition, environmental changes, pollution, evolution & natural selection, types of reproduction, genes/ chromosomes & DNA. 7 required practicals: rate of photosynthesis, choice chambers, causes of decay, growth of plants, distribution of populations, acid rain, asexual reproduction in plants. <i>*End of unit Assessments.</i> UAS Entry Level: 70358, 87275, 10545, 15201, 108051 (Unit 1), 108052 (Unit 2), 108053 (Unit 3), 110437, 110439, 110525, 112006. Level One: 71039. Level Two: 113085 (Unit 1), 113086 (Unit 2), 113088 (Unit 4).</p> <p>Banding: SOLAR Biology 7-11, Chemistry 10, Scientific enquiry 4-11.</p> <p>Progression Area: BIOLOGY/ CHEMISTRY/ SCIENTIFIC ENQUIRY</p>	

Science Schedule OTS Options Stage (KS4)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Half-Term block	Notes: Each Half-Term block represents approximately 12-14 Lessons (45 minutes each) over 6-7 weeks. (4 lessons per week @ 45 minutes per lesson = 3 hours per week). The planning is presented with a 'split' timetable to enable students to engage in a broader range of topical learning with two teachers. Hence for each schedule—A,B and C it is split into 1 and 2 which will be covered simultaneously.					
Schedule A 1 2 lessons per week	Title: Physics 1: Energy Context: 12 sessions & a checkpoint assessment. Students are supported during their transition, settling into a new timetable and developing a secure level of comprehension and skills, set across the five enquiry types. Banding: SOLAR STEPS 9-10 Progression Area: Physics/ Scientific Enquiry.		Title: Chemistry 1: Atomic structure and the periodic table and Physics 4: Atomic Structure. Context: 12 + 6 sessions & 2 checkpoint assessments. Students develop greater independence and a deeper level of comprehension and skills set across the five enquiry types. Banding: SOLAR: CHEM STEPS 6-11 & PHYS STEPS 9-10 Progression Area: Chemistry/ Physics/ Scientific Enquiry.		Title: Physics 3: Particle Model and Matter. Context: 10 sessions & a checkpoint assessment. Students develop greater independence and enquiry based approach to broaden their level of comprehension and skills set across the five enquiry types. Banding: SOLAR STEPS 6-9 Progression Area: Physics/ Chemistry/ Scientific Enquiry.	
Schedule A 2 2 lessons per week	Title: Biology 1: Cell Biology Context: 11 sessions & a checkpoint assessment. Students are supported during their transition, settling into a new timetable and developing a secure level of comprehension and skills, set across the five enquiry types. Banding: SOLAR 1-11 Progression Area: Biology/ Scientific Enquiry.		Title: Biology 6: Reproduction, Inheritance, Variation and Evolution. Context: 16 sessions & a checkpoint assessment. Students develop greater independence and a deeper level of comprehension and skills set across the five enquiry types. Banding: SOLAR 4-11 Progression Area: Biology/ Scientific Enquiry.		Title: Chemistry 2: Structure, bonding and the properties of matter. Context: 12 sessions (Foundation) & a checkpoint assessment. Students develop greater independence and enquiry based approach to broaden their level of comprehension and skills set across the five enquiry types. Banding: SOLAR 6-11 Progression Area: Chemistry/ Scientific Enquiry.	
Schedule B 1 2 lessons per week	Title: Physics 2: Electricity. Context: 14 sessions & a checkpoint assessment. Banding: SOLAR 4-11 Progression Area: Physics/ Scientific Enquiry.	Title: Chemistry 4: Chemical Changes. Context: 12 sessions & a checkpoint assessment. Banding: SOLAR 4-11 Progression Area: Chemistry/ Scientific Enquiry.	Title: Chemistry 5: Energy Changes Context: 4 sessions & a checkpoint assessment. Banding: SOLAR 5-11 Progression Area: Chemistry/ Scientific Enquiry.	Title: Physics 5: Forces and Motion. Context: 17 sessions & a checkpoint assessments. Banding: SOLAR 3-11 Progression Area: Physics/ Scientific Enquiry.	Title: Physics 7: Magnetism and Electromagnetism. Context: 7 sessions & a checkpoint assessment. Banding: SOLAR 3-9 Progression Area: Physics/ Scientific Enquiry.	Title: Chemistry 3: Quantitative Chemistry. Context: 5 sessions (Foundation) & a checkpoint assessment. Banding: SOLAR 4-11 Progression Area: Chemistry/ Scientific Enquiry.
Schedule B 2 2 lessons per week	Title: Biology 3: Organisation Context: 16 sessions & a checkpoint assessment. Banding: SOLAR 4-11 Progression Area: Biology/ Scientific Enquiry.	Title: Biology 4: Infection & Response Context: 8 sessions & a checkpoint assessment. Banding: SOLAR 4-10 Progression Area: Biology/ Scientific Enquiry.	Title: Chemistry 6: Rate of Chemical Change. Context: 7 sessions (Foundation) & a checkpoint assessment. Banding: SOLAR 3-11 Progression Area: Chemistry/ Scientific Enquiry.	Title: Biology 5: Homeostasis Context: 9 sessions & a checkpoint assessment. Banding: SOLAR 4-10 Progression Area: Biology/ Scientific Enquiry.	Title: Biology 2: Bioenergetics. Context: 10 sessions & a checkpoint assessment. Banding: SOLAR 3-10 Progression Area: Biology/ Scientific Enquiry.	Title: Chemistry 7: Organic Chemistry. Context: 5 sessions (Foundation) & a checkpoint assessment. Banding: SOLAR 4-11 Progression Area: Chemistry/ Scientific Enquiry.

Science Schedule OTS Options Stage (KS4)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Half-Term block	Notes: Each Half-Term block represents approximately 12-14 Lessons (45 minutes each) over 6-7 weeks. (4 lessons per week @ 45 minutes per lesson = 3 hours per week). The planning is presented with a 'split' timetable to enable students to engage in a broader range of topical learning with two teachers . Hence for each schedule— A.B and C it is split into 1 and 2 which will be covered simultaneously .					
Schedule C 1 2 lessons per week	Title: Physics 6: Waves. 12 lessons (Foundation) Context: 12 sessions (Foundation) & a checkpoint assessment. Banding: SOLAR 5-11 Progression Area: Physics/ Scientific Enquiry.	Title: Chemistry 9: The Atmosphere and 8: Chemical Analysis. Context: 7 + 4 sessions & 2 checkpoint assessments. Banding: SOLAR 6-11 & 5-11 Progression Area: Chemistry/ Scientific Enquiry.	Title: Revision Context: Checkpoint/ follow up with support and extension work. Banding: SOLAR 7-11 Progression Area: Biology/ Chemistry/ Physics/ Scientific Enquiry.	Title: Revision Context: Checkpoint/ follow up with support and extension work. Banding: SOLAR 7-11 Progression Area: Biology/ Chemistry/ Physics/ Scientific Enquiry.	Title: Revision Context: Checkpoint/ follow up with support and extension work. Banding: SOLAR 7-11 Progression Area: Biology/ Chemistry/ Physics/ Scientific Enquiry.	Title: Exams Context: Checkpoint/ follow up with support and extension work. Banding: SOLAR 7-11 Progression Area: Biology/ Chemistry/ Physics/ Scientific Enquiry.
Schedule C 2 2 lessons per week	Title: Biology 7: Evolution. Context: 8 sessions & a checkpoint assessment. Banding: SOLAR 5-10 Progression Area: Biology/ Scientific Enquiry.	Title: Chemistry 10: Sustainable development. Context: 6 sessions (Foundation) & a checkpoint assessment. Banding: SOLAR 5-10 Progression Area: Chemistry PHYSICS Scientific Enquiry.	Title: Biology 8: Ecology. Context: 12 sessions & a checkpoint assessment. Banding: SOLAR 6-10 Progression Area: Biology/ Scientific Enquiry.	Title: Revision Context: Checkpoint/ follow up with support and extension work. Banding: SOLAR 7-11 Progression Area: Biology/ Chemistry/ Physics/ Scientific Enquiry.	Title: Revision Context: Checkpoint/ follow up with support and extension work. Banding: SOLAR 7-11 Progression Area: Biology/ Chemistry/ Physics/ Scientific Enquiry.	Title: Exams Context: Checkpoint/ follow up with support and extension work. Banding: SOLAR 7-11 Progression Area: Biology/ Chemistry/ Physics/ Scientific Enquiry.