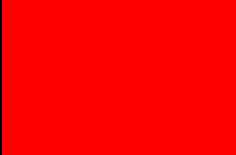


## Science 7 Year Curriculum Plan – Recovery Plan 2020

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7	<p><b>Unit 1 KS3</b></p> <p><b>Health and Lifestyle</b> – Students look at how we are healthy starting from the digestion of the food we eat and the lifestyles we maintain.</p> <p><b>States of Matter and Energetics</b> – Students study the particle model and how reactions either release or require energy.</p> <p><b>Energy</b> – Students look at the world around us and the resources and everyday actions in terms of the energy stores and transfers.</p> <p><b>Assessment- End of Topic tests and formative lesson tasks</b></p>		<p><b>Unit 2 KS3</b></p> <p><b>Cells and Organisms</b> – Students study the building blocks of life the cell and how we can go from single celled organisms to multicellular organisms.</p> <p><b>Substances</b> – Students are introduced to the key terms in Chemistry the Atom, Element and Compound</p> <p><b>Electricity</b> – Students will investigate the key components and circuits of electricity with developing their understanding of current at resistance.</p> <p><b>Assessment- End of Topic tests and formative lesson tasks</b></p>		<p><b>Unit 3 KS3</b></p> <p><b>Reproduction</b> – Students will look at how plants and animals reproduce with a focus on the key organs and sequences in terms of the science.</p> <p><b>Fizzy Bangy stuff</b> – Students will apply the knowledge learned in the previous 2 topics to a variety of different chemical reactions.</p> <p><b>Waves</b> – Students will look at light and sound waves in detail in terms of similarities and differences.</p> <p><b>Assessment- End of Topic tests and formative lesson tasks</b></p>	
8	<p><b>Unit 3 KS3</b></p> <p><b>Reproduction</b> – Students will look at how plants and animals reproduce with a focus on the key organs and sequences in terms of the science.</p> <p><b>Fizzy Bangy stuff</b> – Students will apply the knowledge learned in the previous 2 topics to a variety of different chemical reactions.</p> <p><b>Waves</b> – Students will look at light and sound waves in detail in terms of similarities and differences.</p> <p><b>Unit 4 KS3</b></p> <p><b>Bioenergetics</b> – We look at how plants use photosynthesis to transfer the sun's energy to</p>		<p><b>Periodic Table</b> – This is when we look at the elements in detail what do they have in common and how do they differ</p> <p><b>Particle Model</b> – Students recap the particle model and apply it to pressure and density</p> <p><b>Unit 5 KS3</b></p> <p><b>Ecosystems/Adaptation</b>- Here students will look at how organisms interact in the environment and how they adapt to the surroundings over time</p> <p><b>Earth and Atmosphere</b> – This is the study of how the Earth is made and how elements move around it in different natural cycles</p>		<p><b>Forces and Motion</b> – Speed, distance and time are looked at and simple turning moments</p> <p><b>Unit 6 KS3</b></p> <p><b>Inheritance</b> – Students will begin to understand how we look like our biological parents and the mechanisms of inheritance</p> <p><b>Materials</b> – A look in detail at the chemistry of different materials and how that links to their properties and uses.</p> <p><b>Space</b> – is there anything out there and how did it all begin and other larger physics questions, this is the topic where we attempt to answer the big Why questions.</p>	



chemical energy and how Respiration allows all living organisms to then transfer this usefully

**Assessment- End of Topic tests and formative lesson tasks**

**Assessment- End of Topic tests and formative lesson tasks**

**Assessment- End of Topic tests and formative lesson tasks**

**Unit 6 KS3**

**Inheritance** – Students will begin to understand how we look like our biological parents and the mechanisms of inheritance

**Materials** – A look in detail at the chemistry of different materials and how that links to their properties and uses.

**Space** – is there anything out there and how did it all begin and other larger physics questions, this is the topic where we attempt to answer the big Why questions.

**Assessment- End of Topic tests and formative lesson**

**Option 1**

**KS3 Fundamentals and Practical Skills (If practicals allowed to safely return)**

**Unit 1 -3**

**Cells, Atoms and Energy** fundamentals are explored with a focus on key knowledge and practical application

**Organisation, Bonding and Electricity** fundamentals are explored with a focus on key knowledge and practical application

**Immunity, Acids and Bases, and Particle** fundamentals are explored with a focus on key knowledge and practical application.

**Option 2**

**KS3/KS4 Transition – Bridging unit to ensure students are ready with the key knowledge to access the GCSE course**

**Biology** – Students begin by reexploring cells and their structures and functions – this is added to by looking at microscopy and cellular division. They end the topic looking at respiration and its importance to plants and animals.

**Chemistry**- Atomic structure, the periodic table and separation techniques. Students work with a range of theories to understand how both our understanding of the atomic and the organisation of the periodic table has changed. They will also carry out a range of investigations to recall and apply separation techniques

**Physics** – Students look at all the different types of energy stores and transfers again. They develop their skills at physics calculations and begin to see how energy is transferred usefully or dissipated in a variety of different scenarios and how we can use numbers to explain these transfers

**Option 1**

**KS3 Fundamentals and Practical Skills (If practicals allowed to safely return)**

**Unit 4-6**

**Homeostasis, Chemical Reactions and Forces** fundamentals are explored with a focus on key knowledge and practical application

**Inheritance, Rates of Reaction and Motion** fundamentals are explored with a focus on key knowledge and practical application

**Ecosystems, Earth, and Wave** fundamentals are explored with a focus on key knowledge and practical application

**Option 2**

**KS3/KS4 Transition – Bridging unit to ensure students are ready with the key knowledge to access the GCSE course**

**Biology** – Students begin by reexploring cells and their structures and functions – this is added to by looking at microscopy and cellular division. They end the topic looking at respiration and its importance to plants and animals.

**Chemistry**- Atomic structure, the periodic table and separation techniques. Students work with a range of theories to understand how both our understanding of the atomic and the organisation of the periodic table has changed. They will also carry out a range of investigations to recall and apply separation techniques

**Physics** – Students look at all the different types of energy stores and transfers again. They develop their skills at physics calculations and begin to see how energy is transferred usefully or dissipated in a variety of different scenarios and how we can use numbers to explain these transfers

10

**UNIT 2 GCSE**

**Biology** – Students learn of organisation within a mammal, including various different organ systems. They then learn of the organisation within a plant and finish with photosynthesis.

**Chemistry** - Bonding. Students will learn the three main forms of bonding (ionic, covalent and metallic) building on their understanding of atomic structure from Unit 1. They will have to apply this knowledge to address the properties of these forms of bonding. A further application is that of carbon bonding in giant forms such as diamonds but also nanoparticles such as fullerenes and their properties and potential uses.

**Physics** – Students will re look at electricity in terms of different types of circuits and different components with a focus on current. Potential difference and resistance relationships. Students will then apply this knowledge to how Mains electricity is supplied across the Up and in their homes

**Assessment- Multiple Choice , Working Scientifically, Extended answers and End of Topic tests/ PPEs**

**UNIT 3 GCSE**

**Biology** – Students study the immune system and various different pathogens. This includes the role of white blood cells and the importance of vaccination programs.

**Chemistry** - Quantative. Students will learn the ways we investigate the compounds and elements from Moles to Acids and Bases. Students will be able to make predictions about mass and apply to larger scale reactions..

**Physics** – Students will study the particle nature of matter again looking closely at , state changes, density and pressure. Students will recap the Atomic structure and history of the atom discovery that they covered in Chemistry in year 9. They will then look at nuclear reactions and the uses and dangers of radiation.

**Assessment- Multiple Choice , Working Scientifically, Extended answers and End of Topic tests/ PPEs**

**UNIT 4 GCSE**

**Biology** – Homeostasis – students learn of the importance of messaging around the body and how this affects the maintenance of a constant internal environment. Contraception and fertility are covered here.

**Chemistry** - This topic is an amalgamation of linked topics to include, Metals-reactions, reactivity and extraction, Electrolysis, energy changes (exothermic and endothermic reactions, reaction profile's and bond energies) and chemical analysis. It will include the Required Practical's for Electrolysis, Energy Changes (exo and endo) and Chromatography for Trilogy. For separates candidates the Required Practical for Ion Testing will also be included

**Physics** – This topic looks at forces and their interactions. Students will look at vectors and scalars and develop skills in drawing vector diagrams. Students will study resultant forces, Moments, magnetism and the relationships between magnetism and electricity

**Assessment- Multiple Choice , Working Scientifically, Extended answers and End of Topic tests/ PPEs**

11

**UNIT 5 GCSE**

**Biology** – Students learn of inheritance and the factors that control it. This includes genetic disorders and the genetic modification of organisms for the benefit of humans.

**Chemistry** - Rates of Reaction, Equilibria and Organic Chemistry. Students will actively investigate what affects the rate of a reaction looking at the four main factors. Although only Concentration is the formal Required practical, students will complete a formal write up on each of the four factors as though they are all Required Practical's. Students will the investigate what is mean by a equilibria and apply Le Chatelier's principle to this. Finally students will look at

**UNIT 6 GCSE**

**Biology** – Students learn of the factors that govern ecosystems. They then move onto topics regarding the impact of human activities on biodiversity and how it can be preserved in the future.

**Chemistry** - Earth's atmosphere and resources. Students will develop and understanding of the issues associated with the use of our planet's resources. Topics covered include: evolution of the atmosphere, combustion, acid rain and global dimming, carbon footprints, life cycle assessments, alternative forms of metal extraction, water purification (including the Required Practical: water purification), waste water and 3 Rs.

**REVISION**

Students will revise the whole of the course with a **Diagnostic Test, Therapy** (where we fill in the knowledge skill gaps) and **Re Test** approach. This allows for a bespoke approach to every students needs in the run up to their exams

	<p>hydrocarbons, they uses, general formula, tests for each, fractional distillation and cracking.</p> <p><b>Physics</b> – Students learn about Motion in terms of speed, velocity, acceleration and distance. They look at motion in the horizontal and vertical and Newton's laws. They then go on to look at how physics has led to developments in car and road safety</p> <p><b>Assessment- Multiple Choice , Working Scientifically, Extended answers and End of Topic tests/ PPEs</b></p>	<p><b>Physics</b> – Students look at Waves their types and properties. They then dig deeper into the electromagnetic spectrum looking at dangers and uses in details. Separate Physicists go on to study space in this topic from the Big Bang, Stars and our own Solar System</p> <p><b>Assessment- Multiple Choice , Working Scientifically, Extended answers and End of Topic tests/ PPEs</b></p>			
12	Applied Science	<p><b>Unit 1: Principles of Applied Science:</b></p> <p><b>Topic A:</b> Atomic structure, periodicity, bonding and quantitative chemistry.</p> <p><b>Topic B:</b> Structure and function of cells and tissues.</p> <p><b>Topic C:</b> Waves the structure properties and their application in terms of communications</p> <p><b>Assessment (End of unit tests and external Exam in Jan or June)</b></p>	<p><i>2 teachers teaching units consecutively across the Spring and Summer Term</i></p> <p><b>Unit 2: Practical Scientific procedure and techniques.</b></p> <p><b>Topic A:</b> Titrations and colorimetry to determine concentrations of solutions.</p> <p><b>Topic B:</b> Calorimetry to study cooling curves</p> <p style="text-align: right;"><b>(External practical exam Jan year 13)</b></p> <p><b>Unit 3: Scientific Investigation skills.</b></p> <p><b>Topic A:</b> Planning an investigation</p> <p><b>Topic B:</b> Data collection, processing and analysis/interpretation.</p> <p><b>Topic C:</b> Drawing conclusions and evaluation .</p> <p><b>Topic D:</b> Enzymes in action</p> <p><b>Topic E:</b> Diffusion of molecules.</p> <p><b>Topic F:</b> Plants and their environment.</p> <p style="text-align: right;"><b>(Internal Assignments completed to schedule)</b></p>		
	Biology	<p><b>Basic Components of living Systems, Biological Molecules, Exchange surfaces and Breathing, Transport in animals and Transport in plants</b></p> <p><b>BCLS</b> introduction to cells and microscopy techniques</p> <p><b>BM</b> begin to explore the biochemistry that underpins the study of key biological disciplines</p> <p><b>ES&amp;B</b> explore the need for specialised exchange surfaces and the what makes an effective one,</p>	<p><b>Enzymes, Plasma membranes, Cell Division, Classification and evolution,</b></p> <p><b>E</b> vital for biological functions learn how enzymes are structured and how they function.</p> <p><b>PM</b> knowledge of how these function is vital to know about cell processes</p> <p><b>CD</b> 2 process that cells divide in detail meiosis and mitosis</p>	<p><b>Biodiversity, Communicable Diseases and revision of Year 1 content</b></p> <p><b>B</b> Learn techniques used to study habitats and the biodiversity of the planet</p> <p><b>CD</b> Explore how organisms are surrounded by pathogens and how they</p>	<p><b>Neuronal Communication and Genetics of living systems</b></p> <p><b>NC</b> introduced to how electronic signals are used to monitor and respond to any deviations from the body's normal state</p> <p><b>GoLS</b> introduces how the genetic control of</p>

	<p>before looking and comparing different gas exchange surfaces in animals</p> <p><b>TA</b> Explore the role of transport systems in larger organisms</p> <p><b>TP</b> Be able to explain how nutrients, water and products of photosynthesis move around a plant</p> <p style="text-align: center;"><b>Assessment (End of unit tests)</b></p>	<p><b>C&amp;E</b> look at the current and historical classification systems or organisms in relation to evolution</p> <p style="text-align: center;"><b>Assessment (End of unit tests)</b></p>	<p>defend themselves against them</p> <p style="text-align: center;"><b>Assessment (End of year tests)</b></p>	<p>metabolic reactions determines an organisms growth, development and function</p> <p style="text-align: center;"><b>Assessment (End of unit tests)</b></p>
<p style="text-align: center;"><b>Chemistry</b></p>	<p style="text-align: center;"><b>Structure and Bonding, Periodicity, Atomic Structure &amp; Amount of Substance</b></p> <p><b>SM</b> Looking at how different chemical bonds occur and the chemistry behind the properties.</p> <p><b>P</b> The study of trends within the periodic table and how these can be explain through our understanding of the different elements.</p> <p><b>AS</b> How the fundamental particles are arranged to form atoms, the basis for all matter.</p> <p><b>AoS</b> How chemists can use our understanding of the mass of elements to determine the number of molecules present in a wide range of different situations.</p> <p style="text-align: center;"><b>Assessment (End of unit tests for all terms)</b></p>	<p style="text-align: center;"><b>Kinetics, Equilibrium, Haloalkanes, Intro to Organic Chemistry &amp; Alkanes</b></p> <p><b>K</b> The study of how quickly a reaction occurs, building of GCSE rate of reaction students will learn more about how different factors can change the rate of a reaction.</p> <p><b>E</b> From understanding the concept of equilibrium to being able to predict the effects of changes to a system on the position of equilibrium. Students also learn about Kc an expression used to determine the position of equilibrium.</p> <p><b>H</b> Looking at the chemistry and reactions of haloalkanes, the introduction of the idea of nucleophiles and their substitution reactions.</p> <p><b>ItOC</b> What is organic chemistry and why is it so vitally important? Students learn how to name molecules correctly as well as looking at the idea of isomerism.</p> <p><b>A</b> What are alkanes and how are they obtained. This topic builds on GCSE knowledge going into further detail about these massively important molecules.</p>	<p style="text-align: center;"><b>Alkenes, Alcohols, Organic Analysis, Redox Reactions, Group 2 &amp; Group 7</b></p> <p><b>Alk</b> The chemistry of alkenes and carbon to carbon double bonds. Students will learn about addition reactions of alkenes and how they are used to form polymers.</p> <p><b>Alc</b> From the different ways of producing ethanol and the ethics behind them to how the chemistry of the –OH functional group can be used to form different desired compounds.</p> <p><b>OC</b> How both experimental and instrumental methods can be used to enable chemists to identify the structures of unknown organic compounds.</p> <p><b>RR</b> Students learn about the key concept of electron transfer within chemistry and how it drives reactions to occur.</p> <p><b>G2</b> The trends within group 2 as well as the chemistry of the elements and their uses.</p> <p><b>G7</b> The trends within group 7, the chemistry of the halogens and the halide ions as well as the uses of chlorine.</p>	
<p style="text-align: center;"><b>Health and Social Care</b></p>	<p style="text-align: center;"><b>Unit 1: Human Lifespan Development</b></p> <p><b>Topic A:</b> Human growth and development through the life stages. – explore physical, Intellectual, emotional and social development across the life stages,</p> <p><b>Topic B:</b> Factors affecting human growth and development. – the nature/nurture debate by looking at genetic, environmental, economic and</p>	<p style="text-align: center;"><b>2 teachers teaching units consecutively across the Spring and Summer Term</b></p> <p style="text-align: center;"><b>Working in Health and Social Care</b></p> <p><b>Topic A:</b> The roles and responsibilities of people who work in the health and social care sector- responsibilities, Specific responsibilities, Multidisciplinary working, and Monitoring the work</p> <p><b>Topic B:</b> The roles of organisations in the health and social care sector – roles or organistations, Issues that affect acces, Ways organisations represent interests and regulation and Responsibilities of organisations</p>		

	<p>social factors that affect human growth and development</p> <p><b>Topic C:</b> Effects of ageing – looking in detail at the physical changes, psychological change and societal effects of an ageing population</p> <p><b>Assessment (End of unit tests and external Exam in Jan or June)</b></p>	<p style="text-align: center;"><b>(External practical exam Jan year 13)</b></p> <p><b>Unit 5: Meeting Individual Care and Support Needs</b></p> <p><b>Topic A:</b> Examine principles, values and skills which underpin meeting the care and support needs of individuals A1 Promoting equality, diversity and preventing discrimination A2 Skills and personal attributes required for developing relationships with individuals A3 Empathy and establishing trust with individuals</p> <p><b>Topic B:</b> Examine the ethical issues involved when providing care and support to meet individual needs B1 Ethical issues and approaches B2 Legislation and guidance on conflicts of interest, balancing resources and minimising risk</p> <p><b>Topic C:</b> Investigate the principles behind enabling individuals with care and support needs to overcome challenge C1 Enabling individuals to overcome challenges C2 Promoting personalisation C3 Communication techniques</p> <p style="text-align: center;"><b>(Internal Assignments completed to schedule)</b></p>		
<b>Physics</b>	<p><b>Foundations of Physics, Forces and Motion Part 1 and Electrons, Waves and photons Part 1</b></p> <p><b>FP</b> Students learn the basic quantities, and units of the course along with skills required to solve vector and scalar problems.</p> <p><b>F&amp;M</b> Students look at motion closely in terms of graphs, free fall and projectiles. They then look at Forces in terms of equilibrium and Moments in triangles of forces</p> <p><b>E, W&amp;P</b> Students look at Charge in terms of Kirchoff's first law and drift velocity. They then move on to electron in circuits, electromotive force, electron guns and resistivity</p> <p style="text-align: center;"><b>Assessment (End of unit tests)</b></p>	<p><b>Forces and Motion Part 2 and Electrons, Waves and photons Part 2</b></p> <p><b>F&amp;M</b> Students look at work and its links to energy and power. Students look at the physics of material properties linked to the use of the material.</p> <p><b>E,W&amp;P</b> Students look at the rest of Kirchoff's laws and how electrical sensors are built and work. Students then move onto waves and look at their properties, refraction, reflection, diffraction, interference and polarisation</p> <p style="text-align: center;"><b>Assessment (End of unit tests)</b></p>	<p><b>Forces and Motion Part 3 and Electrons, Waves and photons Part 3</b></p> <p><b>F&amp;M</b> Students look at Neton's Laws and Impulse applying them to collisions in 2 dimensions.</p> <p><b>E,W&amp;P</b> Students look at Quantum physics with the photon and Einstein's photoelectric effect and the Wave-particle duality</p> <p style="text-align: center;"><b>Assessment (End of unit tests)</b></p>	<p style="text-align: center;"><b>Revision</b></p> <p style="text-align: center;">End of year exam</p> <p style="text-align: center;"><b>Start Simple</b> - Harmonic motion and Kinetic theory linked to thermal energy</p> <p style="text-align: center;"><b>Assessment (End of year tests)</b></p>
<b>12</b>	<p><b>Social Influence, Memory and Attachment.</b></p> <p>You will explore the approaches that psychologists take when trying to explain human behaviour and also begin to examine the various methods that they use. You will be encouraged to carry out small scale practical tasks—designing observations, questionnaires and interviews.</p> <p><b>SI</b> – look into conformity and how social aspects affect how we choose to conform in society</p>	<p><b>Approaches in psychology and Biopsychology</b></p> <p><b>AiP</b> – Learn about the origins of psychology and the various different approaches and learning theories and how they compare. (behaviourist, social learning, cognitive, biological, psychodynamic and humanistic)</p> <p><b>B-</b> How the endocrine and nervous system work together in flight or fight responses and the study of the Brain</p>	<p style="text-align: center;"><b>Psychopathology, and Research Methods</b></p> <p><b>P</b> - Explore what we mean by abnormality and mental disorders with a focus on explain and treating phobias, depression and OCD</p> <p><b>RM</b> – Look into the different problems with research and how to collect valid data from field and lab studies</p> <p style="text-align: center;"><b>Revision</b></p>	

13		<p><b>M</b> – look into the process of short and long term memory and the issues we have with eye witness accounts</p> <p><b>A</b> – look into the various theories around how humans and animals form attachments with each other and develop because of these attachments</p> <p style="text-align: center;"><b>Assessment (End of unit tests)</b></p>	<b>Assessment (End of unit tests)</b>	<b>End of year exam</b>
	Sociology	<p style="text-align: center;"><b><u>Education with Theory and Methods.</u></b></p> <p>You will study an introductory unit which gives an overview of the subject and familiarises you with subject specific terminology.</p> <ul style="list-style-type: none"> <li>Educational structures and functions, education in society, relationships in education, and educational policy</li> <li>Apply sociology research methods to education</li> <li>Link theories and data together in terms of education</li> </ul> <p style="text-align: center;"><b>Assessment (Periodic Exam Questions)</b></p>	<p style="text-align: center;"><b><u>Research Methods</u></b></p> <p>A major feature of A Level Sociology is understanding how Sociologists work; the research methods they use to investigate society. As part of your course you will learn the theoretical concepts around research but also have the opportunity to use these skills in a practical way. You will be encouraged to design and carry out observations, questionnaires and interviews.</p> <p style="text-align: center;"><b>Assessment (Periodic Exam Questions)</b></p>	<p style="text-align: center;"><b><u>Families and Households</u></b></p> <p>The unit ‘Families and Households’ explores the changing diversity of families and the reasons for this. You will also look at demographic changes in the population, gender roles and power relationships within families and ultimately how the family affects wider society</p> <p style="text-align: center;"><b>Revision</b></p> <p style="text-align: center;"><b>End of year exam</b></p>
	Applied Science	<p style="text-align: center;"><b><u>Unit 2: Practical Scientific Procedures and techniques.</u></b></p> <p><b>Topic C:</b> Chromatographic techniques to identify components in mixtures</p> <p><b>Topic D:</b> Review personal development of scientific skills for laboratory work.</p> <p style="text-align: center;"><b>(External practical exam Jan year 13)</b></p> <p style="text-align: center;"><b><u>Unit 3: Scientific Investigation skills.</u></b></p> <p><b>Topic C :</b> Energy Contents of Fuel</p> <p><b>Topic H:</b> Electrical Circuits</p> <p style="text-align: center;"><b>(Internal Assignments completed to schedule)</b></p>	<p style="text-align: center;"><b><u>Unit 14: Physiological Disorders and their Care</u></b></p> <p><b>Topic A:</b> Investigate the type causes and effects of physiological disorders.</p> <p><b>Topic B:</b> Examine the investigation and diagnosis of physiological disorders.</p> <p><b>Topic C:</b> Examine treatment and support for service users with physiological disorders</p> <p><b>Topic D:</b> Develop a treatment plan for service users with physiological disorders to meet their need</p> <p style="text-align: center;"><b>(Internal Assignments completed to schedule)</b></p>	<b>Assignment completion and Revision for Resits of Unit 1 and 2 if required</b>
Biology	<p style="text-align: center;"><b>Biodiversity, Communicable Diseases</b></p> <p><b>B</b> Learn techniques used to study habitats and the biodiversity of the planet</p> <p><b>CD</b> Explore how organisms are surrounded by pathogens and how they defend themselves against them</p>	<p style="text-align: center;"><b>Hormonal Communication, Homeostasis, Plant Response, Patterns of Inheritance, Manipulating Genomes, and Cloning and Biotechnology</b></p> <p><b>HC</b> look at how specific hormones bring about their effect with case studies on Diabetes, the kidneys and the liver</p>	<b>Energy for Biological Processes, Respiration, Ecosystems and Population Sustainability</b>	<p><b>EfBP</b> look into this complex process and how it is used to drive the production of chemicals like ATP</p>



	<p><b>Neuronal Communication and Genetics of living systems</b></p> <p><b>NC</b> introduced to how electronic signals are used to monitor and respond to any deviations from the bodys normal state</p> <p><b>GoLS</b> introduces how the genetic control of metabolic reactions determines an organisms growth, development and function</p> <p><b>Assessment (End of unit tests)</b></p> <p><b>Should be able to catch up and be teaching next half terms content by Christmas back on schedule to finish roughly before Easter</b></p>	<p><b>H and PR</b> compare and contrast how the status quo is managed in plants and animals. And how it can be exploited by humans</p> <p><b>PI</b> study how genetics and environmental factors contribute to variation within a population</p> <p><b>MG</b> look into the potential benefits but also the ethics that surround this</p> <p><b>C&amp;B</b> explore how farmers exploit natural vegetative propagation and the role of scientists in the production of artificial plant and animal clones</p> <p><b>Assessment (End of unit tests)</b></p>	<p><b>R</b> study the series of enzyme driven reactions that provide the immediate source of energy for biological processes</p> <p><b>E</b> Look at the complex interactions between organisms and abiotic and biotic factors</p> <p><b>P&amp;S</b> investigate factors that effect population size and the economic, ethical, and social reasons why some ecosystems may need to be managed</p> <p><b>Assessment (End of unit tests)</b></p> <p><b>Revision in preparation for final exams.</b></p>
<p><b>Chemistry</b></p>	<p><b>Due to face to face time and engagement in online learning no recovery time required for catch up teaching more embedded retrieval and use as teach new content.</b></p> <p><b>Nomenclature and Isomerism, Carbonyl Chemistry, Thermodynamics, KP, Periodicity, Acids, Bases and Buffers, Amines &amp; Polymers</b></p> <p><b>N&amp;I</b> introduces key new organic functional groups and the concept of optically active molecules.</p> <p><b>CC</b> Looking at aldehydes and ketones in more detail as well as carboxylic acids and ester and learning about acylation reactions.</p> <p><b>T</b> Building on Hess's Law from Y12, students learn about Born-Haber cycles and the factors affecting Lattice Energy as well as the new concept of Gibbs free energy and entropy.</p> <p><b>KP</b> Building on Y12 Kc students learn about how the equilibrium of gaseous reactions can be manipulated.</p> <p><b>Pe</b> Building on Y12, students now look at the reactions of period 3 elements and their oxides.</p> <p><b>AB&amp;B</b> Learning about different type of acid and base. What really is the pH scale, more work on</p>	<p><b>Kinetics and Rate, Aromatic Chemistry, Organic Synthesis, Biochemistry, Electrochemistry &amp; Transition Metals</b></p> <p><b>R&amp;R</b> Introducing the concept of orders of reaction, how to determine the rate determining step and studying the Arrhenius equation and how activation energy can be calculated.</p> <p><b>AC</b> the chemistry of Benzene, from solving the mystery of its structure to manipulating its chemistry through electrophilic and Friedel-Crafts reactions.</p> <p><b>OS</b> Piecing together all of the organic topics studied at A-Level to devise synthetic routes to create desired compounds.</p> <p><b>B</b> The chemistry of biological molecules, how IMFs play a vital role in DNA, the structure of biological molecules and how the anticancer drug cisplatin works.</p> <p><b>E</b> How redox reactions can be manipulated to produce a flow of electrons than can be used to create cells and batteries.</p> <p><b>TM</b> From the general behaviour of TMs to the chemistry of specific metals such as vanadium.</p>	<p><b>Structural Determination, Chromatography &amp; Inorganic Aqueous Reactions</b></p> <p><b>SD</b> How both practical and instrumental methods can be used to identify the structure of even complex unknown organic molecules.</p> <p><b>C</b> The theory behind how this simple but incredibly useful technique and its wider applications.</p> <p><b>IAR</b> introduction of the idea of ligands and ligand exchange to form different complexes.</p> <p><b>Revision in preparation for final exams.</b></p>

	<p>titrations and a new concept of Buffer solutions and how they can be made for specific pHs.</p> <p><b>A</b> The chemistry of nitrogen and its role in organic chemistry and synthesis.</p> <p><b>Po</b> How condensation polymers</p>					
<b>Health and Social Care</b>	<p><b>Unit 2: Working in Health and Social Care</b></p> <p><b>Topic C:</b> Working with people with specific needs in the health and social care sector – specific needs and practices</p> <p><b>(External practical exam Jan year 13)</b></p> <p><b>Unit 5: Meeting Individual Care and Support Needs</b></p> <p><b>Topic D:</b> Investigate the roles of professionals and how they work together to provide the care and support necessary to meet individual need.</p>		<p><b>Unit 14: Physiological Disorders and their Care</b></p> <p><b>Topic A:</b> Investigate the type causes and effects of physiological disorders.</p> <p><b>Topic B:</b> Examine the investigation and diagnosis of physiological disorders.</p> <p><b>Topic C:</b> Examine treatment and support for service users with physiological disorders</p> <p><b>Topic D:</b> Develop a treatment plan for service users with physiological disorders to meet their need</p> <p><b>(Internal Assignments completed to schedule)</b></p>		<p><b>Assignment completion and Revision for Resits of Unit 1 and 2 if required</b></p>	
<b>Physics</b>	<p><b>Recap of Forces in Motion and Newtons laws and Electron and waves</b></p> <p><b>Start Simple - Harmonic motion and Kinetic theory linked to thermal energy</b></p> <p><b>Assessment (End of year tests)</b></p> <p><b>Should be able to catch up and be teaching next half terms content by Christmas back on schedule to finish roughly before Easter</b></p>	<p><b>Kinetic theory &amp; Circular motion</b></p> <p><b>KT</b> students learn about that laws that govern ideal gases</p> <p><b>CM</b> students look at angular velocity and acceleration and centripetal forces</p> <p><b>Assessment (End of unit tests)</b></p>	<p><b>Fields &amp; Space</b></p> <p><b>F</b> Students look at gravitational fields and apply Netwn’s laws and Kepler’s laws to different situations</p> <p><b>S</b> Students look closer at stars and energy levels with detail on astronomical distances and Hubble’s law and the Big Bang</p> <p><b>Assessment (End of unit tests)</b></p>	<p><b>Capacitance, Electric &amp; Magnetic Fields</b></p> <p><b>C</b> How they work in circuits and how the charge and discharge</p> <p><b>E&amp;MF</b> Look at Coulomb’s law and how charged particles behave in electric fields. How charged particles behave and Faraday’s law and Lenz’s law</p> <p><b>Assessment (End of unit tests)</b></p>	<p><b>Radioactive Decay &amp; Medical Physics</b></p> <p><b>RD</b> We look at Rutherford’s work and inside the atomic nucleus with modeling of radioactive decay. Students then study <math>E=mc^2</math>, fission and fusion.</p> <p><b>MP</b> X-Rays, CAT scans, Gamma Camera, PET scans, Ultrasound and Dopler imaging</p> <p><b>Assessment (End of unit tests)</b></p>	<p><b>REVISION</b></p>

13	Psychology	<p><b>One hour per week to be devoted to year 1 content on research methods. Use of year 2 material to recap year 1 content.</b></p> <p><b><u>Aggression and Cognition and Development</u></b></p> <p><b>A</b> – this topic looks at various explanations for aggressive behaviour, including biological factors like genes, neurotransmitters and hormones but also the impact of upbringing, peers and wider society.</p> <p><b>C&amp;D</b> - how do children learn? This unit explores different psychological explanations</p>	<p><b><u>Schizophrenia and Issues and debates</u></b></p> <p><b>S</b> – This topic explores a specific mental condition, looking at both biological and psychological causes and treatments..</p> <p><b>I&amp;D</b> - This is a synoptic unit that brings together various issues and debates within psychology and applying them to the topics covered throughout the course EG Nature—Nurture, freewill—determinism, reductionism—holism, gender and cultural bias</p>	Revision in preparation for final exams.
	Sociology	<p><b>Due to face to face time and engagement in online learning little/no recovery time required for catch up teaching more embedded retrieval used to teach new content.</b></p> <p><i>Opportunity to re-cap generic class, gender, ethnic issues.</i></p> <p><i>This paper mirrors paper 1, content during year 1, allowing similar exam techniques to be revisited.</i></p> <p><b><u>Crime and Deviance</u></b></p> <p>Explore the sociological reasons behind crime in society and why some people are more inclined to commit crime than others. It will also include the role of the criminal justice system, from the work of the police, the court system and ultimately how and why offenders are punished. You will also consider how the media can influence crime and who are most likely to be victims. We will also explore the impact of globalisation and whether this has led to an increase in crime or changes to the types of crime.</p> <p><b>Assessment (Periodic Exam Questions)</b></p>	<p><b><u>Beliefs</u></b></p> <p>In this optional unit looks different religious organisations — churches, denominations, cults and sects and the impact they have on both the individual and society. We will explore the extent to which the church is in decline and whether secularisation is worldwide or limited to certain regions. You will consider whether some groups are more religious than others — genders, class, ethnic groups</p> <p><b>Assessment (Periodic Exam Questions)</b></p>	Revision in preparation for final exams.