

Subject	Science		Year 10: Science		Year 10: Science		Year 10: Science		Year 10: Science		Year 10: Science		Year 10: Science		
	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	Phenomena	
Theme title	Earth: Structure and atmosphere	Ecology: Interdependence and Plant reproduction	Electromagnets - Electricity	Energy - Coals & Transfer	Energy Processes	Force	Genes - Variation & Inheritance	Organisms: Movement and cells	Reactions: Acids and alkalis, metals and non-metals	Matter	Force and light				
Purpose of scheme	This unit introduces our planet in the universe, the planets we live on and how it fits with other objects in space	This unit is an introduction to biological relationships in the world around us	This unit looks at the basics of electricity and how circuit work	This unit covers ideas about energy use and the availability of energy resources	This unit is an introduction to Working scientifically looking at how Science asks questions and tries to collect evidence to answer those questions	This unit introduces ideas around forces and motion	This unit covers the reasons behind the wide variety of life on Earth and the Biology of reproduction	This unit is an introduction to the building blocks of life and the structures that they make	This unit is an introduction to the basic ideas of reactions between different types of chemicals	This unit is an introduction to the basic ideas of reactions between different types of chemicals	This unit is an introduction to the building blocks of cells, liquids and gases and helps us to understand why materials behave like they do	This unit is an introduction to waves - how we hear and use the world around us			
Knowledge in response	Lesson Titles 1-1: The structure of the earth 1-2: Sedimentary rocks 1-3: Geomorphology and sampling 1-4: The rock cycle 1-5: Continents 1-6: The night sky 1-7: The Solar system 1-8: The earth 1-9: The moon 1-10: Assessment 1-11: Assessment review For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Earth Structure & Atmosphere Planning: SCW	Lesson Titles 1-1: Food chains and food webs 1-2: Disruptions to food chains and food webs 1-3: Energy and sampling 1-4: Competition 1-5: Food and Pollution 1-6: 7: CDP Data C and Germination 1-8: Seed dispersal 1-9: Test 1-10: Assessment 1-11: Assessment review For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Earth Structure & Atmosphere Planning: SCW	See non-portable knowledge document for full detail Current Biological difference Series and parallel circuits Resistor	Lesson Titles 1-1: Food and fuel 1-2: Energy Resources 1-3: Energy & Power and CDP 1-4: Energy Audit, LP 1-5: Winded energy & Safety Diagrams and CDP 1-6: CDP review 1-7: Setting in Test (GL Assessment) For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Energy Coals & Transfer	Lesson Titles 1-1: Asking scientific questions 1-2: Planning investigations 1-3: Collecting, recording & presenting data 1-4: Analyzing patterns in data 1-5: General 1-6: CDP review 1-7: Setting in Test (GL Assessment) For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Energy Processes	Lesson Titles 1-1: Introduction to forces 1-2: Balanced and unbalanced forces 1-3: Mass and interaction pairs 1-4: Gravity 1-5: General 1-6: distance time graphs 1-7: Friction & Impacts 1-8: Development of life & Earth 1-9: The Moon and Life 1-10: CDP Review 1-11: Test For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Force - Speed & Gravity	Lesson Titles 1-1: Variation 1-2: Continuous & Discontinuous Variation 1-3: Genes and inheritance pairs 1-4: CDP Review 1-5: Administration 1-6: Reproductive Systems 1-7: Fertilisation & Implantation 1-8: Development of life & Earth 1-9: The Moon and Life 1-10: CDP Review 1-11: Test For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Genes - Variation & Human reproduction	Lesson Titles 1-1: Food as organisation 1-2: Observing cells 1-3: Anticlines and a C&P 1 1-4: Plant cells 1-5: Specialisation & C&P 2 1-6: Bacterial and yeast cells 1-7: Unicellular organisms 1-8: Chemical reactions of substances (Diffusion) 1-9: Diffusion practicals based based 1-10: C&P 2 1-11: Movement: plants 1-12: Movement: Animals 1-13: Assessment review For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Organisms - Movement & Cells	Lesson Titles 1-1: Chemical reactions 1-2: Acids and alkalis 1-3: Anticlines and a C&P 1 1-4: Acid strength 1-5: Specialisation & C&P 2 1-6: Making salts & assessed HW 1-7: Make about elements 1-8: Chemical reactions of metals and non-metals 1-9: Metals and energy 1-10: Metals and water 1-11: Metal displacement reactions 1-12: Assessment review For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Reactions - Acids, Alkalis & Metals non-metals: Reaction: SCW	Lesson Titles 1-1: Matter 1-2: Matter and energy 1-3: Matter and water 1-4: Matter displacement reactions 1-5: Assessment review For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Reactions - Acids, Alkalis & Metals non-metals: Reaction: SCW	Lesson Titles 1-1: Matter 1-2: Matter and energy 1-3: Matter and water 1-4: Matter displacement reactions 1-5: Assessment review For further detail, see Non-Portable document in Unit folder 1) Ibc/Curriculum Enrichment Inclusion/Curriculum/Science/Assessment/Stage 3 (Phase 1) VCSA 2020/1/7 Reactions - 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Acids, Alkalis & Metals non-metals: Reaction: SCW	
Skills	Maths link: how to rearrange equations and layout common mathematical problems in science Scientific equipment: choosing appropriate equipment and drawing scientific diagrams Literacy: How to structure a scientific plan- eg: aim/hypothesis, equipment, method, variables etc Literacy: How to structure a mark extended response question, how to incorporate scientific keywords correctly into answers Tables: how to present a risk assessment for practical activities eg: hazard, risk, precaution	Understand the terms mass, mode and median Calculate arithmetic means Select and draw appropriate graphs, selecting appropriate scales for the axes Interpret graphs Calculate rate changes in the decay of biological material Relate information between numerical and graphical forms Calculate efficiency Tables: how to present a risk assessment for practical activities eg: hazard, risk, precaution	Equipment and terminology Formulae (Energy, counting rules and use of significant figures and decimal places, finding patterns in data, interpreting data - charts, graphs & tables Line of Science: models to help explain difficult concepts Literacy: How to structure a scientific plan- eg: aim/hypothesis, equipment, method, variables etc Literacy: How to structure a mark extended response question, how to incorporate scientific keywords correctly into answers Tables: how to present a risk assessment for practical activities eg: hazard, risk, precaution	Maths link: how to rearrange equations and layout common mathematical problems in science Scientific equipment: choosing appropriate equipment and drawing scientific diagrams Literacy: How to structure a scientific plan- eg: aim/hypothesis, equipment, method, variables etc Literacy: How to structure a mark extended response question, how to incorporate scientific keywords correctly into answers Tables: how to present a risk assessment for practical activities eg: hazard, risk, precaution	Maths link: how to rearrange equations and layout 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Key Words	Core: The innermost layer of the Earth, which extends about halfway from the centre of the Earth to the surface. Crust: The rocky outer layer of the Earth. Mantle: The layer of Earth that is below the crust. It is split but can flow very slowly. Rock Cycle: Sequence of processes where rocks change from one type to another, over a timescale of millions of years. Crack: - Felt taken by one object moving around another larger object, such as a satellite around the Earth. Earth comprises one side of the Sun every year Milky Way: Galaxy containing our Sun, Solar System, and billions of other stars and planets Neutral stability: A mass in which around a planet. Night: The period on one section of the Earth, or other planet, when it is facing away from the Sun.	Food web: Shows how food chains in an ecosystem are linked. Food Chain: Part of a food web, starting with a producer, ending with a top predator. Ecosystem: The living things in a given area and their non-living environment. Current: The amount of charge flowing per second through a wire. Resistance: A measure of how difficult it is for the current to flow. Series Circuit: A circuit with only one loop Parallel Circuit: A circuit with more than one loop	Electron: A negatively charged particle that orbits the nucleus. Proton: A positively charged particle found in the nucleus. Nucleon: A neutral particle found in the nucleus. Current: The amount of charge flowing per second through a wire. Resistance: A measure of how difficult it is for the current to flow. Series Circuit: A circuit with only one loop Parallel Circuit: A circuit with more than one loop	Energy Non-renewable energy Renewable energy Knowledge: Energy stores Food and Energy Dissipation of Energy Power and Energy	Categorise a variable that has values that are words. Conclusion: What you write down to say what you have found out during an investigation. Conclusion: A relationship between variables where one increases or decreases as the other increases. Evaluate: To discuss the quality of data collected during an investigation and suggest improvements to the method. Hypothesis: An explanation you can test that includes a reason and a Science idea! Observation: An experiment to find out about things that change over time. Scientific enquiry: Different ways to investigate including observation over time, for test and pattern seeking. Stability: An object that is not moving. Accelerate: When an object is getting faster. Decelerate: When an object is getting slower.	Contact force - A force that acts when two objects are physically touching. Non-contact force - A force that acts when two objects are not touching. Reaction: The unit used to measure force. Gravity - A non-contact force that acts between two objects. Kinetic Energy Weight: The downward force caused by gravity acting on an object's mass. Mass: The amount of matter in an object. Resultant force: The overall force acting on an object. Equilibrium: When the resultant force on an object is zero. Speed: A measure of how quickly an object is moving. Stationary: An object that is not moving. Accelerate: When an object is getting faster. Decelerate: When an object is getting slower.	Genes: The male gamete (sperm cell) in animals & the female gamete in an egg. Gestation: Period when the baby develops during pregnancy. Fertilisation: Joining of a nucleus from a male and female sex cell. Zygote: A cell that surrounds and protects the embryo. Placenta: Organ that surrounds the fetus with oxygen and nutrients and removes waste substances. It also acts as a barrier, stopping infections and harmful substances reaching the fetus. Mendel: The amount of matter in an object. Resultant force: The overall force acting on an object. Equilibrium: When the resultant force on an object is zero. Speed: A measure of how quickly an object is moving. Stationary: An object that is not moving. Accelerate: When an object is getting faster. Decelerate: When an object is getting slower.	Nucleus: Controls cell activities, contains DNA Cytoplasm: Where chemical reactions take place Cell membrane: Controls what enters and leaves the cell Cell wall: Made from cellulose fibres. Strengthens the cell and supports the plant. Chloroplasts: Where photosynthesis takes place Photosynthesis: Making proteins by protein synthesis Vascular: Contains cell sap Magnification: How much bigger an image appears than the real object Resolution: Ability to distinguish between two very small and closely spaced objects Organic: Small structures inside animal and plant cells eg: nucleus Microscope: A piece of equipment that magnifies (enlarges) something eg: animal cells so they can be observed Cell: The smallest structural and functional unit of an organism. Tissue: Made from a group of cells with a similar structure and function, which all work together to do a particular job. Organ: Any living thing that has an organised structure, which work to do a particular job. Organism: Any living thing that has an organised structure, which work to do a particular job.	Acid: A solution with a pH below 7 Base: A substance which reacts with an acid Alkali: A base which has dissolved in water Neutral: A solution with a pH of 7 Strong acid: An acid where all of the particles split in water Neutralisation: The reaction between an acid and a base Weak: An acid where only some of the particles split in water Concentrated: A solution that has a lot of particles per volume Dilute: A solution that has a small number of particles per volume Oxidation: The reaction where a substance combines with oxygen Displacement: A reaction where a more reactive metal takes the place of a less reactive metal in a compound Reactivity series: A list of elements which shows how reactive they are compared to each other Sonorous: Rings when it is hit (eg a metal) Malleable: Can be hammered into shape Ductile: Can be pulled into a wire	Elements: A substance that only contains one type of atom. Each element has a unique chemical symbol. Elements are arranged in the Periodic Table. Atoms: The smallest part of which an element can be broken down into. Frequency: How many waves pass a fixed point in a second Hertz: Frequency is measured in Hertz Ultrasound: Soundwaves above 20,000 Hz too high for humans to hear	Amplitude: The distance from the middle to the top of the wave Wavelength: The distance between a point on a wave to the same point on the next wave Trough: The bottom of the wave Peak: The top of the wave Frequency: How many waves pass a fixed point in a second Hertz: Frequency is measured in Hertz Ultrasound: Soundwaves above 20,000 Hz too high for humans to hear				
End Point	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	Exam-style end of topic test which will assess the knowledge and skills from this unit	
Assessment method	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 4: C&P: Rock cycle Lesson 8: C&P: The earth Lesson 10: End of unit assessment.	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 4: C&P: plant reproduction Lesson 5: End of unit assessment-teacher assessed	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 5: C&P 2 Lesson 9: C&P 2 Lesson 10: End of unit assessment-teacher assessed	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 4: C&P 2 Lesson 5: C&P 2 Lesson 7: Setting in Test -GL Assessment	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 4: C&P 2 Lesson 5: C&P 2 Lesson 7: Setting in Test -GL Assessment	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 4: C&P 2 Lesson 5: C&P 2 Lesson 7: Setting in Test -GL Assessment	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 1: GCSE assessed questions: levels of organisation Lesson 2: C&P 2: Microscopes and animal and plant cell: leading and functions Lesson 3: C&P 2: Specialised cells: examples, structures related to function & diffusion Lesson 14: End of unit assessment-teacher assessed	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 1: GCSE assessed questions: levels of organisation Lesson 2: C&P 2: Reactions, Acids, Alkalis, indicators and pH Lesson 3: Assessed homework on neutralisation and making salts Lesson 9: C&P 2 - Reactions of metals, non-metals and acids Lesson 13: End of unit assessment.	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 1: GCSE assessed questions: levels of organisation Lesson 2: C&P 2: Reactions, Acids, Alkalis, indicators and pH Lesson 3: Assessed homework on neutralisation and making salts Lesson 9: C&P 2 - Reactions of metals, non-metals and acids Lesson 13: End of unit assessment.	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 1: GCSE assessed questions: levels of organisation Lesson 2: C&P 2: Reactions, Acids, Alkalis, indicators and pH Lesson 3: Assessed homework on neutralisation and making salts Lesson 9: C&P 2 - Reactions of metals, non-metals and acids Lesson 13: End of unit assessment.	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 1: GCSE assessed questions: levels of organisation Lesson 2: C&P 2: Reactions, Acids, Alkalis, indicators and pH Lesson 3: Assessed homework on neutralisation and making salts Lesson 9: C&P 2 - Reactions of metals, non-metals and acids Lesson 13: End of unit assessment.	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 1: GCSE assessed questions: levels of organisation Lesson 2: C&P 2: Reactions, Acids, Alkalis, indicators and pH Lesson 3: Assessed homework on neutralisation and making salts Lesson 9: C&P 2 - Reactions of metals, non-metals and acids Lesson 13: End of unit assessment.	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 1: GCSE assessed questions: levels of organisation Lesson 2: C&P 2: Reactions, Acids, Alkalis, indicators and pH Lesson 3: Assessed homework on neutralisation and making salts Lesson 9: C&P 2 - Reactions of metals, non-metals and acids Lesson 13: End of unit assessment.	Common marking points (CMP) and exam questions throughout the unit to be completed as follows: Lesson 1: GCSE assessed questions: levels of organisation Lesson 2: C&P 2: Reactions, Acids, Alkalis, indicators and pH Lesson 3: Assessed homework on neutralisation and making salts Lesson 9: C&P 2 - Reactions of metals, non-metals and acids Lesson 13: End of unit assessment.	