Week (w/b)	Biology	Chemistry	Physics	Maths
Week 1 5th Feb	Enzymes	Periodic Table	Renewable & Non-Renewable Res	Primes, Factors and Multiples / Standard Form
Week 2 12th Feb	Plants	Separation Techniques	Spec Heat Cap/Latent Heat	Percentages
Week 3 19th Feb	Photosynthesis	Bonding	Electricity	Algebraic Fundamentals
Week 4 26th Feb	Respiration	Groups of the Periodic Table	Electricity	Factorising / Sequences
Week 5 4th Mar	Circulatory System Triple: Aseptic tech/disks	Key Calculations Triple: Calculations	Particle Model Triple: Electrical Charges	Working with Equations
Week 6 11th Mar	Health and Disease Triple: Plant diseases	Acids + Alkalis Triple: triple content	Atom & Decay Triple: Gas Pressure	Formulae / Simultaneous Equations
Week 7 18th Mar	Reflex Arc & Glucose Triple: The Eye	Electrolysis Triple: Tests for ions	Forces Triple: Using Radiation	Working with Ratios
Week 8 25th Mar	Controlling Fertility Triple: Auxins/Thermoreg	Reactivity & Equilibrium Triple: Organic Chem	Hooke's Law Triple: Moments, Gears	Ratios in Context
Week 9 1st Apr	Inheritance Triple: The Kidney	Energy Changes Triple: Organic Chem	Forces Triple: Fluid Pressure	Areas of 2D Shapes
Week 10 8th Apr	Darwin & Selection Triple: Ecology	Rates of Reaction Triple: Organic Chem	Waves Triple: Reflection/Refraction	Working with Right-angled Triangles
Week 11 15th Apr	Ecology Triple: Decay	Hydrocarbons Triple: Materials	EM Spectrum Triple: Light & Lenses	Angles in Polygons and Parallel Lines
Week 12 22nd April	Required Practicals Triple: Monoclonal ABs	Chemical Analysis Triple: Titration	Electromagnetism Triple: Sound	Calculating Probabilities
Week 13 29th Apr	Paper 1 Walkthrough	The Atmosphere Triple: Calculations	Motor Effect Triple: Sound & Light	Calculating Probabilities
Week 14 6th May	Paper 1 Walkthrough **B1: Fri 10th May**	Paper 1 Walkthrough	Paper 1 Walkthrough	Calculating Averages
Week 15 13th May	Paper 2 Walkthrough	Paper 1 Walkthrough **C1: Fri 17th May**	Paper 1 Walkthrough	Paper 1 Walkthrough **Paper 1: Thu 16th May**
Week 16 20th May	Paper 2 Walkthrough	Using Resources Triple: Using Resources	**P1: Wed 22nd May**	Paper 2/3 Walkthrough
Week 17 27th May	Paper 2 Walkthrough	Paper 2 Walkthrough	Paper 2 Walkthrough	Paper 2 /3 Walkthrough
Week 18 3rd June	**B2: Fri 7th June**	Paper 2 Walkthrough	Paper 2 Walkthrough	Paper 2/3 Walkthrough **Paper 2: Mon 3rd June**
Week 19 10th June		Paper 2 Walkthrough **C2: Tues 11th June**	P2 Walkthrough **P2: Fri 14th June**	**Paper 3: Mon 10th June**

Week 1 - w/b Monday 5th February

Biology	**Enzymes** • Enzymes of food and lock and key theory • Effect of temperature on enzymes activity • Effect of pH on enzyme activity • Effect of substrate concentration on enzyme activity
Chemistry	**Periodic Table** • Modern periodic table • History of the atom: Thomson's, Rutherford's & Bohr's atomic models • Mendeleev's periodic table • Isotopes • (H) Relative atomic mass calculations
Physics	**Topic 1 : Energy** • Non-renewable resources • Renewable resources • Kinetic and gravitational potential energy • Elastic potential energy
Maths	**Primes, Factors and Multiples / Standard Form** • Rewrite a number as a product of its prime factors • Find the HCF and LCM of two or more numbers • Rewrite very large and very small numbers in standard form • Perform calculations involving numbers in standard form

Week 2 - w/b Monday 12th February

Biology	**Plants** • Structure of a leaf • Stomata • Root hair cells • Xylem and Phloem • Transpiration (if there is time)
Chemistry	**Separation Techniques** • Filtration • Crystallisation • Distillation • Fractional distillation • Chromatography
Physics	**Energy** • Specific heat capacity • Work done • Power • Efficiency
Maths	**Percentages** • Calculate percentage change • Calculate reverse percentages • Calculate simple and compound interest

Week 3 - w/b Monday 19th February

Biology	**Photosynthesis** • Limiting factors of photosynthesis • Photosynthesis required practical • How plants use glucose • Transpiration (if there is time)
Chemistry	**Bonding** • Formation of ionic bonding • Properties of ionic bonding • Simple molecules • Metals and alloys • Allotropes of carbon
Physics	**Electricity** • Current • Potential difference • Resistance • Series & parallel circuits
Maths	**Algebraic Fundamentals** • Simplify expressions by collecting like terms • Use index laws to simplify expressions • Expand and simplify single brackets • Expand double brackets

Week 4 - w/b Monday 26th February

Biology	**Respiration** • Aerobic and anaerobic respiration • Effect of exercise on rates of respiration • Oxygen debt • Why exercise affects heart rate and breathing rate
Chemistry	**Groups of the Periodic Table** • Alkali metals reacting with water • Explaining reactivity of alkali metals • Explaining reactivity of halogens • Displacement reactions of halogens • (H) Halogens: redox
Physics	**Topic 2: Electricity** • Resistance vs Current: LED, resistor and filament lamp • Alternating Vs Direct current • National Grid • Step-up + step-down transformers
Maths	**Factorising Expressions and working with Sequences** • Factorise expressions into a single bracket • Factorise quadratic expressions • Recognise different types of sequences • Find the general term of arithmetic and geometric sequences

Week 5 - w/b Monday 4th March

Biology	**Combined: Circulatory System** • Structure of the heart • Comparing the left and right side of the heart • Comparing arteries and veins • Adaptations of capillaries • Red blood cells (if time)	**Triple: Antibiotics** • Aseptic Technique • Antibiotic Disks Practical • Developing Drugs
Chemistry	**Combined: Key Calculations** • Calculating concentration • Percentage by mass • (H) Calculate mass of reacting substances • (H) Limiting reactant • (H) Determine balanced equation	**Triple: Key Calculations** • Percentage yield • Molar volume of gases • Titration calculations
Physics	**Combined: Particle Model** • States of matter changes • Specific latent heat • Density + core practical	**Triple: Electrical Charges & Fields** • How insulators become charged • Electric fields of charged objects
Maths	**Working with Equations** • Solve linear equations • Form and solve equations • Solve quadratic equations	

Week 6 - w/b Monday 11th March

Biology	**<u>Combined:</u> Health & Disease** • Communicable vs non-communicable disease • Immunity and vaccinations • Antitoxins and phagocytosis • Drug development and double blind testing • Physical and chemical barriers to pathogens (if there is time)	**<u>Triple:</u> Plant Disease** • Plant Diseases • Detecting Plant Diseases • Plant Defences
Chemistry	**<u>Combined</u>: Acids + Alkalis** • Neutralisation reactions • Indicators • Limiting and excess reactant • (H) Redox • (H) Strong and weak acids	**<u>Triple</u>: Triple Content** • Transition elements • Nanoparticles • Chemical cells • Hydrogen fuel cells
Physics	**<u>Combined</u>: The Atom & Decay** • Alpha, beta & gamma decay • Radioactive decay equations • Half-lives	**<u>Triple</u>: Gas Pressure** • Gas Pressure • Gas Pressure in a Helium Balloon • Atmospheric Pressure
Maths	**Rearranging Formulae / Simultaneous Equations** • Change the subject of various formulae • Solve pairs of linear equations simultaneously	

Week 7 - w/b Monday 18th March

Biology	**Combined: Reflex Arc & Glucose** • Reflex arc • Synapse • Controlling blood glucose • Managing type 1 and 2 diabetes	**Triple: The Eye** • The Eye: Structure • The Eye: Accommodation • The Eye: Using lenses
Chemistry	**Combined: Electrolysis** • How to do electrolysis and key diagram • Electrolysis of molten compounds • Electrolysis of aluminium oxide • Electrolysis of aqueous compounds • (H) Half-equations	**Triple: Testing Substances** • Testing for positive ions • Testing for ammonia gas • Testing for negative ions: halides, sulfates and carbonates
Physics	**Combined: Forces** • Resultant forces • F=ma • Acceleration • Velocity/time graphs • Momentum	**Triple: Using Radiation** • Using Radiation • Nuclear Fission • Nuclear Fusion
Maths	**Working with Ratios** • Simplify ratios • Sharing using ratios • Solve various ratio problems • Combining two ratios	

Week 8 - w/b Monday 25th March

Biology	**<u>Combined:</u> Controlling Fertility** • Menstrual cycle • Contraception • The combined pill • IVF	**<u>Triple:</u> Auxins & Thermoregulation** • Auxins: Phototropism & Gravitropism • Auxins: Investigating Phototropism • Using Plant Hormones • Thermoregulation
Chemistry	**<u>Combined</u>: Reactivity & Equilibrium** • Reactivity series • Displacement • Dynamic equilibrium • (H) Factors affecting equilibrium • (H) Redox reactions	**<u>Triple</u>: Organic Chemistry** • Alkenes • Addition reactions
Physics	**<u>Combined</u>: Springs & Hooke's Law** • Elastic Potential Energy • Hooke's Law: Limit of Proportionality • Hooke's Law: F = k e • Required practical	**<u>Triple</u>: Moments, Gears & Levers** • Moments • Levers • Gears
Maths	**Ratios in Context** • Use exchange rates • Solve problems involving recipes • Solve speed, distance and time problems • Solve density, mass and volume problems	

Week 9 - w/b Monday 1st April

Biology	**<u>Combined:</u> Inheritance** • Sex inheritance (XX & XY) • Eye colour inheritance • Recessive-linked inheritance (cystic fibrosis) • Dominant-linked inheritance (polydactyly) • Pedigree charts	**<u>Triple:</u> The Kidney** • Structure of The Kidney • Effect of ADH on The Kidney • Kidney dialysis
Chemistry	**<u>Combined</u>: Energy Changes** • Exothermic and endothermic reactions • Why a reaction is exothermic or endothermic • Reaction profiles • (H) Bond energy calculations	**<u>Triple</u>: Organic Chemistry** • Alcohols • Carboxylic acids
Physics	**<u>Combined</u>: Forces** • Stopping distances • Factors affecting stopping distances • Vector diagrams	**<u>Triple</u>: Fluid Pressure** • Calculating Pressure • Calculating Pressure Underwater • Upthrust
Maths	**Areas of 2D Shapes** • Calculate the areas of various 2D shapes • Calculate the area and circumference of circles • Calculate the area and perimeter of sectors	

Week 10 - w/b Monday 8th April

Biology	**Combined: Darwin & Selection** • Variation • Natural selection • Antibiotic resistance • Selective breeding • Pros and cons of selective breeding (if there is time) • Genetic engineering of insulin (if there is time)	**Triple: Ecology** • Food webs • Energy loss in food chains • Pyramids of biomass • Calculating efficiency of energy transfers
Chemistry	**Combined: Rates of Reaction** • Concentration • Temperature • Surface area • Catalyst • Rates of reaction practical - volume of a gas • Rates of reaction practical - colour change	**Triple: Organic Chemistry** • Addition polymerisation • Esters • Condensation polymerisation
Physics	**Combined: Wave Properties** • Transverse & longitudinal waves • Waves properties • Calculating frequency & wavelength, and period • Ripple tanks	**Triple: Testing Substances** • Reflection • Specular & diffuse reflection • Refraction • Wavefronts
Maths	**Working with Right-angled Triangles** • Use Pythagoras' Theorem • Find missing angles and lengths using right-angled trigonometry • Derive and use exact trigonometric values	

Week 11 - w/b Monday 15th April

Biology	**Combined: Ecology** • Abiotic and biotic factors • Quadrats and transects • Water cycle • Carbon cycle • Reforestation and conservation (if there is time)	**Triple: Decay** • Factors affecting rate of decay • Calculating rates of decay • Biogas generators • Making compost
Chemistry	**Combined: Hydrocarbons** • Formation of Crude oil • Hydrocarbons • Fractional distillation: crude oil • General formula: alkanes • Homologous series: alkanes • Cracking • Complete and incomplete combustion	**Triple: Materials** • Glass • Ceramics • Composite materials
Physics	**Combined: EM Spectrum** • EM Spectrum • EM spectrum wave uses • EM spectrum wave dangers • Converting radio waves to electrical signals	**Triple: Light & Lenses** • Convex & concave lenses • Real vs virtual images • Drawing convex ray diagrams • Drawing concave ray diagrams • Objects beyond 2F, at 2F, 2F-F
Maths	**Angles in Polygons and Parallel Lines** • Calculate exterior and interior angles in regular polygons • Calculate exterior and interior angles in irregular polygons • Find missing alternate, corresponding and co-interior angles	

Week 12 - w/b Monday 22nd April

Biology	**<u>Combined:</u> B1 Required Practicals** • Osmosis: Potatoes in water and sugar • Enzymes: Effect of pH on enzyme activity	**<u>Triple:</u> Monoclonal Antibodies** • Producing monoclonal antibodies • Treating cancer • Pregnancy tests
Chemistry	**<u>Combined</u>: Chemical Analysis** • Testing for gases: CO_2, H_2, Cl_2, O_2 • Pure and impure substances • Formulations • Chromatograms • Calculating Rf value	**<u>Triple</u>: Titration** • How to do a titration • Titration calculations
Physics	**<u>Combined</u>: Electromagnetism** • Magnets & magnetic fields • Permanent vs induced magnets • Right hand rule • Solenoids & electromagnets • Electromagnets in locks & relay switches	**<u>Triple</u>: Sound Waves** • What are sound waves • Sound waves & oscilloscopes • Echo sounding (Sonar) • Using ultrasound for prenatal scans and industrial imaging
Maths	**Calculating Probabilities** • Calculate the probability of combined events • Fill in, and calculate probabilities from, two-way tables • Fill in, and calculate probabilities from, Venn diagrams	

Week 13 - w/b Monday 29th April

Biology	**<u>Combined</u>: Biology Paper 1 Walkthrough** We will go through key exam questions from major topics.	**<u>Triple:</u> Biology Paper 1 Walkthrough** We will go through key exam questions from major topics.
Chemistry	**<u>Combined</u>: Chemistry of the Atmosphere** • Explain changes in: H_2O, CO_2, O_2, N_2 • Greenhouse effect • Climate change • Pollutants of combustion	**<u>Triple</u>: Calculations Masterclass** A lesson to model all key calculation questions that could come up.
Physics	**<u>Combined</u>: Motor Effect** • The Left Hand Rule • F = B x I x l • DC Electric Motor	**<u>Triple</u>: Sound & Light** • Seismic waves • Structure of earth & seismic waves • Colours of the visible spectrum • Opaque, translucent or transparent
Maths	**Calculating Probabilities** • Fill in frequency trees • Construct probability trees • Calculate independent and dependent probabilities	

Week 14 - w/b Monday 6th May

Biology	**Combined:** **Biology Paper 1 Walkthrough** We will go through key exam questions from major topics. **BIOLOGY PAPER 1**: Friday 10th May	**Triple:** **Biology Paper 1 Walkthrough** We will go through key exam questions from major topics. **BIOLOGY PAPER 1**: Friday 10th May
Chemistry	**Combined:** **Chemistry Paper 1 Walkthrough** We will go through key exam questions from major topics.	**Triple:** **Chemistry Paper 1 Walkthrough** We will go through key exam questions from major topics.
Physics	**Combined:** **Physics Paper 1 Walkthrough** We will go through key exam questions from major topics.	**Triple:** **Physics Paper 1 Walkthrough** We will go through key exam questions from major topics.
Maths	**Calculating Averages** • Calculate the mean, median and mode from a list of numbers • Calculate averages from a table • Calculate averages from grouped frequency tables	

Week 15 - w/b Monday 13th May

Biology	**Combined:** **Biology Paper 2 Walkthrough** We will go through key exam questions from major topics.	**Triple:** **Biology Paper 2 Walkthrough** We will go through key exam questions from major topics.
Chemistry	**Combined:** **Chemistry Paper 1 Walkthrough** We will go through key exam questions from major topics. There will be an additional masterclass lesson that will go through all key calculation questions that could come up. **CHEMISTRY PAPER 1**: Friday 17th May	**Triple:** **Chemistry Paper 1 Walkthrough** We will go through key exam questions from major topics. **CHEMISTRY PAPER 1**: Friday 17th May
Physics	**Combined:** **Physics Paper 1 Walkthrough** We will go through key exam questions from major topics.	**Triple:** **Physics Paper 1 Walkthrough** We will go through key exam questions from major topics.
Maths	**Maths Paper 1 Walkthrough** We will go through key exam questions from major topics. **MATHS PAPER 1**: Thursday 16th May	

Week 16 - w/b Monday 20th May

Biology	**<u>Combined</u>:** **Biology Paper 2 Walkthrough** We will go through key exam questions from major topics.	**<u>Triple</u>:** **Biology Paper 2 Walkthrough** We will go through key exam questions from major topics.
Chemistry	**<u>Combined</u>: Using Resources** • Finite resources Vs renewable resources • Producing ethanol • Potable water • Sewage vs fresh water • Recycling of metals	**<u>Triple</u>: Using Resources** • Rusting • Alloys • High density & low density polymers • Thermosoftening and thermosetting polymers
Physics	**Physics Paper 1 Walkthrough** We will go through key exam questions from major topics. **<u>PHYSICS PAPER 1</u>**: Wednesday 22nd May	
Maths	**Maths Paper 2/3 Walkthrough** We will go through key exam questions from major topics.	

Week 17 - w/b Monday 27th May

Biology	**Combined:** **Biology Paper 2 Walkthrough** We will go through key exam questions from major topics.	**Triple:** **Biology Paper 2 Walkthrough** We will go through key exam questions from major topics.
Chemistry	**Combined:** **Chemistry Paper 2 Walkthrough** We will go through key exam questions from major topics.	**Triple:** **Chemistry Paper 2 Walkthrough** We will go through key exam questions from major topics.
Physics	**Combined:** **Physics Paper 2 Walkthrough** We will go through key exam questions from major topics.	**Triple:** **Physics Paper 2 Walkthrough** We will go through key exam questions from major topics.
Maths	**Maths Paper 2/3 Walkthrough** We will go through key exam questions from major topics.	

Week 18 - w/b Monday 3rd June

Biology	**<u>Combined</u>:** **Biology Paper 2 Walkthrough** We will go through key exam questions from major topics. **<u>BIOLOGY PAPER 2</u>**: Friday 7th June	**<u>Triple</u>:** **Biology Paper 2 Walkthrough** We will go through key exam questions from major topics.
Chemistry	**<u>Combined</u>:** **Chemistry Paper 2 Walkthrough** We will go through key exam questions from major topics.	**<u>Triple</u>:** **Chemistry Paper 2 Walkthrough** We will go through key exam questions from major topics.
Physics	**<u>Combined</u>:** **Physics Paper 2 Walkthrough** We will go through key exam questions from major topics.	**<u>Triple</u>:** **Physics Paper 2 Walkthrough** We will go through key exam questions from major topics.
Maths	**Maths Paper 3 Walkthrough** We will go through key exam questions from major topics. **<u>MATHS PAPER 2</u>**: Monday 3rd June	

Week 19 - w/b Monday 10th June

Biology	**NO MORE BIOLOGY LESSONS FOR YEAR 11 GCSE**	
Chemistry	**Combined:** **Chemistry Paper 2 Walkthrough** We will go through key exam questions from major topics. **CHEMISTRY PAPER 2**: Tuesday 11th June	**Triple:** **Chemistry Paper 2 Walkthrough** We will go through key exam questions from major topics.
Physics	**Physics Paper 2 Walkthrough** We will go through key exam questions from major topics. **PHYSICS PAPER 2**: Friday 14th June	**Physics Paper 2 Walkthrough** We will go through key exam questions from major topics.
Maths	**NO MORE MATHS LESSONS FOR YEAR 11 GCSE** **MATHS PAPER 3**: Monday 10th June	