Week (w/b)	Biology	Chemistry	Physics
Week 1 5th Feb	Enzymes	Periodic Table	Renewable & Non-Renewable Energy Calculations
Week 2 12th Feb	Plants	Separation Techniques	Work / Power / Spec Heat Capacity
Week 3 19th Feb	Photosynthesis	Bonding	Electricity
Week 4 26th Feb	Respiration	Groups of the Periodic Table	Electricity
Week 5 4th Mar	Circulatory System <u>Triple</u> : Aseptic tech/disks	Key Calculations <u>Triple</u> : Calculations	Density / Cool Heat Graph / Lat Heat <u>Triple</u> : Electrical Charges
Week 6 11th Mar	Health and Disease <u>Triple</u> : Plant diseases	Acids + Alkalis <u>Triple</u> : triple content	Atom & Decay <u>Triple</u> : Gas Pressure
Week 7 18th Mar	Reflex Arc & Glucose <u>Triple</u> : The Eye	Electrolysis <u>Triple</u> : Tests for ions	Forces <u>Triple</u> : Using Radiation
Week 8 25th Mar	Controlling Fertility <u>Triple</u> : Auxins/Thermoregulation	Reactivity & Equilibrium <u>Triple</u> : Organic Chem	Hooke's Law <u>Triple</u> : Moments, Gears
Week 9 1st Apr	Inheritance <u>Triple</u> : The Kidney	Energy Changes <u>Triple</u> : Organic Chem	Infrared <u>Triple</u> : Fluid Pressure
Week 10 8th Apr	Darwin & Selection <u>Triple</u> : Ecology	Rates of Reaction <u>Triple</u> : Organic Chem	Waves <u>Triple</u> : Light Refraction Reflection
Week 11 15th Apr	Ecology <u>Triple</u> : Decay	Hydrocarbons <u>Triple</u> : Materials	EM Spectrum <u>Triple</u> : Lenses
Week 12 22nd April	Required Practicals <u>Triple</u> : Monoclonal ABs	Chemical Analysis <u>Triple</u> : Titration	Electromagnetism <u>Triple</u> : Sound
Week 13 29th Apr	Paper 1 Walkthrough	The Atmosphere <u>Triple</u> : Calculations	Motor Effect <u>Triple</u> : Space
Week 14 6th May	Paper 1 Walkthrough <u>B1: Fri 10th May</u>	Paper 1 Walkthrough	Paper 1 Walkthrough
Week 15 13th May	Paper 2 Walkthrough	Paper 1 Walkthrough <u>C1: Fri 17th May</u>	Paper 1 Walkthrough
Week 16 20th May	Paper 2 Walkthrough	Using Resources <u>Triple</u> : Using Resources	P1: Wed 22nd May
Week 17 27th May	Paper 2 Walkthrough	Paper 2 Walkthrough	Paper 2 Walkthrough
Week 18 3rd June	B2: Fri 7th June	Paper 2 Walkthrough	Paper 2 Walkthrough
Week 19 10th June		Paper 2 Walkthrough <u>C2: Tues 11th June</u>	P2 Walkthrough P2: Fri 14th June

Week (w/b)	Maths (Foundation & Higher)	Maths (Higher Only Content)
Week 1 5th Feb	Primes, Factors and Multiples / Standard Form	
Week 2 12th Feb	Percentages	
Week 3 19th Feb	Algebraic Fundamentals	
Week 4 26th Feb	Factorising / Sequences	
Week 5 4th Mar	Working with Equations	The Sine/Cosine Rule
Week 6 11th Mar	Formulae / Simultaneous Equations	Surds
Week 7 18th Mar	Working with Ratios	Direct and Inverse Proportion
Week 8 25th Mar	Ratios in Context	Inverse and Composite Functions
Week 9 1st Apr	Areas of 2D Shapes	Quadratic Sequences / Completing the Square
Week 10 8th Apr	Working With Right-angled Triangles	Circle Theorems
Week 11 15th Apr	Angles in Polygons and Parallel Lines	Vector Proofs
Week 12 22nd April	Calculating Probabilities	Parallel/Perpendicular Lines and Equations of Tangents
Week 13 29th Apr	Calculating Probabilities	Non-linear Simultaneous Equations
Week 14 6th May	Calculating Averages	Probability Equation Questions
Week 15 13th May	Paper 1 Walkthrough (Foundation) Paper 1:Thu 16th May	Paper 1 Walkthrough (Higher) <u>Paper 1:Thu 16th May</u>
Week 16 20th May	Paper 2/3 Walkthrough (Foundation)	Paper 2/3 Walkthrough (Higher)
Week 17 27th May	Paper 2/3 Walkthrough (Foundation)	Paper 2/3 walkthrough (Higher)
Week 18 3rd June	Paper 3 Walkthrough (Foundation) Paper 2: Mon 3rd June	Paper 3 Walkthrough (Higher) Paper 2: Mon 3rd June
Week 19 10th June	Paper 3: Mon 10th 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

Maths

Topic 1 : Energy

- Non-renewable resources
- Renewable resources
- Kinetic and gravitational potential energy
- Elastic potential energy

Stan

Primes, Factors and Multiples

- Rewrite a number as a product of its prime factors
- Find the HCF and LCM of two or more numbers

Standard Form

- 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

Chemistry

Separation Techniques

- Filtration
- Crystallisation
- Distillation
- Fractional distillation
- Chromatography

• Sp

- Specific heat capacity
- Work done
- Power
- Efficiency

Physics

Percentages

- Calculate percentage change
- Calculate reverse percentages
- Calculate simple and compound interest

Maths

Week 3 - w/b Monday 19th February

Biology

Photosynthesis

- Limiting factors of photosynthesis
- Photosynthesis required practical
- How plants use glucose
- Transpiration

Bonding

- Formation of ionic bonding
- Properties of ionic bonding
- Simple molecules
- Metals and alloys
- Allotropes of carbon

Chemistry

Electricity

- Current
- Potential difference
- Resistance

Physics

Algebraic Fundamentals

- Simplify expressions by collecting like terms
- Use index laws to simplify expressions
- Expand and simplify single brackets
- Expand double brackets

Maths

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

Electricity

- Resistance vs Current: LED, resistor and filament lamp
- Alternating Vs Direct current
- National Grid
- Step-up + step-down transformers

| Fact

Factorising Expressions

- Factorise expressions into a single bracket
- Factorise quadratic expressions

Working with Sequences

- Recognise different types of sequences
- Find the general term of arithmetic and geometric sequences

Maths

Week 5 - w/b Monday 4th March

Biology	 Structure of the heart Comparing the left and right side of the heart Comparing arteries and veins Adaptations of capillaries Red blood cells

Chemistry

Physics

Maths

Combined: Circulatory System

- **Triple:** Antibiotics
 - Aseptic Technique
 - **Antibiotic Disks Practical**
 - **Developing Drugs**

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

Combined: Particle Model States of matter changes

- Specific latent heat
- Density + core practical

<u>Triple</u>: Electrical Charges & Fields

- How insulators become charged
 - Electric fields of charged objects

Foundation / Higher Working with Equations

- Solve linear equations
- Form and solve equations
- Solve quadratic equations

Higher Only Content

The Sine/Cosine Rule

- Find missing angles and sides using non-right-angled trigonometry
- Solve multi-step problems involving the sine and cosine rule

Week 6 - w/b Monday 11th March

	<u> </u>
	 Communicable vs
	non-communicable disease
	 Immunity and vaccinations
	 Antitoxins and phagocytosis
Biology	 Drug development and double
	blind testing
	 Physical and chemical barriers
	to pathogens
	i

Triple: Plant Disease

- Plant Diseases
- Detecting Plant Diseases
- Plant Defences

Combined: Acids + Alkalis

Combined: Health & Disease

- Neutralisation reactions
- Indicators

Chemistry

Physics

Maths

- Limiting and excess reactant
- (H) Strong and weak acids

<u>Triple</u>: Triple Content

- Transition elements
- Nanoparticles
- Chemical cells
- Hydrogen fuel cells

Combined: The Atom & Decay • Alpha, beta & gamma decay

- Radioactive decay equations
- Half-lives
- naii-iives

Triple: Gas Pressure

- Gas Pressure
- Gas Pressure in a Helium Balloon
- Atmospheric Pressure

Foundation / Higher Rearranging Formulae

Change the subject of various formulae

Simultaneous Equations

• Solve pairs of linear equations simultaneously

Higher Only Content

Surds

- Simplify surds
- Expand brackets involving surds
- Rationalise denominators

Week 7 - w/b Monday 18th March

abetes

	Combined: Reflex Arc & Glucos
	 Reflex arc
	 Synapse
	 Controlling blood glucose
	 Managing type 1 and 2 dia
Biology	

<u>Triple:</u> The Eye

- The Eye: Structure
- The Eye: Accommodation
- The Eye: Using lenses

Combined: Electrolysis

How to do electrolysis and key diagram

Electrolysis of molten

- compoundsElectrolysis of aluminium oxide
- Electrolysis of aqueous compounds
- (H) Half-equations

<u>Triple</u>: Testing Substances

- Testing for positive ions
 - Testing for ammonia gas
- Testing for negative ions: halides, sulfates and carbonates

Combined: Forces

- Resultant forces
- F=ma

Chemistry

Physics

Maths

- Acceleration
- Velocity/time graphs
- Momentum

<u>Triple</u>: Using Radiation

- Using Radiation
- Nuclear Fission
- Nuclear Fusion

Foundation / Higher

- Working with Ratios
 - Simplify ratios
 - Sharing using ratios
 Salva various ratio problems
 - Solve various ratio problems
 - Combining two ratios

Higher Only Content

Direct and Inverse Proportion

- Form equations involving direct and inverse proportion
- Solve problems in context involving direct and inverse proportion

Week 8 - w/b Monday 25th March

	Combined: Controlling Fertility
	 Menstrual cycle
	 Contraception
	 The combined pill
	• IVF
Biology	

Chemistry

Physics

Maths

<u>Triple:</u> Auxins & Thermoregulation

- Auxins: Phototropism & Gravitropism
- **Auxins: Investigating Phototropism**
- **Using Plant Hormones**
- Thermoregulation

Combined: Reactivity & Equilibrium Reactivity series

- Displacement
- Dynamic equilibrium
- (H) Factors affecting equilibrium
- - (H) Redox reactions

<u>Triple</u>: Organic Chemistry

- **Alkenes**
- Addition reactions

Combined: Springs & Hooke's Law

- **Elastic Potential Energy** Hooke's Law: Limit of
 - Proportionality
 - Hooke's Law: F = k e
- Required practical

Levers

Triple: Moments, Gears & Levers

Moments

- Gears

Foundation / Higher

Ratios in Context

- Use exchange rates
- Solve problems involving
- recipes Solve speed, distance and time
- problems Solve density, mass and volume problems

Higher Only Content Inverse and Composite Functions

- Find inverse and composite functions and their resulting
- outputs Solve multi-step problems involving inverse and composite functions

Week 9 - w/b Monday 1st April

	COIII	DILLC
	•	Sex
	•	Eye
	•	Red
		(cy:
Biology	•	Doi
		(po

Chemistry

Physics

Maths

Combined: 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

Combined: Energy Changes

- Exothermic and endothermic reactions
- Why a reaction is exothermic or endothermic
- Reaction profiles
 (H) Rond operate
- (H) Bond energy calculations

<u>Triple</u>: Organic ChemistryAlcohols

- Carboxylic acids
- car boxy ne delas

<u>Triple</u>: Infrared Radiation
• Infrared radiation

Combined: Forces

- Stopping distances
- Factors affecting stopping
- distancesVector diagrams

Foundation / Higher

- Areas of 2D ShapesCalculate the areas of various
 - 2D shapes
 Calculate the area and
 - circumference of circles
 Calculate the area and perimeter of sectors

Higher Only Content

Quadratic Sequences

Recognise quadratic sequences

Infrared radiation practical

Black body radiation

• Find the general term of quadratic sequences

Completing the Square

- Rewrite quadratic expressions by completing the square
- Identify turning points

Week 10 - w/b Monday 8th April

	Combined: Darwin & Selection
	 Variation
	 Natural selection
Biology	 Antibiotic resistance
	 Selective breeding
	 Pros and cons of selective
	breeding
	 Genetic engineering of insulin

Triple: Ecology Food webs

- Energy loss in food chains
- Pyramids of biomass
- Calculating efficiency of energy transfers

Combined: Rates of Reaction

- Concentration
- **Temperature**
- Surface area
- Catalyst

Chemistry

Physics

Maths

- Rates of reaction practical volume of a gas
- Rates of reaction practical colour change

Triple: Organic Chemistry

- Addition polymerisation
- **Esters**
- Condensation polymerisation

Combined: Wave Properties

- Transverse & longitudinal waves
- Waves properties
- Calculating frequency & wavelength, and period
 - Ripple tanks

Triple: Light

- Reflection
- Specular & diffuse reflection
- Refraction
- Wavefronts
- Colours of visible spectrum

Foundation / Higher

Working with Right-angled Triangles

- Use Pythagoras' Theorem
- Find missing angles and lengths using right-angled trigonometry
- Derive and use exact trigonometric values

Higher Only Content

Circle Theorems

Solve multi-step problems using circle theorems

Week 11 - w/b Monday 15th April

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Biology	

Chemistry

Physics

Maths

Combined: Ecology

- Abiotic and biotic factors
- **Quadrats and transects**
- Water cycle
- Carbon cycle
- Reforestation and conservation

Triple: Decay

- Factors affecting rate of decay
- Calculating rates of decay
- Biogas generators
- Making compost

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

Combined: EM Spectrum • EM Spectrum EM spectrum wave uses

- EM spectrum wave dangers
- Converting radiowaves to

electrical signals

Triple: Lenses

- Convex & concave lenses
- Real vs virtual images
- Drawing convex ray diagrams
- Drawing concave ray diagrams
- Objects beyond 2F, at 2F, 2F-F

Foundation / Higher

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

Higher Only Content

Vector Proofs

- Show that vectors are parallel
- Show that vectors are collinear

Week 12 - w/b Monday 22nd April

	Combined: B1 Required Practicals
	 Osmosis: Potatoes in water and
	sugar
	 Enzymes: Effect of pH on
Biology	enzyme activity
Biology	

Chemistry

Physics

Maths

Triple: Monoclonal Antibodies

- Producing monoclonal antibodies
 - Treating cancer

Triple: Titration

Pregnancy tests

How to do a titration Titration calculations

Combined: Chemical Analysis

- Testing for gases: CO₂, H₂, Cl₂, O₂ Pure and impure substances
- (H) Metals from Ores
- Chromatograms
- Calculating Rf value

Combined: Electromagnetism

- Magnets & magnetic fields
- Permanent vs induced magnets
- Right hand rule
- Solenoids & electromagnets Electromagnets in locks & relay switches

Sound waves & oscilloscopes

Triple: Sound Waves

Echo sounding (Sonar)

What are sound waves

Using ultrasound for prenatal

scans and industrial imaging

Higher Only Content Parallel/Perpendicular Lines and **Equations of Tangents** Apply properties of parallel and perpendicular lines to find unknown straight-line

Foundation / Higher Calculating Probabilities

- Calculate the probability of combined events Fill in, and calculate
 - probabilities from, two-way tables
- equations Fill in, and calculate Find the equation of a tangent probabilities from, Venn diagrams line

Week 13 - w/b Monday 29th April

Triple: Biology Paper 1 Walkthrough We will go through key exam

Triple: Calculations Masterclass

questions that could come up.

A lesson to model all key calculation

questions from major topics.

Combined: Chemistry of the **Atmosphere**

- Explain changes in: H₂O, CO₂, O₂, N₂ Greenhouse effect
- Climate change

Chemistry

Physics

Maths

Pollutants of combustion

Combined: Motor Effect

- The Left Hand Rule
- $F = B \times I \times I$
- DC Electric Motor

Triple: Space Physics

- Life cycle of a star
- Expanding universe
- Planets, Satellites and orbits

Foundation / Higher

- **Calculating Probabilities** Fill in frequency trees

 - Construct probability trees Calculate independent and

dependent probabilities

Higher Only Content Non-linear Simultaneous Equations

- Find points of intersection between quadratic equations and straight-line equations
- Find points of intersection between equations of circles and straight-line equations

Week 14 - w/b Monday 6th May

	Biology Paper 1 Walkthrough We will go through key exam
	questions from major topics.
Biology	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

Combined:

Chemistry

Physics

Maths

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.

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.

Foundation / Higher Calculating Averages

- Calculate the mean, median and mode from a list of numbers
- Calculate averages from a table
- Calculate averages from grouped frequency tables
- **Probability Equation Questions** Construct probability trees involving dependent events

Higher Only Content

and algebraic probabilities Form and solve probability equations given by probability trees

Week 15 - w/b Monday 13th May

<u>Triple</u>:

Biology Paper 2 Walkthrough

Combined:

Biology Paper 2 Walkthrough

Biology	We will go through key exam questions from major topics.	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 Foundation We will go through key exam questions from major topics. MATHS PAPER 1: Thursday 16th May	Maths Paper 1 Walkthrough Higher We will go through key exam questions from major topics. MATHS PAPER 1: Thursday 16th May

Week 16 - w/b Monday 20th May

<u>combined</u> :	<u>iripie</u> :
Biology Paper 2 Walkthrough	Biology Paper 2 Walkthrough
We will go through key exam	We will go through key exam
questions from major topics.	questions from major topics.
	Biology Paper 2 Walkthrough We will go through key exam

Combined: Using Resources

- Finite resources Vs renewable resources
- Potable water
- Sewage vs fresh water
- Recycling of metals

Chemistry

Physics

Maths

<u>Triple</u>: Using Resources

- Rusting
- Alloys
- High density & low density polymers
- Thermosoftening and thermosetting polymers

Physics Paper 1 Walkthrough We will go through key exam questions from major topics.

PHYSICS PAPER 1: Wednesday 22nd May

Maths Paper 2/3 Walkthrough

Foundation
We will go through key exam questions from major topics.

Maths Paper 2/3 Walkthrough
Higher

We will go through key exam questions from major topics.

Week 17 - w/b Monday 27th May

Triple:

Biology	Biology Paper 2 Walkthrough We will go through key exam questions from major topics.	Biology Paper 2 Walkthrough We will go through key exam questions from major topics.
	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.

Combined:

Chemistry

Physics

Maths

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 Paper 2/3 Walkthrough **Foundation**

We will go through key exam questions from major topics.

Higher We will go through key exam

Maths Paper 2/3 Walkthrough

questions from major topics.

Week 18 - w/b Monday 3rd June

Triple:

Biology Paper 2 Walkthrough

We will go through key exam questions from major topics.

Combined:

Biology Paper 2 Walkthrough

We will go through key exam

questions from major topics.

Biology	BIOLOGY PAPER 2: Friday 7th June	questions ironi 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 3 Walkthrough Foundation We will go through key exam questions from major topics. MATHS PAPER 2: Monday 3rd June	Maths Paper 3 Walkthrough Higher We will go through key exam questions from major topics. MATHS PAPER 2: Monday 3rd June

Week 19 - w/b Monday 10th June

Biology

NO MORE BIOLOGY LESSONS FOR YEAR 11 GCSE

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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.

CHEMISTRY PAPER 2: Tuesday 11th June

Physics Paper 2 Walkthrough

We will go through key exam questions from major topics.

Physics Paper 2 Walkthrough We will go through key exam questions from major topics.

PHYSICS PAPER 2: Friday 14th June

Maths

Physics

NO MORE MATHS LESSONS FOR YEAR 11 GCSE

MATHS PAPER 3: Monday 10th June