Year 11 – Mock 2

Da Vinci Academy
A L.E.A.D. Academy

Examination Guide

Date	Subject (Paper)	AM/PM	Duration
Mon 20th Nov	Maths Paper 1 (non-calc)	AM	1hr 30
Mon 20th Nov	English Lang Paper 1	PM	1hr 45
Tues 21st Nov	Biology	AM	1hr 45
Tues 21st Nov	English Lang Paper 2	PM	1hr 45
Wed 22nd Nov	English Lit Paper 1	AM	1hr 45
Wed 22nd Nov	Maths Paper 2 (calc)	PM	1hr 30
Thurs 23rd Nov	English Lit Paper 2	AM	2hr 15
Thurs 23rd Nov	Chemistry	PM	1hr 45
Fri 24th Nov	Physics	AM	1hr 45
Fri 24th Nov	Maths Paper 3 (calc)	PM	1hr 30

Key Dates

Date	Milestone
Fri 27th Oct	Mock 2 revision checklists distributed.
Mon 20th Nov	Mock 2 exam series begins, and marking/moderation begins.
Mon 24th Nov	Mock 2 exam series ends.
Fri 8th Dec	Marking and moderation ends.
w/b 11th Dec	Mock results released and predictions updated.
Thurs 11th Jan	Year 11 Parents Evening

Key Staff

Role	Name
Examination Officer	Mrs O'Neill
SLT Examination Lead	Mr Gregory
Access arrangements	Mrs Sisson
Year 11 AL	Miss Bradshaw
Year 11 AAL	Miss Whitfield

Grades

Mock 2 Grade:

- Grades will be awarded for all subjects. Your core English, Maths and Science will be based on your Mock 2 examination performance.
- Other subjects will award grades based on your ongoing assessments as a working at grade.

Predicted Grade:

- Our staff are encouraged to review the grade that they feel the student is likely to achieve by the end of year 11.
- Students will be provided with this grade on their Mock Grade report.
- This grade could be higher or lower than the Mock grade, based on the teacher's knowledge of what content is still to be covered.

Please when making applications to various post-16 destinations, either of the two grade types may be requested.

Examination Logistics

Rooming:

Sports Hall – Main Cohort

W14 + Gym – Access Arrangements

Conference Room – Learning Hub

AM Exam Timings:

8:30 Line Up + Collect Phones and store securely.

9:00 Exam Start

Students will have break as normal. If an examination runs into break, the cohort will be given an extension.

PM Exam Timings:

12:40 – Line Up

1:00 – Exam Start

Registers will be taken in the exam hall using the desk name cards by attendance.

Students will leave site after PM exam.

Malpractice Awareness:

Under exam conditions the use of unauthorised materials, copying or attempting to copy, escaping from supervision or collusion (i.e. cheating) is not permitted.

Unauthorised Materials Include – Mobile phones, air pods/ear pieces, food, drink labels, correction fluid, gel pens, multi/clicker pens, watches.

Mobile Phones:

Mobiles are not allowed in the exam room. We are collecting mobile phones from students at the start of each day, storing them securely and returning them as students leave site after the PM exams.

Students will not be allowed to enter the exam until contact home has been made should you fail to hand over your phone.

Toilets:

Students without a toilet pass are not allowed to leave the exam within 45 minutes of the exam starting and 30 minutes of the exam finishing.

Students without a toilet pass will not be permitted to leave the exam for any paper shorter than 1 hour 15 minutes.

Access Arrangements:

Students entitled to Access Arrangements may have slightly different rules as part of their plan.

Students will be made aware if this applies to you and access arrangements are organised by Mrs Sisson

Revision Timetable

Week beginning __ /__ /__

Time	Mon	Tue	Wed	Thur	Fri
3pm - 3.45pm					
10 min Break	Break	Break	Break	Break	Break
Review					
4pm - 4.45pm					
10 min Break	Break	Break	Break	Break	Break
Review					
5pm - 5.45pm					
10 min Break	Break	Break	Break	Break	Break
Review					
6pm - 6.45pm					
10 min Break	Break	Break	Break	Break	Break
Review					
7pm - 7.45pm					
10 min Break	Break	Break	Break	Break	Break
Review					
8pm - 8.45pm					
10 min Break	Break	Break	Break	Break	Break
Review					
9pm - 9.45pm					
10 min Break	Break	Break	Break	Break	Break
Review					

Time	Sat	Sun
10am - 10.45am		
10 min Break	Break	Break
Review		
11am - 11.45am		
10 min Break	Break	Break
Review		
12noon - 12.45pm		
10 min Break	Break	Break
Review		
1pm - 1.45pm		
10 min Break	Break	Break
Review		
2pm - 2.45pm		
10 min Break	Break	Break
Review		
3pm - 3.45pm		
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Study Priorities
(Homework, coursework and revision)

1.

2.

3.

Wellbeing Priorities
(CONNECT: with yourself, nature and others)

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English Language Paper 1

Topic	CGP Page	Key Terms	Revise	Revisit
Language Paper 1				
Language Paper Overview		All Questions and Focus		
Writing Well and Reading with Insight		Organise clearly, paragraphs, link, structure, evidence, inference, suggests, implies		
Spelling Punctuation and Grammar		Check, use of correct punctuation, reread for spelling mistakes		
Information and Ideas		Analyse, understand, implicit, explicit		
Entertaining Texts		Creative vocab, structure, sentence lengths		
Tone		Formal, informal, sombre, happy, passionate		
Writers Methods		Simile, Metaphor, Personification, Irony		
Descriptive Language		Nouns, verbs, adjectives, adverbs, senses, descriptive techniques e.g. simile, metaphor		
Structure – Whole Texts		Focus, linear, non-linear, cyclical, focus shift, sentence type, introduction of character		
Sentence Forms		Short, Compound, Complex		
Writing Stories and Descriptions		Direct Address, tension, pace, narrator, figurative language, description, character		
Sample Question 1		Find Four things		
Sample Question 2		Language Techniques, Effect on Audience		
Sample Question 3		Structure, focus shift, sentence types, hook		
Sample Question 4		Personal response, language, structure		
Sample Question 5		Description, Creative Writing, Entertain		

Revision Sources

Online	Physical
Mr Bruff Language Paper 1: mr bruff language paper 1 - Bing video	Class notes Revision booklets

English Language Paper 2

Topic	CGP Page	Key Terms	Revise	Revisit
Language Paper 2				
Language Paper Overview		All Questions and Focus		
Writing Well and Reading with Insight		Organise clearly, paragraphs, link, structure, evidence, inference, suggests, implies		
Spelling Punctuation and Grammar		Check, use of correct punctuation, reread for spelling mistakes		
Information and Ideas		Analyse, understand, implicit, explicit		
Entertaining Texts		Creative vocab, structure, sentence lengths		
Tone		Formal, informal, sombre, happy, passionate		
Writers Methods		Simile, Metaphor, Personification, Irony		
Transactional writing		Powerful verbs, rhetorical questions, direct address, repetition, anecdote, facts, opinions		
Structure – Whole Texts		Focus, linear, non-linear, cyclical, focus shift, sentence type, introduction of character		
Sentence Forms		Short, Compound, Complex		
Writing Stories and Descriptions		Direct Address, tension, pace, narrator, figurative language, description, character		
Sample Question 1		Identify four true statements		
Sample Question 2		Writing a summary – making clear inferences		
Sample Question 3		Writing about language and its effects		
Sample Question 4		Comparing writer's viewpoints & perspectives		
Sample Question 5		Transaction writing – writing to voice opinion, letters, articles, speeches, text of a leaflet, blog		

Revision Sources

Online	Physical
Mr Bruff Language Paper 1: mr bruff language paper 1 - Bing video	Class notes Revision booklets

English Literature (Jekyll & Hyde)

Topic	CGP Page	Key Terms	Revise	Revisit
Context and Chapters				
Context and the writer		Victorian, Stevenson, Darwin, Freud		
Plot summary		Key events, timeline.		
Chapters 1-2		Setting & gothic genre, Utterson, introduction to Hyde		
Chapters 3-4		Jekyll, Hyde and violence (murder of Carew), mystery and suspense		
Chapters 5-6		Jekyll & Dr Lanyon		
Chapters 7-8		Suspense and tension, Jekyll, Hyde, Utterson, violence		
Chapters 9-10		Lanyon's letter & Jekyll's narrative		
Utterson		Descriptions of him, relationships with others, role as storyteller, Victorian gentleman		
Jekyll		Victorian gentleman, science, guilt		
Hyde		The id, evil, villainous behaviour		
Dr Lanyon		Science, impact of science, character change		
Duality		Setting, duality of Jekyll and Hyde, good V evil		
Violence		Trampling of girl, murder of Carew, escalating violence with Hyde		
Religion V science		Links to Satan, biblical allusions, Darwinism & atavism		

Revision Sources	
Online	**Physical**
Mr Bruff Youtube: https://www.youtube.com/playlist?list=PLqGFsWf-P-cD6Q25r3wSEIHP6JIU8UK-f GCSE POD	Booklets provided Revision materials provided

English Literature (Macbeth)

Topic	CGP Page	Key Terms	Revise	Revisit
Plot and Shakespeare's Language & Techniques				
The Plot of the play		Characters, plot, key events.		
Understanding Shakespeare's Language		Language, word choice.		
Shakespeare's techniques		Structure, mood and atmosphere, poetry, word play, imagery and symbolism.		
Analysis of Act 1		Witches, battle, predictions, Lady Macbeth, murder.		
Analysis of Act 2		Duncan's murder, Princes, death.		
Analysis of Act 3		Plot, Banquo is murdered, the Thanes respond.		
Analysis of Act 4		Witches, prophecy, Lady Macduff, Macduff.		
Analysis of Act 5		Lady Macbeth, sleep, death, final battle.		
Characters				
Macbeth		Hubris. Hamartia, Tragic Hero, Good v.s Evil.		
Lady Macbeth		Catalyst, cruel, supernatural, women.		
Duncan		King, Divine Right of the King, death.		
Malcolm & Donalbain		Princes, flee, heir.		
Banquo		Best friend, betrayal, death.		
The Witches		Supernatural, evil, catalyst.		
Context & Themes				
Ambition and betrayal		Hierarchy, Macbeth, Greek Tragedy.		
Supernatural		Witches, belief of the time.		
Reality		Façade, betrayal, Macbeth, Lady Macbeth		

Revision Sources

Online	Physical
Mr Bruff Youtube - https://www.youtube.com/user/mrbruff GCSE POD	Booklet Revision booklets

English Literature (An Inspector Calls)

Topic	CGP Page	Key Terms	Revise	Revisit
Plot and context				
Background information		Priestly, society, politics.		
Britain in 1912 and 1945		Society, politics, labour, war.		
Social Class		Hierarchy, patriarchy, capitalist, socialist.		
Young and Old		Generation, beliefs, society, social change.		
Plot summary		Key events.		
Act one		Capitalism, Inspector, speech, inspection.		
Act two		Daisy Renton, affair, Sybil, charity.		
Act three		Eric confesses, hoax.		
Key characters				
The Inspector		Socialism, Priestly, morals, hoax.		
Arthur Birling & Sybil Birling		Capitalist, money, social superior.		
Sheila Birling		Naïve, immature, socialist values, engaged, suffragette.		
Eric Birling		Drunk, assault, immature, stolen money.		
Gerald Croft		Respected, aristocrat, capitalist.		
Eva Smith/Daisy Renton		Socialist, poor, poverty, women, death, mistress.		
Key themes				
Family Life		Social roles, society, men, women, children.		
Men and Women		Education, suffragette, social status, expectations, social change.		
Social Responsibility.		Capitalist, socialist, labour, politics.		

Revision Sources	
Online	**Physical**
Mr Bruff Youtube - https://www.youtube.com/user/mrbruff	Booklets Revision booklets Class notes

English Literature (Power & Conflict)

Topic	CGP Page	Key Terms	Revise	Revisit
Poems & themes				
Ozymandias		Power, power of nature over man, decay, megalomania, death		
Extract from the Prelude		Power, power of nature over man, nature, mental deterioration		
London		Power, power of wealth, power of society, anger, mental deterioration		
Charge of the Light Brigade		War, futility of war, destructive nature of war, obedience, patriotism, violence		
Bayonet Charge		War, futility of war, destructive nature of war, obedience, patriotism, conflict, violence		
Exposure		War, power of nature, conflict, death		
Remains		War, mental deterioration, innocence, destructive nature of war, conflict, death		
War Photographer		War, mental deterioration, destruction of war, death		
Storm on the Island		Power, power of nature, nature		
My Last Duchess		Power, patriarchy, control, death, fear		
Poppies		War, death, childhood, power of memory		
The Emigree		Identity, childhood, power of memory		
Checkiin' out me history		Identity, power of identity, childhood, race		
Kamikaze		Identity, power of memory, power of identity, war, futility of war, death		
Tissue		Power, power of paper, power of identity, power of humanity		

Revision Sources	
Online	**Physical**
Mr Bruff Youtube - https://www.youtube.com/user/mrbruff	Booklets, Revision booklets and Class notes

Maths – Foundation

Unit		Unit / Topic	Revise	Revisit
1	a	**Integers and place value**		
		Types of number		
		Use and order positive and negative numbers		
		Use inequality symbols		
		Four operations using positive and negative numbers		
		Round numbers to nearest 10, 100, 1000 and use rounding for estimation		
	b	**Decimals**		
		Use decimals and place value		
		Compare and order decimal numbers		
		Four operations using decimal numbers		
		Round to nearest whole number, decimal place & significant figures		
		Use one calculation to check another		
	c	**Indices, powers and roots**		
		Find squares and cubes		
		Use index notation including negative powers		
		Use laws of indices to multiply and divide numbers in index form		
		Order of operations including powers and brackets		
		Use of calculator		
	d	**Factors, multiples and primes**		
		Identify factors, multiples and prime numbers		
		Find prime factorisation of a number (& write in index form)		
		Find common factors & highest common factor		
		Find LCM of two (or three) numbers		
2	a	**Algebra: the basics**		
		Write an expression		
		Collect like terms		
		Simplify expressions		
		Use index laws		
	b	**Expanding and factorising single brackets**		
		Expand single brackets		
		Simplify expressions using squares and cubes		
		Factorise expressions		
	c	**Expressions and substitution into formulae**		
		Substitute into expressions involving brackets & powers		
		Substitute into a formula (& word formula)		
3	a	**Tables**		
		Sort and classify data (inc tally charts)		
		Extract data from lists and tables (inc time tables)		
		Identify mode from a list / table		
	b	**Charts and graphs**		
		Know which chart or diagram to use for different data sets		
		Draw and interpet bar charts (inc dual & composite)		
		Draw and interpet line graphs (vertical & time-series)		
		Draw and interpet frequency polygons		
		Draw and interpet pictograms		
		Draw and interpret stem and leaf diagrams		
	c	**Pie charts**		
		Draw and use pie charts		
		Find mode & total frequency from a pie chart		
		Compare two pie charts		
	d	**Scatter graphs**		
		Draw and use scatter graphs & lines of best fit		
		Identify outliers & correlation		

Maths – Foundation

Unit		Unit / Topic	Revise	Revisit
4	a	**Fractions**		
		Equivalent fractions including simplifying & comparing		
		Express one amount as a fraction of another		
		Convert between mixed numbers and improper fractions		
		Four operations using fractions		
		Find a fraction of an amount		
	b	**Fractions, decimals and percentages**		
		Use fraction to decimal conversions		
		Recognise terminating & recurring decimals		
	c	**Percentages**		
		Convert between fractions, decimals & percentages		
		Order & compare fractions, decimals & percentages		
		Write one amount as a percentage of another		
		Calculate percentage of an amount		
		Calculate percentage increase/decrease		
		Use decimals to find quantities (multiplier methods)		
		Increase / decrease an amount by a percentage		
5	a	**Equations**		
		Use function machines		
		Solve equations (inc brackets and unknowns on both sides)		
		Rearrange simple equations		
		Set up & solve equations to solve problems		
	b	**Inequalities**		
		On a number line		
		Listing numbers that satisfy an inequality		
		Solving inequalities and show the solution on a number line		
		Error intervals due to rounding & truncation		
	c	**Sequences**		
		Continue sequences inc from pictures		
		Find the nth term		
		Use nth term rule to generate or continue a sequence		
6	a	**Properties of shapes, parallel lines and angle facts**		
		Measure and draw lines, angles, 2D & 3D shapes		
		Identify and name 2D shapes and their properties		
		Identify parallel and perpendicular lines		
		Use angle facts - around a point, straight line, vertically opposite etc		
		Use angle properties of parallel lines		
	b	**Interior and exterior angles of polygons**		
		Use sum of interior angles for irregular & regular polygons		
		Use sum of exterior angles for regular polygons		
7	a	**Statistics and sampling**		
		Understand bias		
	b	**The averages**		
		Use various charts & diagrams in relation to averages		
		Calculate the mean, mode, median and range from a list		
		Median, mean and range from a table (discrete data)		
		Modal class, median and estimate of the mean from grouped data		
8	a	**Perimeter and area**		
		Convert between metric measures		
		Read scales		
		Time		
		Perimeter of 2D shapes		
		Area of 2 D shapes		
		Area of compound shapes		
		Surface area of prisms & simple compound forms		

Maths – Foundation

Unit		Unit / Topic	Revise	Revisit
8	b	**3D forms and volume**		
		Identify and name 3D forms and their properties		
		Volume of a cuboid		
		Volume of a prism		
		Volume of a composite forms		
9	a	**Real-life graphs**		
		Use coordinates in all 4 quadrants		
		Midpoints of a line segment		
		Conversion graphs		
		Fixed cost and cost per unit graphs		
		Distance / time and Velocity/ time graphs		
	b	**Straight-line graphs**		
		Draw, use and interpret (inc gradient) straight line graphs		
		Identify parallel lines		
		Find the equation of a line (including from a graph)		
10	a	**Transformations I: translations, rotations & reflections**		
		Transform and describe translations		
		Transform and describe rotations		
		Transform and describe reflections		
	b	**Transformations II: enlargements and combinations**		
		Transform and describe enlargements		
		Transform shapes using a combination of transformations		
		Describe transformations when using multiple transformations		
11	a	**Ratio**		
		Write ratios in their simplest form (including in context)		
		Share a quantity in a given ratio (including 3 part ratios)		
		Use a ratio to find one quantity when another is known		
		Compare ratios		
		Write ratio in the form 1:n or n:1		
		Write a ratio as a fraction and vice versa		
	b	**Proportion**		
		Use direct & inverse proportion (and recognise graphically)		
		Best value		
		Recipes		
		Currency conversions		
12		**Right-angled triangles: Pythagoras and trigonometry**		
		Pythagoras' Theorem		
		Trigonometry - sin, cos and tan		
		Know exact trig values		
13	a	**Probability I**		
		Probability scale		
		Listing outcomes		
		Two way tables & Frequency Trees		
		Use 1-p		
	b	**Probability II**		
		Relative frequency		
		Sample space diagrams		
		Venn diagrams & set notation		
		Probability tree diagrams		
14		**Multiplicative reasoning**		
		Use compound measures: Pressure, Density & Speed		
		Percentage profit / loss		
		Reverse percentages		
		Simple interest		
		Compound interest & growth		
		Depreciation & decay		
		Rates of pay		

Maths – Foundation

Unit		Unit / Topic	Revise	Revisit
15	a	**Plans and elevations**		
		3D shape names and properties		
		Skettch 3D forms		
		Draw plans and elevations of shapes		
		Draw a 3D form given its plan and elevations		
	b	**Constructions, loci and bearings**		
		Standard constructions		
		Find regions satisfying a combination of loci		
		Use maps and scale drawings		
		Bearings		
16	a	**Quadratic equations: expanding and factorising**		
		Expand double brackets		
		Factorise quadratic expressions		
		Solve quadratic equations		
	b	**Quadratic equations: graphs**		
		Plot quadratic graphs		
		Find solutions, intercepts & turning points of a quadratic graph		
17		**Circles, cylinders, cones and spheres**		
		Name parts of a circle		
		Recall & use formula for area and circumference of a circle		
		Arcs and sectors		
		Surface area & volume of a cylinder		
		Spheres, pyramids, cones and composite solids.		
18	a	**Fractions and reciprocals**		
		4 operations with mixed number fractions		
		Reciprocal of an integer, decimal or fractions		
	b	**Indices and standard form**		
		Index laws to simplify & calculate the value of an expression		
		Convert between ordinary numbers and standard form		
		Work with the 4 operations in standard form		
		Use a calculator with indices and standard form		
19	a	**Similarity and congruence in 2D**		
		Use congruence criteria for triangles (SSS, SAS, ASA and RHS);		
		Identify similar shapes		
		Identify scale factors and find missing lengths in similar shapes		
	b	**Vectors**		
		Understand and use column notation including drawing them		
		Identify parallel column vectors		
		Calculate using column vectors		
20		**Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations**		
		Know the terms equation, identity, expression etc		
		Change the subject of a formula		
		Answer simple "show that" questions.		
		Use inverse proportion involving graphs		
		Recognise and sketch cubic functions		
		Recognise and sketch reciprocal functions		
		Solve simultaneous equations algebraically and graphically		

Revision Sources	
Online	**Physical**
Dr Frost Maths, On-Maths, maths made easy	Ms Cruise's High frequency topic booklets, Shadow exam papers, exam papers

Maths – Higher

Unit		Title	Revise	Revisit
1		**Calculations, checking and rounding**		
		Four operations with decimals and whole numbers		
	a	Use one calculation to find the answer to another		
		Product rule		
		Rounding & estimation		
		Indices, roots, reciprocals and hierarchy of operations		
	b	Use index notation including fractional and negative powers		
		Order of operations		
		Factors, multiples and primes		
		Identify factors, multiples and prime numbers		
	c	Find prime factorisation of a number (& write in index form)		
		Find common factors & highest common factor		
		Find LCM of two (or three) numbers		
		Standard form and surds		
		Index laws to simplify & calculate the value of an expression		
	d	Convert between ordinary numbers and standard form		
		Work with the 4 operations in standard form		
		Use a calculator with indices and standard form		
		Simplify surd expressions		
2		**Algebra: the basics**		
		Write an expression		
		Collect like terms		
		Simplify expressions		
	a	Use index laws		
		Expand single & double brackets		
		Factorise single brackets		
		Factorise quadratic expressions		
		Factorise quadratic expressions using difference of two squares		
		Setting up, rearranging and solving equations		
		Set up expressions and equations		
		Substitute into expressions, equations and formulae		
	b	Solve linear equations and inequalities		
		Change the subject of a formula		
		Iteration		
		Sequences		
		Continue sequences inc from pictures		
		Find the nth term		
		Use nth term rule to generate or continue a sequence		
	c	Find the nth term of a quadratic sequence		
		Distinguish between arithmetic and geometric sequences		
		Recognise and use simple geometric progressions		
		Find term to term rule of a geometric sequence, including negative, fraction and decimal terms		
3		**Averages and range**		
		Use various charts & diagrams in relation to averages		
		Two way tables		
	a	Calculate the mean, mode, median and range from a list		
		Median, mean and range from a table (discrete data)		
		Modal class, median and estimate of the mean from grouped data		
		Draw and interpret stem and leaf diagrams		
		Representing and interpreting data		
		Know which chart or diagram to use for different data sets		
		Draw and interpet bar charts (inc dual & composite)		
		Draw and interpet line graphs (vertical & time-series)		
	b	Draw and use pie charts		
		Find mode & total frequency from a pie chart		
		Compare two pie charts		
		Produce and interpret histograms		
		Compare distributions		
		Scatter graphs		
	c	Draw and use scatter graphs & lines of best fit		
		Identify outliers & correlation		

Maths – Higher

Unit		Title	Revise	Revisit
4		**Fractions**		
		Equivalent fractions including simplifying & comparing		
		Express one amount as a fraction of another		
	a	Convert between mixed numbers and improper fractions		
		Four operations using fractions		
		Find a fraction of an amount		
		Convert between recurring decimals to fractions and vice versa		
		Percentages		
		Use fraction to decimal conversions		
		Recognise terminating & recurring decimals		
		Convert between fractions, decimals & percentages		
		Order & compare fractions, decimals & percentages		
	b	Write one amount as a percentage of another		
		Calculate percentage of an amount		
		Calculate percentage increase/decrease		
		Use decimals to find quantities (multiplier methods)		
		Increase / decrease an amount by a percentage		
		Reverse percentages		
		Ratio and proportion		
		Write ratios in their simplest form (including in context)		
		Share a quantity in a given ratio (including 3 part ratios)		
		Use a ratio to find one quantity when another is known		
		Compare ratios		
	c	Write ratio in the form 1:n or n:1		
		Write a ratio as a fraction and vice versa		
		Write a ratio as a linear function		
		Use direct & inverse proportion (and recognise graphically)		
		Recipes		
		Currency conversions		
5		**Polygons, angles and parallel lines**		
		Measure and draw lines, angles, 2D & 3D shapes		
		Identify and name 2D shapes and their properties		
		Identify parallel and perpendicular lines		
	a	Use angle facts - around a point, straight line, vertically opposite etc		
		Use angle properties of parallel lines		
		Use sum of interior angles for irregular & regular polygons		
		Use sum of exterior angles for regular polygons		
		Use the side/angle properties of compound shapes made up of triangles, lines and quadrilaterals		
		Pythagoras' Theorem and trigonometry		
		Pythagoras' Theorem		
	b	Trigonometry - sin, cos and tan		
		Know exact trig values		
6		**Graphs: the basics and real-life graphs**		
		Use coordinates in all 4 quadrants		
		Conversion graphs		
	a	Fixed cost and cost per unit graphs		
		Distance / time and Velocity/ time graphs		
		Midpoints of a line segment		
		Calculate the length of a line segment		
		Linear graphs and coordinate geometry		
		Draw, use and interpret (inc gradient) straight line graphs		
	b	Find the equation of a line through two points		
		Find the equation of a line (including from a graph)		
		Identify parallel and perpendicular lines		
		Generate equations of parallel and perpendicular lines		
		Quadratic, cubic and other graphs		
		Plot quadratic graphs		
		Find solutions, intercepts & turning points of a quadratic graph		
	c	Recognise and sketch cubic functions		
		Recognise and sketch reciprocal functions		
		Draw circles, centre the origin, equation $x^2 + y^2 = r^2$.		

Maths – Higher

Unit		Title	Revise	Revisit
7	a	**Perimeter, area and circles**		
		Convert between metric measures		
		Read scales		
		Perimeter of 2D shapes		
		Area of 2 D shapes and compound shapes		
		Name parts of a circle		
		Recall & use formula for area and circumference of a circle		
		Arcs and sectors		
	b	**3D forms and volume, cylinders, cones and spheres**		
		Identify and name 3D forms and their properties		
		Volume of a cuboid		
		Volume of a prism		
		Volume of a composite forms		
		Surface area of prisms & simple compound forms		
		Surface area & volume of a cylinder		
		Spheres, pyramids, cones, frustums and composite solids.		
	c	**Accuracy and bounds**		
		Calculate the upper & lower bounds of numbers		
		Calculate the upper & lower bounds of an expression		
		Use error intervals (inc truncation)		
8	a	**Transformations**		
		Transform and describe translations, rotations & reflections		
		Transform and describe enlargements inc fractional and negative SF		
		Transform shapes using a combination of transformations		
		Describe transformations when using multiple transformations		
		Describe the changes & invariance achieved by combinations of transformations		
	b	**Constructions, loci and bearings**		
		Draw plans and elevations of shapes		
		Draw a 3D form given its plan and elevations		
		Use maps, scale drawings & bearings		
		Standard constructions		
		Find regions satisfying a combination of loci		
		Fnd and describe regions satisfying a combination of loci, including in 3D		
		Use constructions to solve loci problems including with bearings		
9	a	**Solving quadratic and simultaneous equations**		
		Set up and solve quadratic equations		
		Completing the square		
		Quadratic Formula		
		Solve simultaneous equations algebraically and graphically (linear/linear)		
		Solve simultaneous equations algebraically and graphically (linear/quadratic)		
		Solve simultaneous equations algebraically and graphically (linear/circle)		
	b	**Inequalities**		
		On a number line		
		Listing numbers that satisfy an inequality		
		Solving inequalities and show the solution on a number line		
10		**Probability**		
		Probability scale		
		Listing outcomes		
		Two way tables		
		Frequency trees		
		Use 1-p		
		Relative frequency		
		Sample space diagrams		
		Venn diagrams & set notation		
		Probability tree diagrams		
11		**Multiplicative reasoning**		
		Best value		
		Use compound measures: Pressure, Density & Speed		
		Percentage profit / loss		
		Reverse percentages		
		Simple interest		
		Compound interest & growth		
		Depreciation & decay		
		Rates of pay		

Maths – Higher

Unit		Title	Revise	Revisit
12		**Similarity and congruence in 2D and 3D**		
		Use congruence criteria for triangles (SSS, SAS, ASA and RHS);		
		Use formal geometric proof involving similarity & congruence		
		Identify similar shapes		
		Identify scale factors and find missing lengths in similar shapes		
		Use length, area and volume scale factors		
		Area and surface area of frustums		
13		**Graphs of trigonometric functions**		
	a	Recognise, sketch and interpret graphs of the trigonometric functions		
		Exact trig values		
		Transforming graphical functions		
		Further trigonometry		
		Formula for area of a triangle		
	b	Sine rule in 2D and 3D		
		Cosine rule in 2D and 3D		
		Pythagoras Theorem in 3D		
14		**Collecting data**		
	a	Types of data		
		Bias and eliminating bias		
		Cumulative frequency, box plots and histograms		
		Construct & interpret cumulative frequency tables/graphs		
		Median, quartiles & interquartile range from cumulative diagrams		
	b	Construct & interpret box plots		
		Median, quartiles & interquartile range from box plots		
		Construct & histograms		
		Estimate the mean and median from a histogram		
15		**Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics**		
		Sketch quadratics		
		Identify roots, turning points and intercepts of quadratic graphs		
		Completing the square		
		Expand the product of more than two linear expressions		
		Sketch cubics		
		Solve simultaneous equations graphically		
		Solve and represent quadratic inequalities (including graphically)		
16		**Circle theorems**		
	a	Parts of a circle		
		Prove, recall and apply circle theorems		
		Circle geometry		
	b			
		Recognise and construct the graph of a circle		
		Find the equation of a tangent to a circle		
17		**Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof**		
		Rationalise the denominator involving surds		
		Simplify, multiply and divide algebraic fractions		
		Change the subject of a complex formula		
		Algebraic Proof		
		Functions & function notation		
		Inverse functions		
		Composite functions		
18		**Vectors and geometric proof**		
		Understand represent and use vector notation, including column notation		
		Find the length of a vector		
		Calculate the resultant of a vector		
		Geometric problems in 2D where vectors are divided in a given ratio.		
		Geometrical proofs to prove points are collinear & vectors/lines are parallel		
19		**Reciprocal and exponential graphs; Gradient and area under graphs**		
	a	Recognise, sketch and interpret reciprocal graphs		
		Calculate and interpret the area under a curve		
		Calculate and interpret gradient of a tangent to a curve		
		Direct and inverse proportion		
	b	Recognise and interpret graphs of direct & inverse proportion		
		Set up and use formulae for direct & inverse proportion		

Physics

Topic	Page		Revise	Revisit
Foundation Tier				
Energy stores and systems	11-19	Calculating kinetic, gravitational potential, thermal and elastic potential energy, calculating power and efficiency		
Energy resources	20-24	Renewable and non-renewable energy resources. The national grid		
Electricity (circuits)	25-32	Circuit symbols, Potential difference, current and resistance, Series and parallel circuits.		
Electricity at home	33-38	Using appliances, electrical power, the national grid, static electricity		
Particle theory	40-44	Density of materials, internal energy, changing temperature and changing state, gas pressure		
Atomic & nuclear	43-48	Development of the atom, nuclear radiation, half-life, nuclear equations, nuclear fission and fusion		
Higher Tier				
Energy stores and systems	11-17	Calculating kinetic, gravitational potential, thermal and elastic potential energy, calculating power and efficiency		
Energy resources	18-22	Renewable and non-renewable energy resources. The national grid		
Electricity (circuits)	24-30	Circuit symbols, Potential difference, current and resistance, Series and parallel circuits.		
Electricity at home	31-36	Using appliances, electrical power, the national grid, static electricity		
Particle theory	38-41	Density of materials, internal energy, changing temperature and changing state, gas pressure, **doing work on gases**		
Atomic & nuclear	43-48	Development of the atom, nuclear radiation, **background radiation and contamination,** half-life, nuclear equations, nuclear fission and fusion		

Revision Sources	
Online	**Physical**
• GCSE pod • BBC Bitesize, • Youtube "free science lessons"	• CGP Revision Guide

Physics

Topic	Page		Revise	Revisit
Foundation Tier				
Forces	55-62	Contact and non contact forces, weight, resultant forces, forces and elasticity (springs), moments, fluid pressure		
Higher Tier				
Forces	51-59	Contact and non contact forces, weight, resultant forces **in 2 dimensions** forces and elasticity (springs), moments, fluid pressure		

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Chemistry

Topic	Page	Key Terms	Revise	Revisit
Foundation Tier				
Atomic structure	12-20	Atoms, elements compounds, mixtures, separation techniques, developing atomic model, electron configuration		
The Periodic Table	21-26	Development of periodic table, Metals and non metals, groups 1, 7 and 0, transition metals		
Bonding	28-40	Ionic, covalent and metallic bonding, structures of carbon, states of matter, nanoparticles		
Quantitative chemistry	42-47	Relative formula mass, conservation of mass, atom economy		
Chemical changes	49-55	Titrations, reactions with acids, extracting metals, electrolysis		
Energy changes	56-60	Exothermic and endothermic reactions, reaction profiles, fuel cells		
Higher Tier				
Atomic structure	12-20	Atoms, elements compounds, mixtures, separation techniques, developing atomic model, electron configuration		
The Periodic Table	21-26	Development of periodic table, Metals and non metals, groups 1, 7 and 0, transition metals		
Bonding	28-40	Ionic, covalent and metallic bonding, structures of carbon, states of matter, nanoparticles		
Quantitative chemistry	42-49	Relative formula mass, conservation of mass, **moles, limiting reactants, gases and solutions, concentration,** atom economy,		
Chemical changes	51-59	Titrations, **strong and weak acids,** reactions with acids, extracting metals, **redox reactions,** electrolysis		
Energy changes	61-65	Exothermic and endothermic reactions, reaction profiles, **bond energies,** fuel cells		

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Chemistry

Topic	Page	Key Terms	Revise	Revisit
Foundation Tier				
Rates of reaction	62-68	Factors affecting rates of reaction, collision theory, reversible reactions		
Organic chemistry	69-78	Hydrocarbons, fractional distillation, alkenes,		
Higher Tier				
Rates of reaction	67-73	Factors affecting rates of reaction, collision theory, reversible reactions **le Chatelier's principle and dynamic equillibrium**		
Organic chemistry	69-78	Hydrocarbons, fractional distillation, alkenes, addition polymers, alcohols, carboxylic acid		

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Biology

Topic	CGP Page	Key Terms	Revise	Revisit
Foundation Tier				
The cell structure	11-23	Cells, microscopy, stem cells, transport (diffusion, osmosis and active transport)		
Organisation	26-39	Enzymes, food tests, the lungs, the circulatory system, cardiovascular disease, cancer		
Plant organisation	40-42	Plant cells, transpiration, translocation		
Infection and response	44-51	Bacterial, viral, fungal diseases, fighting diseases, vaccines, drugs,		
Bioenergetics	57-60	Rate of photosynthesis, limiting factors, aerobic and anaerobic respiration		
Higher Tier				
The cell structure	11-25	Cells, microscopy, stem cells, transport (diffusion, osmosis and active transport)		
Organisation	27-41	Enzymes, food tests, the lungs, the circulatory system, cardiovascular disease, cancer		
Plant organisation	42-44	Plant cells, transpiration, translocation		
Infection and response	44-51	Bacterial, viral, fungal diseases, fighting diseases, vaccines, drugs, **monoclonal antibodies**		
Bioenergetics	57-60	Rate of photosynthesis, limiting factors, aerobic and anaerobic respiration		

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Biology

Topic	CGP Page	Key Terms	Revise	Revisit
Foundation Tier				
Homeostasis and the nervous system	60-67	Homeostasis, reflex reactions and the nervous system, reaction times, the eye, the brain, correcting vision, controlling temperature		
Hormones	68-74	Blood glucose, the kidneys, puberty and the menstrual cycle, fertility, plant hormones		
Higher Tier				
Homeostasis and the nervous system	65-72	Homeostasis, reflex reactions and the nervous system, reaction times, the eye, the brain, correcting vision, controlling temperature		
Hormones	73 -82	Blood glucose, the kidneys, puberty and the menstrual cycle, fertility, plant hormones		

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Revision Strategies

Is your revision FLAT?

FOCUSED

Put your phone away

Turn the music off

Avoid distractions

Be in the right physical place to revise

Be in the right frame of mind to revise

LONG-TERM

Start early to cut down on stress later in the year

Make a revision timetable and commit to it

Plan for 3 - 4 hours a week from January

Interleave different topics

ACTIVE

Engage your brain by actively creating revision resources

Test yourself, get others to test you

Practise exam technique by writing or planning answers

Revise what you struggle with

TRANSFORMED

Transform the knowledge you want to learn into a different format

Make flashcards
Produce a timeline
Record a podcast
Invent a mnemonic
Take Cornell notes
Create a mindmap
Design a flowchart
Make a powerpoint
Teach it

Flash Cards

Write a question or prompt on one side of your flash card. Add colour and any pictures to help remind you of the content.

Complete the other side of your flash card with the answer or piece of information.

Mind Maps

Mind maps are a visual way to organise your information. One mind map should represent one topic.

Place the name of the topic in the middle, with sub-topics and further detail around it.

Note Taking

Start by taking your text book or revision guide, read them through whilst simplifying the text into easily manageable notes.

Then cover up those notes and test yourself by rewriting as much as you can remember.

Command Words

It is important to understand the different command words used on an exam paper.

Write a list of various command words such as explain, justify and evaluate and then add what each word is asking you to do.

Self-quizzing

Once you have made your revision resources it's time to test yourself.

Start by doing some fact recall quizzes before attempting some exam style questions.

Past Papers

When you have revised the information its time to fully test yourself using past papers.

It is important that you practise examination skills and use the official mark scheme to check your work.