

**Ullswater
Community
College**



GCSE English Maths Science

**Parent and student support
for home study and revision**

Name:

vision: **BEST in County**

Ambitious

•

Caring

•

Equal

UCC is an ambitious, caring community where everyone is equal

#proudtobeUCC

Ofsted
Good
Provider

GCSE English Language 2025 Exams

TWO separate exams

Both exams test reading and writing skills

Paper 1 19th Century Fiction	Paper 2 20th and 21st Century Non-Fiction
Friday 23rd May, 2025	Friday 6th June, 2025
One 'unseen' extract	Two 'unseen' extracts
1 hour and 45 minutes	2 hours and 5 minutes
64 marks available	96 marks available
40% total grade	60% total grade

GCSE English Literature 2025 Exams

TWO separate exams

Both exams test reading skills

Paper 1 Drama	Paper 2 19th Century Novel and Poetry
Monday 12th May, 2025	Tuesday 20th June, 2025
- William Shakespeare's Macbeth - Modern Drama Refugee Boy	- Charles Dickens' A Christmas Carol 15 'Relationships' Poems - Unseen Poetry
1 hour and 45 minutes	2 hours and 5 minutes
80 marks available	80 marks available
50% total grade	50% total grade

November 2024 Mock Exams

Pupils will sit 3 out of 4 exams

GCSE English Language

Paper 1

19th Century Fiction and Creative Writing

1 hour and 45 minutes

64 marks

Paper 2

20th and 21st Century Non-fiction and Transactional Writing

2 hours and 5 minutes

96 marks

GCSE English Literature

Paper 2

Shakespeare Text (*Macbeth*)

Modern Drama (*Refugee Boy*)

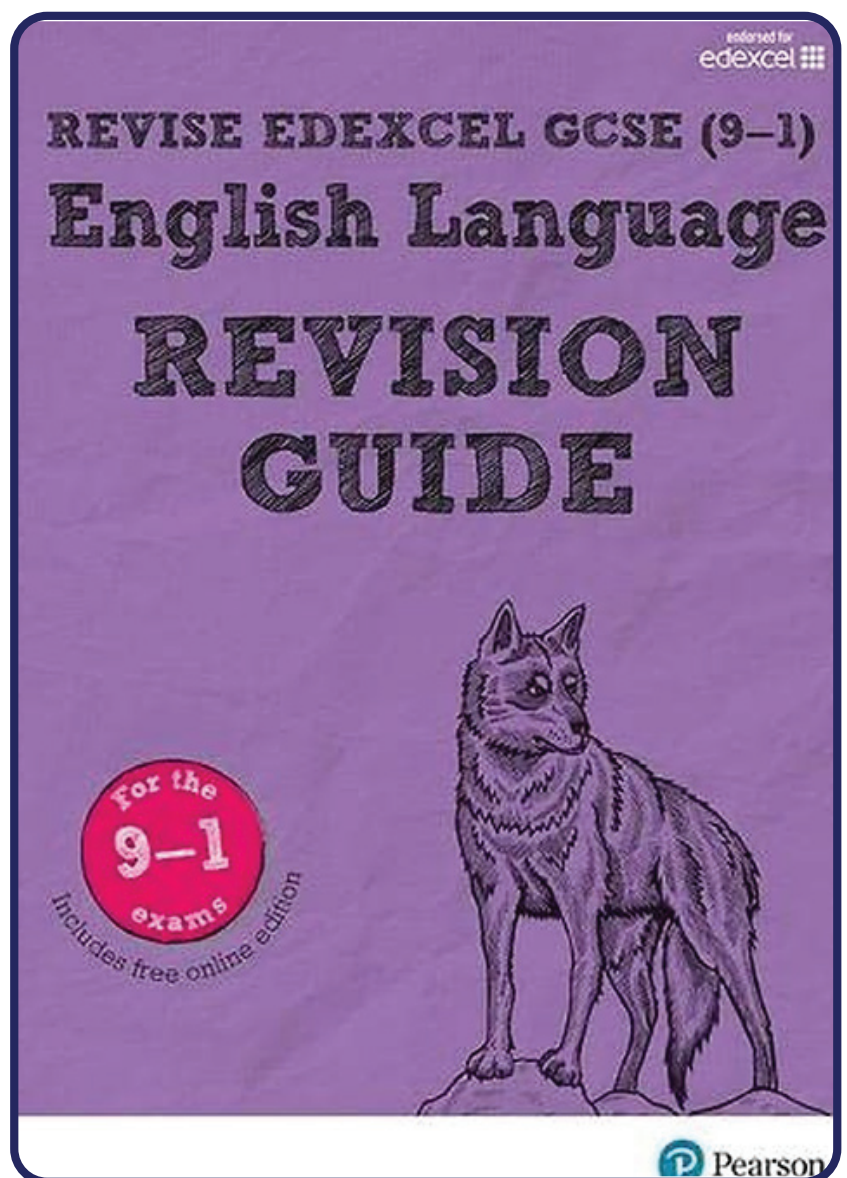
1 hour and 45 minutes

80 marks

Revision for English Language

- Reading a fiction book for ideas and examples of writing
- Reading reviews, opinion pieces, articles and speeches
- Revising key terminology e.g. simile, metaphor, complex sentences etc.
- Practise planning ideas for story writing e.g. using senses, choosing ambitious vocabulary etc.
- Practise writing under timed conditions e.g. 'write a story about a time you were scared' in 40 minutes
- Practise full papers (revision world - Edexcel GCSE English Language)
- Building up a higher tier vocabulary

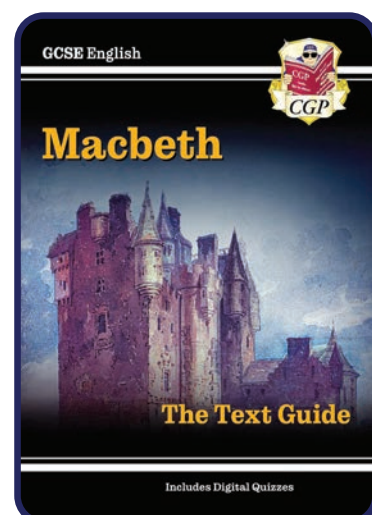
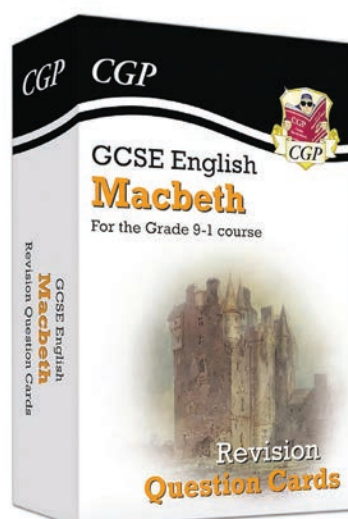
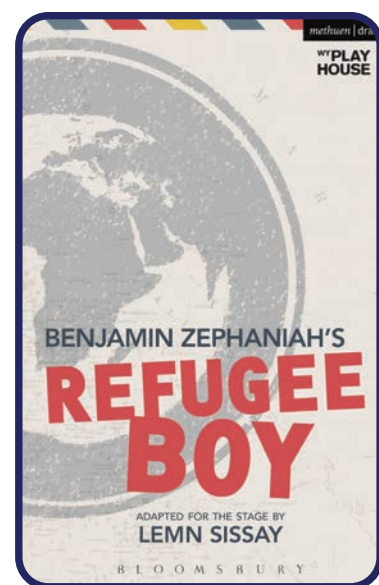
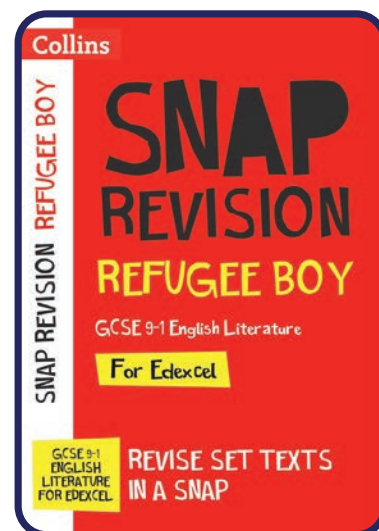
At home, pupils can revise using this:



November 2024 Mock Literature Texts

How do I revise?

- Use flashcards
- Recap the plot for both plays
- Create a timeline of key events
- Map out themes (plan answers)
- Mind map characters profiles
- Revise context (historical and literary)
- Learn 6 quotations (minimum) that will link to more than one character or theme
- Use YouTube videos
- Use BBC Bitesize
- Use Seneca or Blooket
- Re-read the texts (e-copies available on Google Classroom)
- Practise full papers (revision world - Edexcel GCSE English Literature)

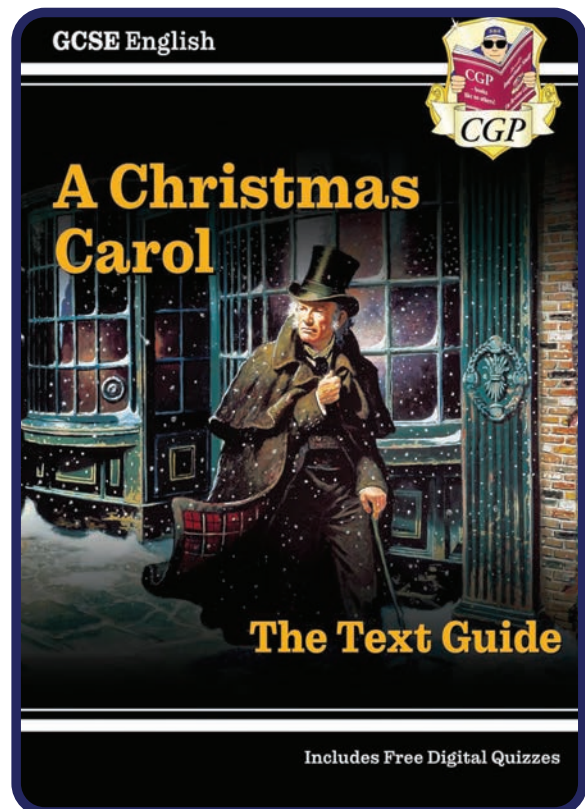
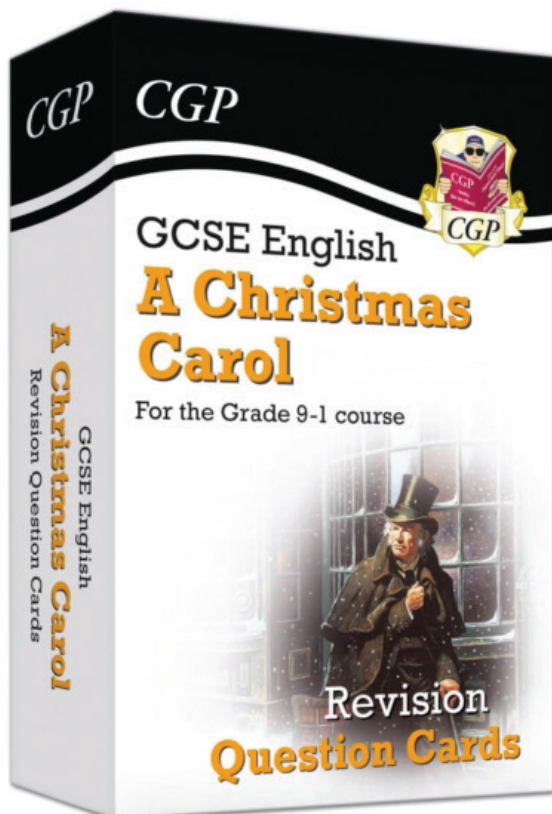


February 2025 Mock Exam Texts

Recap the plot, key characters, key themes and important quotations by:

- using Educake Quizzes
- mind-mapping character/plot development
- linking quotations to characters and theme- practise writing about the techniques Dickens uses
- drawing pictures to symbolise key themes/events

Learn around 5-6 quotations that could be used across themes/ characters e.g. **'Are there no prisons?'** links to Scrooge, theme of money, attitudes to the poor, class in Victorian England, change, Bob Cratchit etc.



At home, pupils can revise using these

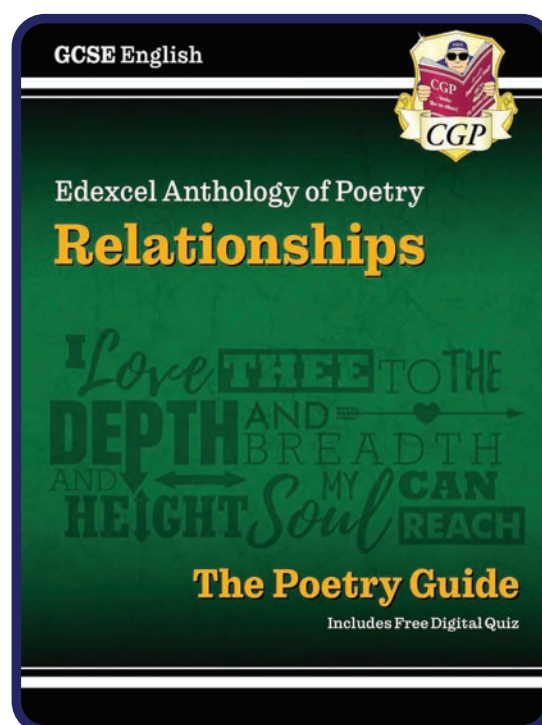
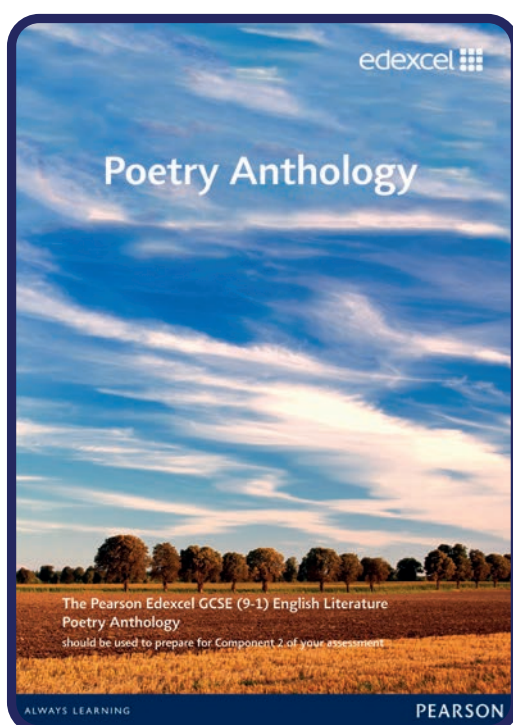
February 2025 Mock Exam Texts

Recap the fifteen set poems (Edexcel Relationships Cluster) by:

- re-reading through the poems
- writing summaries of each poem
- using BBC Bitesize Quizzes
- mind-mapping themes
- linking poems together (theme)
- practise writing about the techniques
- drawing pictures to symbolise key themes/events

Learn 1-2 quotations per poem that could be used across different themes.

Create theme mind maps e.g. time, love, death, strong emotions



At home, pupils can revise using these

February 2025 Mock Exam Texts

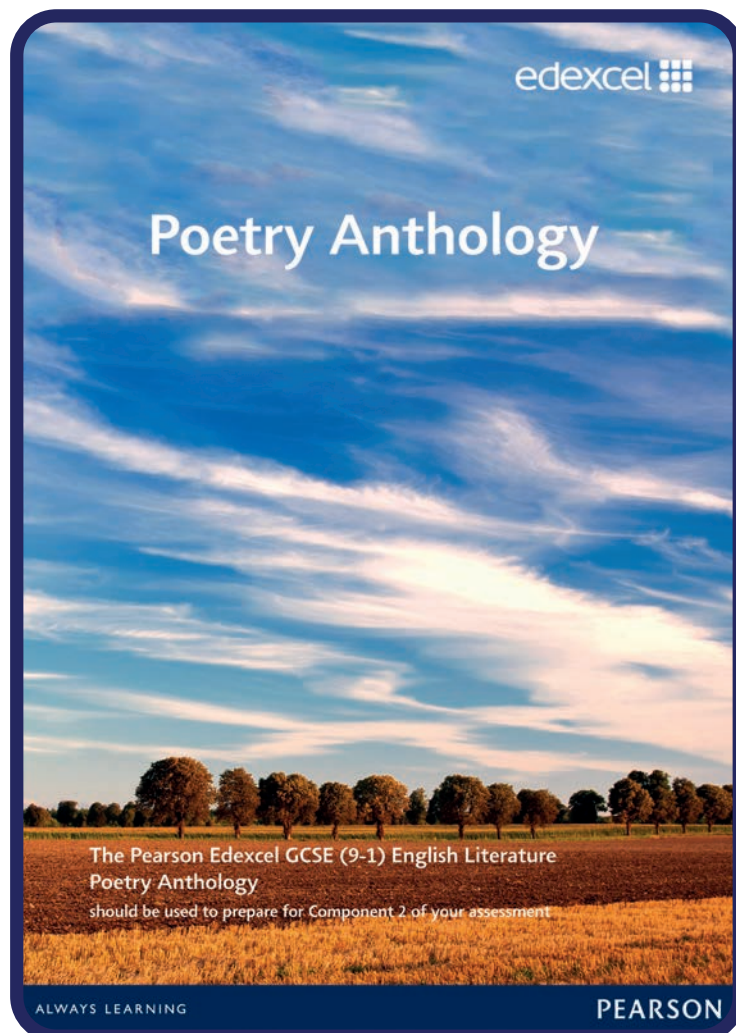
Third Element - hard to prepare for!

A final element of the mocks will be testing pupils on reading **two unseen poems**.

This is a **skills** based question.

They will need to read both, look for techniques and compare the two together ... in only 35 minutes!

Reading other poems from different sections e.g. Conflict or Belonging.



At home, pupils can revise using these

Paper 1: Shakespeare Checklist for Macbeth

The Context of the Play

- ☐ The Divine Right of Kings and the Great Chain of Being
- ☐ Attitudes towards witches and witchcraft
- ☐ The tragic hero archetype

Act One

- ☐ Macbeth's initial presentation as a hero
- ☐ The reaction of Macbeth and Banquo to the prophecies
- ☐ Lady Macbeth's presentation as an ambitious and assertive character
- ☐ Macbeth's doubts about murdering Duncan

Act Two

- ☐ Macbeth's feelings of guilt and remorse
- ☐ Lady Macbeth's composure
- ☐ The imbalance of power between Macbeth and Lady Macbeth

Act Three

- ☐ Macbeth's increasing insecurity and paranoia
- ☐ The murder of Banquo
- ☐ The appearance of Banquo's ghost

Act Four

- ☐ The apparitions and Macbeth's feelings of invulnerability
- ☐ Macbeth's increasing cruelty and the murder of Macduff's family

Act Five

- ☐ Macbeth's isolation
- ☐ The death of Lady Macbeth
- ☐ The defeat of Macbeth and rightful restoration of Malcolm

Vocabulary/Themes

- ☐ Tragedy
- ☐ Prophecy
- ☐ Tyrant
- ☐ Ambition
- ☐ Power
- ☐ Guilt
- ☐ Witchcraft

Paper 1: Modern Drama

Checklist for Refugee Boy (Play)

The Context of the Play

- ☐ The Badme War (Ethiopia and Eritrea)
- ☐ Each writer's life (Benjamin Zephaniah and Lemn Sissay)
- ☐ Youth and knife crime in UK since 2000
- ☐ Attitudes towards refugees in UK

Start

- ☐ The significance of the opening scene
- ☐ Alem's experiences of loss and family
- ☐ Alem's friendship with Mustapha
- ☐ The arrival of Sweeney (racist bullying incidents)
- ☐ Relevance of conflict and knife crime
- ☐ The meeting of the Fitzgerald Family and their own conflict
- ☐ The flashback scenes to Ethiopia and Eritrea

Middle

- ☐ Rising tension between Ruth and Alem and her parents
- ☐ The court scenes
- ☐ The death of Mrs Kelo
- ☐ The return of Mr Kelo
- ☐ Meeting Hooded
- ☐ Trauma and its impact on Alem, Ruth etc.

End

- ☐ The conflict between Mr Kelo and Alem
- ☐ The court case for the Kelo family's asylum status
- ☐ The protest organised by Ruth and Mustapha
- ☐ The ending – Mr Kelo
- ☐ The repetition of the first scene

Vocabulary/Themes

- ☐ Discrimination
- ☐ Home
- ☐ Identity
- ☐ Family
- ☐ Support
- ☐ Trauma
- ☐ Conflict

Paper 2 : 19th C Novel

Checklist for A Christmas Carol

Stave One

- ☐ Opening description of Scrooge
- ☐ Differences between Scrooge and Fred
- ☐ Scrooge's treatment of Bob Cratchit
- ☐ Scrooge's refusal to donate to charity
- ☐ The warning given by the Ghost of Jacob Marley

Stave Two

- ☐ Scrooge's childhood and impact of that
- ☐ Differences between Scrooge and Fezziwig
- ☐ Scrooge's decision to choose money over his relationship with Belle

Stave Three

- ☐ The presentation of the Cratchit family and the views they express about Scrooge
- ☐ The presentation of Fred's family and the views they express about Scrooge
- ☐ Scrooge's reaction observing both families
- ☐ The significance of the figures of Ignorance and Want

Stave Four

- ☐ The views expressed by the businessmen
- ☐ The views expressed by the thieves
- ☐ Scrooge's reaction observing the Cratchit family
- ☐ Scrooge's reaction to seeing his own gravestone

Stave Five

- ☐ Scrooge's presentation as a changed man
- ☐ Scrooge's acts of generosity
- ☐ The outcome of the Cratchit family
- ☐ The change in weather from Stave 1 to

Vocabulary/Themes

- ☐ Poverty
- ☐ Didactic
- ☐ Gothic
- ☐ Morality
- ☐ Redemption
- ☐ Family

Paper 2: Poetry

Checklist for Relationships Poetry

- ☐ Nettles by Vernon Scannell
- ☐ Manhunt by Simon Armitage
- ☐ My Last Duchess by Robert Browning
- ☐ A Complaint by William Wordsworth
- ☐ Neutral Tones by Thomas Hardy
- ☐ Valentine by Carol Ann Duffy
- ☐ Sonnet 43 by Elizabeth Barratt Browning
- ☐ Love's Dog by Jen Hadfield
- ☐ I wanna be yours by John Cooper Clarke
- ☐ First Date He/She by Wendy Cope
- ☐ La Belle Dame Sans Merci by John Keats
- ☐ My Father Would Not Show Us by Ingrid de Kok
- ☐ A Child to His Sick Grandfather by Joanne Baillie
- ☐ One Flesh by Elizabeth Jennings
- ☐ She Walks in Beauty by Lord Byron

Vocabulary/Themes

- ☐ Metaphor
- ☐ Simile
- ☐ Alliteration
- ☐ Motif
- ☐ Semantic Field
- ☐ Repetition
- ☐ Stanza
- ☐ Enjambment
- ☐ Rhyming Couplet
- ☐ Speaker
- ☐ Caesura

Language and Structural Techniques

Language	Structure
Noun: a person, place, thing, idea	Simple sentence: contains one clause with a subject and verb
Verb: an action or state	Compound sentence: contains two independent clauses that are related and joined with a conjunction
Modal Verb: expresses necessity or possibility	Complex sentence: contains one or more subordinate clause
Imperative: gives an order or command	Impact sentence or Fragment: contains three or less words
Adverb: modifies a verb, adjective, adverb or phrase	Repetition: a word or phrase that is used more than once
Adjective: describes a noun	Triple: three adjectives or phrases used to describe something
Pronoun: used in place of a noun	Juxtaposition: two things placed together to highlight the contrast between them
Superlative: an adjective showing the highest quality or degree	Anaphora: the repetition of a word or phrase at the beginning of successive clauses
Symbolism: the use of symbols to represent ideas or qualities	Listing: a number of connected items written one after the other to emphasise a particular quality
Alliteration: the same letter or sound at the start of adjacent words	Links between paragraphs: a recurring idea, character or object in two or more paragraphs to foreground the importance
Metaphor: direct comparison of two things without using 'like' or 'as'	Shifts in focus: the change of focus in or between paragraphs
Simile: comparing two things using 'like' or 'as'	Zooming in and out: the narrowing or widening of the narrative focus.
Personification: the giving of human characteristics to a non-human object	Chronological structure: arranged in the order of time
Semantic field: the use of a group of words that all link to the same topic	Flashback / Flashforward: set earlier or later than the main narrative
Hyperbole: exaggeration that should not be taken literally	Links between the beginning and ending: a narrative link between the start and end of a text
Imagery: vivid description of a particular scene	Exposition: introduction of background information on characters, events or settings to help anchor the reader
Auditory imagery: vivid description of sounds	Climax: the most intense point in the development of the narrative
Tactile imagery: vivid description of physical sensation	Narrative voice: 1st / 2nd / 3rd person

Year 11 Maths Revision Materials

To access maths revision materials go to UCC website:

www.ullswatercc.co.uk, at the top of the page hover over **Curriculum** and click **Mathematics**.

Scroll down the page and select **Revision** and click either **Maths Handbook (Foundation)** or **Maths Handbook (Higher)** whichever is appropriate.

Try the exam questions, use the answers to mark. Watch the clips with examples, do a short quiz!

The screenshot shows the UCC website's Curriculum page. At the top, there is a navigation bar with links: Home, About, Info, Curriculum (highlighted), and Sixth Form. Below this, a grid of subject links is displayed. The 'Mathematics' link is highlighted in red. Under the 'Curriculum' dropdown, a 'Revision' section is expanded, showing a collection of yellow buttons for various resources: 'Revision Resources', 'GCSE Maths Revision Document (Foundation)', 'GCSE Maths Revision Document (Higher)', 'UCC Padlet', 'Maths Handbook (Foundation)', 'Maths Handbook (Higher)', and 'Key Stage 3'.

- **Revision guide and workbook can be bought from school**
- **Prompt booklet (provided to all students)**
- **Problem solving resources**
- **Sparx Maths**
- **Revision videos: <https://corbettmaths.com/contents>**
- **SAM learning**

Exam Dates:

Edexcel GCSE Mathematics

Maths Paper 1 (non-calculator):
Thursday 15th May, 2025

Maths Paper 2 (calculator):
Wednesday 4th June, 2025

Maths Paper 3 (calculator):
Wednesday 11th June, 2025

All papers 1 hour 30 mins each

Sparx Maths Foundation Skills List

Number

Topic	Topic code	R	A	G
Ordering positive integers	U600			
Ordering decimals	U435			
Ordering negative numbers	U947			
Adding and subtracting positive integers	U417			
Multiplying and dividing positive integers	U127, U453			
Adding and subtracting negative numbers	U742			
Multiplying and dividing negative numbers	U548			
Adding and subtracting decimals	U478			
Multiplying and dividing with place value	U735			
Multiplying and dividing with decimals	U293, U868			
Order of operations	U976			
Prime numbers, prime factorisation	U236, U739			
Factors, multiples, HCF and LCM	U211, U751, U529			
Powers and roots	U851			
Using standard form	U330, U534			
Calculating with standard form	U264, U290, U161			
Equivalent fractions and simplifying fractions	U704, U646			
Mixed numbers and improper fractions	U692			
Ordering fractions	U746			
Addition and subtraction of fractions	U736, U793			
Multiplication and division of fractions	U475, U544			
Converting and ordering fractions, decimals and percentages	U888, U594			
Fractions of amounts	U881, U916			
Percentages of amounts	U554, U349			
Percentage change	U773, U671			
Reverse percentages	U286, U278			
Simple interest	U533			
Rounding	U480, U298			
Rounding to significant figures	U731, U965			
Estimating answers	U225			
Value for money	M681			

Sparx Maths

Foundation Skills List

Algebra

Topic	Topic code	R	A	G
Algebraic expressions	U613			
Collecting like terms	U105			
Substitution	U201, U585, U144			
Expanding brackets	U179, U768			
Factorising expressions	U365			
Index laws	U235, U694, U662, U103			
Changing the subject	U556			
Coordinates	U789, U889			
Midpoints	U933			
Plotting straight line graphs	U741			
Equations of straight line graphs	U315, U669			
Parallel lines	U377			
Distance-time graphs	U403, U914, U462, U966			
Quadratic graphs	U989, U667			
Linear equations	U755, U325, U870, U505, U599			
Quadratic expressions and equations	U178, U228			
Linear sequences	U213, U530, U498, U978			
Other sequences	U958, U680			

Ratio and proportion

Topic	Topic code	R	A	G
Simplifying ratios	U687			
Sharing amounts in a ratio	U753, U577			
Converting between ratios, fractions and percentages	U176			
Direct proportion	U721, U640			
Inverse proportion	U357, U364			
Proportion graphs	U238			
Units of measure: Length, Mass and Capacity	U102, U388			
Units of measure: Time	U902			
Units of measure: Area	U248			
Currency conversion	U610			
Conversion graphs	U652, U638, U862			
Compound units: Speed	U151			

Sparx Maths

Foundation Skills List

Geometry

Topic	Topic code	R	A	G
Properties of 2D shapes	U121, U849			
Properties of 3D shapes	U719			
Nets of 3D shapes	U761			
Angles: Measuring, Drawing and Estimating	U447			
Angle on a line and about a point	U390			
Vertically opposite angles	U730			
Angles on parallel lines	U826			
Angles in a triangle	U628			
Combining angle facts	U655			
Angles in a quadrilateral	U732, U329			
Angles in polygons	U427			
Bearings	U525, U107			
Translations	U196			
Reflections	U799			
Enlargements	U519			
Rotations	U696			
Congruence	U790, U866			
Area and perimeter of simple shapes	U993, U970, U351, U226			
Area of triangles, parallelograms and trapeziums	U945, U575, U424, U265, U343			
Circles	U767			
Circumference	U604, U221			
Circle area	U950, U373			
Surface area	U929, U259, U871			
Volume of cuboids	U786			
Volume of prisms and cylinders	U174, U915			
Similar shapes	U551, U578			
Scale diagrams	U257			

Sparx Maths Foundation Skills List

Probability

Topic	Topic code	R	A	G
Probability scale	U803			
Probability of single events	U408, U510, U683			
Experimental probability	U580			
Expected outcomes	U166			
Listing elements in a set	U748, U296			
Probability from Venn diagrams	U476			
Frequency trees	U280			
Sample space diagrams	U104			
Tree diagrams	U558, U729			

Statistics

Topic	Topic code	R	A	G
Collecting data, frequency tables	U322, U120			
Two-way tables	U981			
Bar charts	U363, U557			
Pictograms	U506			
Pie charts	U508, U172			
Stem and leaf diagrams	U200, U909			
Mode	U260			
Mean	U291			
Median	U456			
Range	U526			
Choosing averages	U717			
Scatter graphs	U199, U277, U128			

Sparx Maths

Crossover Skills List

Number

Topic	Topic code	R	A	G
Fractions	U224, U538, U793			
Factors, multiples and primes	U739, U250			
Percentage change	U671, U332, U988			
Standard form	U330, U534, U264, U290			
Error intervals	U657			

Algebra

Topic	Topic code	R	A	G
Linear equations	U325, U870, U599			
Linear inequalities	U759, U738, U145, U337			
Index laws	U662			
Linear simultaneous equations	U760, U757, U836, U137			
Linear graphs and coordinates	U315, U669, U477, U848, U377			
Quadratic graphs and equations	U989, U667, U228, U601			

Ratio and proportion

Topic	Topic code	R	A	G
Ratio	U687, U753, U176, U577, U921, U865			
Speed	U151			
Density and pressure	U910, U527			
Proportion	U721, U357, U610			

Geometry

Topic	Topic code	R	A	G
Area	U226, U343, U950			
Volume	U786, U174, U915			
Angles	U655, U826, U329, U427			
Pythagoras' theorem	U385			
Trigonometry	U605, U283, U545			
Transformations	U196, U799, U696, U519, U766			

Probability

Topic	Topic code	R	A	G
Calculating probabilities	U408, U510, U683, U580			
Expected outcomes	U166			
Tree diagrams	U558, U729			
Set notation	U748, U296			

Statistics

Topic	Topic code	R	A	G
Averages	U717, U569			
Averages with grouped data	U877			
Sampling	U162			
Scatter graphs	U199, U277, U128			
Frequency polygons	U840			

Sparx Maths Higher Skills List

Number

Topic	Topic code	R	A	G
Calculating with roots and fractional indices	U851, U985, U772, U299			
Converting recurring decimals to fractions	U689			
Surds	U338, U663, U872, U499			
Rationalising the denominator	U707, U281			
Error intervals	U657, U301, U587			

Algebra

Topic	Topic code	R	A	G
Expanding triple brackets	U606			
Operations with algebraic fractions	U685, U457, U824			
Factorising quadratic expressions: ax^2+bx+c	U858			
Simplifying algebraic fractions	U294			
Factorising to solve quadratics equations	U228, U960			
Using the quadratic formula	U665			
Completing the square to solve quadratics	U397, U589			
Quadratic equations in context	U150			
Quadratic simultaneous equations	U547			
Index laws	U235, U694, U662			
Equation of a straight line: Perpendicular lines	U898			
Quadratic graphs: Turning points	U769			
Quadratic simultaneous equations on graphs	U875			
Exponential graphs	U229			
Exponential growth and decay problems	U988			
Trigonometric graphs	U450			
Graph transformations	U598, U487, U455			
Velocity-time graphs	U937, U562, U611			
Rate of change graphs	U638, U652, U862			
Estimating gradient from a curve	U800			
Estimating area under a curve	U882			
Equation of a circles and tangents	U567			
Linear inequalities as graph regions	U747			
Quadratic inequalities	U133			
Functions	U637, U895, U448, U996			
Recurrence relations	U171			
Quadratic sequences	U206			
Iteration and numerical methods	U434, U168			
Algebraic proof	U582			

Sparx Maths Higher Skills List

Ratio and proportion

Topic	Topic code	R	A	G
Algebraic direct and inverse proportion	U407, U138			
Compound units: Density problem solving	U910			

Geometry

Topic	Topic code	R	A	G
Congruence proofs	U866, U887			
Enlargements	U134			
Describe combined transformations	U766			
Circle theorems: Angles inside a circle	U459, U251			
Circle theorems: Tangents and chords	U489, U130			
Circle theorems problems	U808			
Prove circle theorems	U807			
Volume of frustums	U350			
Volume: Problem solving	U543, U426			
Similar Shapes: Area and volume	U630, U110			
Pythagoras' Theorem in 2D and 3D	U385, U541			
Right-angled trigonometry: Problem solving	U319, U283, U545, U967			
3D trigonometry	U170			
The area rule	U592			
Sine rule	U952			
Cosine rule	U591			
Trigonometry and bearings	U164			
Vectors problems	U781, U560			

Probability

Topic	Topic code	R	A	G
Product rule for counting	U369			
Conditional probability	U246, U821, U806			
Probability from Venn diagrams	U476, U748, U699			

Statistics

Topic	Topic code	R	A	G
Averages	U877, U717			
Cumulative frequency diagrams	U182, U642			
Box plots	U879, U837, U507			
Frequency polygons	U840			
Histograms	U814, U983, U267			
Capture-recapture	U328			

The Language of Maths Exams: What does it all mean!?

<u>What they say</u>	<u>Example</u>	<u>What they mean</u>
Complete	Complete this sum... Complete the following table...Complete the sentence	Finish this off for me (Fill in the blanks)
Find	Find the sum of...Find the square root of...	Tell me what the sum of...Tell me the square root of...
Simplify	Simplify $e + 7e$	Write as simply as possible/ put this in its easiest form i.e. $e + 7e = 8e$
Solve	Solve $9x = 45$	Tell me what..(x in this case)...equals i.e. $x=5$
Work Out	Work out 6^2	Tell me what 6^2 is
You must show your working		If you don't show your working you won't get all the marks for this question!
Calculate	Calculate the average speed...	You will need to do a sum (with or/and without your calculator) to get the answer
Explain	Explain why this is wrong	Write down a reason why this is wrong/ tell me why this is wrong using a reason
Give the units of your answer		Make sure you put down what your answer is measured in i.e. cm, Km, mm, cm^2 , mph, Km/h, cm^3 ...(you'll get a mark for this alone!!)
Describe fully	Describe fully the single transformation...	Write down a full description of what is happening i.e. for Enlargement you need to give the scale factor and the centre of enlargement. For a Rotation you need to give the centre of rotation, amount of degrees you are rotating and the direction (clockwise or anti-clockwise) For a Reflection you need to give the equation of the line that you are reflecting in For a translation (move) you need to give the column vector (how much you are moving in the x-direction and y-direction)
NOT TO SCALE	Usually next to diagrams/drawings	You can't measure the lines/angles on this shape as they are not drawn accurately!
Use ruler and compasses only in this question		You will only need to use your ruler and your compass – make sure you have one of each!!! If not, ask for one in the exam!
equidistant		Equal distance
Map (coordinates)	Will map point A onto point B	Will move point A to where point B is

Arrange	Arrange the following...	Put in a certain order
ascending		From smallest to biggest
descending		From biggest to smallest
select	Select two of these numbers...	Choose from the given list and use them to answer the question!
equivalent		The same
Explain how to do it		Write down how you would work out the answer, but don't actually work it out!
measure	Measure the line above...Measure the angle below...	Use your ruler or protractor to find the length of a line or the size of an angle
Draw and label	Draw and label an angle of 50° ...Draw and label a line of 6cm	Draw the angle/line with your protractor/ruler and then write the length of the line/size of the angle on your drawing
Give a reason for your choice		Give the answer and then a reason for why it is the answer (you'll get a 1 mark for the answer and 1 mark for the reason in a 2 mark question)
represents		shows
Give your answer in its simplest form		Put your answer as simple as possible. i.e. for fractions always put your fraction as simple/small as possible so $\frac{3}{6}$ in its simplest form is $\frac{1}{2}$
hence	Hence, solve this...	Using what you have just done, answer this question
Give a mathematical reason		Using your Maths knowledge give a reason for your answer
estimate	Estimate 4.7×6.2	Don't work out exactly but round up the numbers and then tell me the answer i.e. $5 \times 6 = 30$
Construct		draw
This is a sketch of...		This is not drawn accurately so you can't just measure the sides/angles to get the answer. Use the labels in the sketch to answer the question
Show that	Show that $\frac{13}{50}$ is the same as 26%	Tell us why...
Show your working clearly		Write down every step of you working out your answer – you'll get marks for your working outs
Describe	Describe the correlation...	Tell me what the correlation is...Tell me...
Make one comment	Make one comment about...	tell me one thing you notice about...

Get Started, little and often.....

A great resource to use is **Corbettmaths** 5 a day:

1) Go to Corbettmaths website:

<https://corbettmaths.com/>

2) Click 5-a-day

5-a-day

3) Then click 5-a-day GCSE 9-1

5-a-day GCSE 9-1

Split in to difficulty, select the most appropriate and do 5 questions practice each day. You can check your answers with the worked solutions.

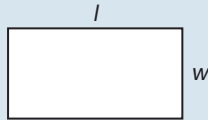
	Grades 1-3 ↓	Grades 3-4 ↓	Grades 4-5+ ↓	Grades 6-7 ↓	Grades 8-9 ↓
24th October	Numeracy	Foundation	Foundation Plus	Higher	Higher Plus
25th October	Numeracy	Foundation	Foundation Plus	Higher	Higher Plus
26th October	Numeracy	Foundation	Foundation Plus	Higher	Higher Plus
27th October	Numeracy	Foundation	Foundation Plus	Higher	Higher Plus
28th October	Numeracy	Foundation	Foundation Plus	Higher	Higher Plus

Edexcel GCSE (9-1) Maths: need-to-know formulae

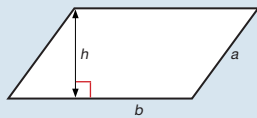
www.edexcel.com/gcsemathsformulae

Areas

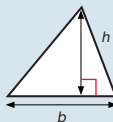
Rectangle = $l \times w$



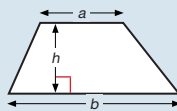
Parallelogram = $b \times h$



Triangle = $\frac{1}{2} b \times h$

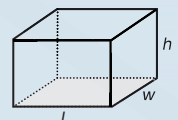


Trapezium = $\frac{1}{2} (a + b)h$

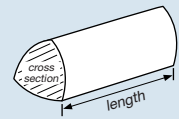


Volumes

Cuboid = $l \times w \times h$



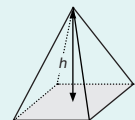
Prism = area of cross section $\times$ length



Cylinder = $\pi r^2 h$



Volume of pyramid = $\frac{1}{3} \times$ area of base $\times h$

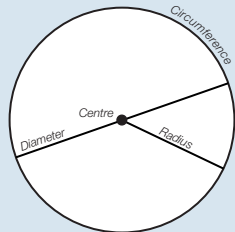


Circles

Circumference = $\pi \times$ diameter, $C = \pi d$

Circumference = $2 \times \pi \times$ radius, $C = 2\pi r$

Area of a circle = $\pi \times$ radius squared $A = \pi r^2$



Compound measures

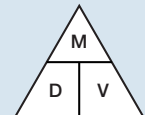
Speed

speed = $\frac{\text{distance}}{\text{time}}$



Density

density = $\frac{\text{mass}}{\text{volume}}$



Pressure

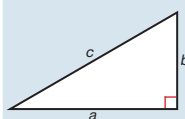
pressure = $\frac{\text{force}}{\text{area}}$



Pythagoras

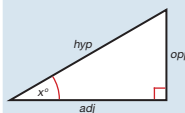
Pythagoras' Theorem

For a right-angled triangle,
 $a^2 + b^2 = c^2$



Trigonometric ratios (new to 9)

$\sin x^\circ = \frac{\text{opp}}{\text{hyp}}$, $\cos x^\circ = \frac{\text{adj}}{\text{hyp}}$, $\tan x^\circ = \frac{\text{opp}}{\text{adj}}$



Quadratic equations

The Quadratic Equation

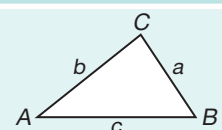
The solutions of $ax^2 + bx + c = 0$,
where $a \neq 0$, are given by $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Trigonometric formulae

Sine Rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine Rule $a^2 = b^2 + c^2 - 2bc \cos A$

Area of triangle = $\frac{1}{2} ab \sin C$



Foundation tier formulae

Higher tier formulae

The Science of Revision

Illustrations and words

Research has shown that revising with words and pictures doubles the quality of responses by students.' This is known as 'dual-coding' because it provides two ways of fetching the information from our brain. The improvement in responses is particularly apparent in students when asked to apply their knowledge to different problems. Recall, application and judgement are all specifically and carefully assessed in public examination questions.

Retrieval of information

Retrieval practice encourages students to come up with answers to questions.' The closer the question is to one you might see in a real examination, the better. Also, the closer the environment in which a student revises is to the 'examination environment', the better. Students who had a test 2-7 days away did 30% better using retrieval practice than students who simply read, or repeatedly re-read material. Students who were expected to teach the content to someone else after their revision period did better still' What was found to be most interesting in other studies is that students using retrieval methods and testing for revision were also more resilient to the introduction of stress.'

Ebbinghaus' forgetting curve and spaced learning

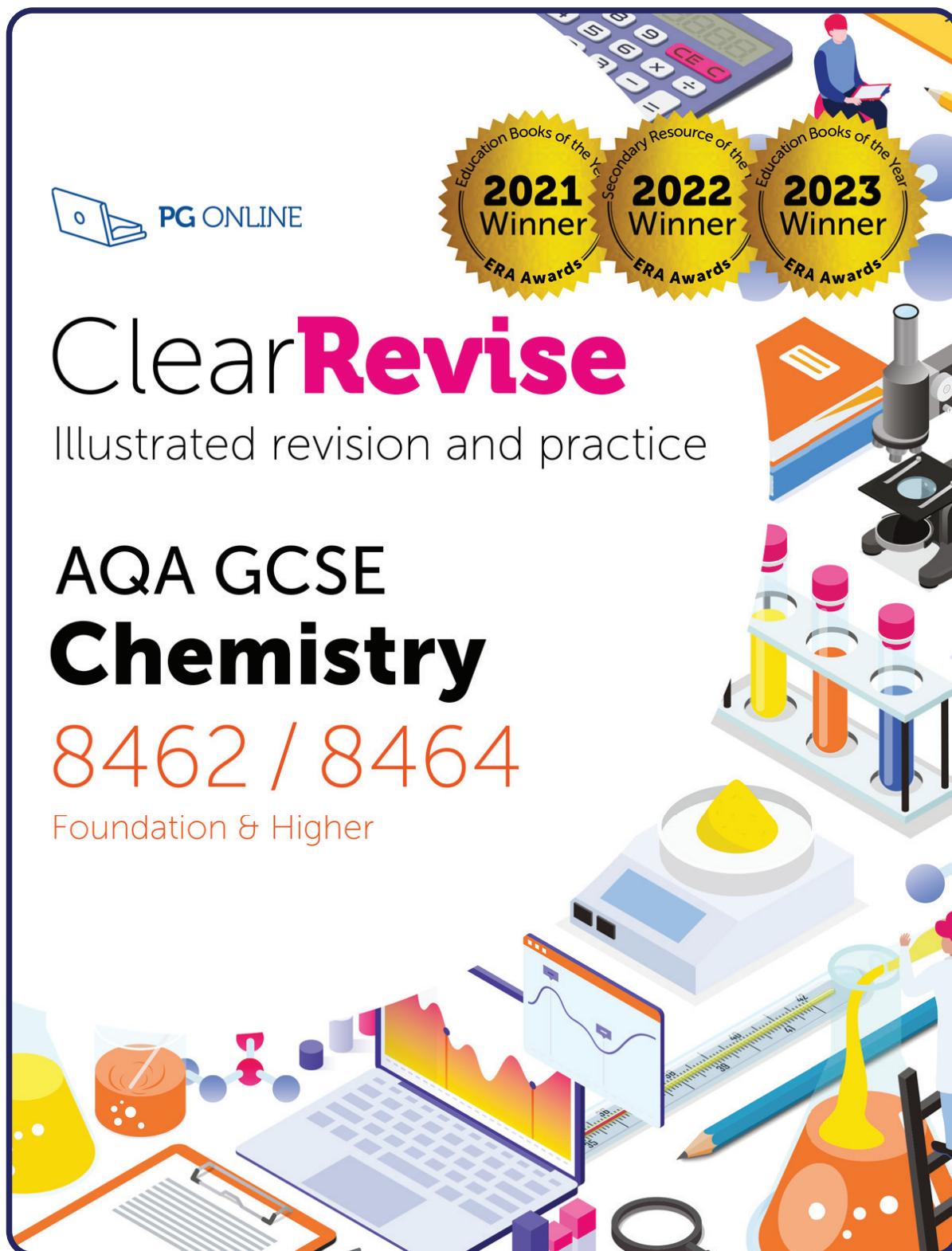
Ebbinghaus' 140-year-old study examined the rate in which we forget things over time. The findings still hold power. However, the act of forgetting things and relearning them is what cements things into the brain.' Spacing out revision is more effective than cramming - we know that, but students should also know that the space between revisiting material should vary depending on how far away the examination is. A cyclical approach is required. An examination 12 months away necessitates revisiting covered material about once a month. A test in 30 days should have topics revisited every 3 days - intervals of roughly a tenth of the time available()

Summary

Students: the more tests and past questions you do, in an environment as close to examination conditions as possible, the better you are likely to perform on the day. If you prefer to listen to music while you revise, tunes without lyrics will be far less detrimental to your memory and retention. Silence is most effective.' If you choose to study with friends, choose carefully - effort is contagious.'

Science 2025 Exam Dates

Biology	Chemistry	Physics
Paper 1 Tuesday, 13th May 2025, PM	Paper 1 Monday, 19th May 2025, AM	Paper 1 Thursday, 22nd May 2025, AM
Paper 2 Monday, 9th June 2025, AM	Paper 2 Friday, 13th June 2025, AM	Paper 2 Monday, 16th June 2025, AM



ClearRevise

The contents page is clearly broken down into Paper 1 and Paper 2 content as well as Trilogy and Separate Science Content. There is a handy tick box for students to monitor their revision. There are practice questions on each page and at the end of the topics there are Examination Practice Questions too. Examples of these are shown on the following three pages.

Paper 1

Topic 1 Atomic structure and the periodic table

Chemistry ■	Trilogy ■			✓
4.1.1.1	5.1.1.1	Atoms, elements and compounds.....	2	☐
4.1.1.1, 4.2.2.2	5.1.1.1, 5.2.2.2	Chemical equations.....	3	☐
4.1.1.1	5.1.1.1	Half equations and ionic equations.....	4	☐
4.1.1.2	5.1.1.2	Separating mixtures.....	5	☐
4.1.1.2	5.1.1.2	Crystallisation.....	6	☐
4.1.1.2	5.1.1.2	Chromatography.....	7	☐
4.1.1.2	5.1.1.2	Simple distillation.....	8	☐
4.1.1.2	5.1.1.2	Fractional distillation.....	9	☐
4.1.1.3	5.1.1.3	Developing the atomic model.....	10	☐
4.1.1.4–5	5.1.1.4–5	Subatomic particles.....	11	☐
4.1.1.5	5.1.1.5	Isotopes.....	12	☐
4.1.1.6	5.1.1.6	Relative atomic mass.....	13	☐
4.1.1.7	5.1.1.7	Electronic structure.....	14	☐
4.1.2.1	5.1.2.1	The periodic table.....	15	☐
4.1.2.2	5.1.2.2	The development of the periodic table.....	16	☐
4.1.2.3	5.1.2.3	Metals and non-metals.....	17	☐
4.1.2.4	5.1.2.4	Group 0.....	18	☐
4.1.2.5	5.1.2.5	Group 1.....	19	☐
4.1.2.6	5.1.2.6	Group 7.....	20	☐
4.1.2.6	5.1.2.6	Halogen displacement reactions.....	21	☐
4.1.3.1		Transition metals vs Group 1 Chemistry only.....	22	☐
4.1.3.2		Charges, colours, and catalysts Chemistry only.....	23	☐
		Examination practice 1	24	☐

Clear Revise Chemistry tick box checklist

COMMAND WORDS

A **command word** in a question tells you what you are expected to do.

The structure of a question

You should see one command word per sentence, with the command word coming at the start. A command word might not be used, however, if a question is easier to follow without one. In these cases, you are likely to see:

- What ...?
- Why ...?
- How ...?

Command word	What you need to do
Balance	Add correct balancing numbers to a chemical equation.
Calculate	Use the numbers given to work out an answer.
Choose	Select from a range of options.
Compare	Write about the similarities and/or differences between things. You must write about all the things, not just one of them.
Define	Give the meaning of something.
Describe	Recall a fact, event or process accurately.
Design	Describe how something will be done, such as a practical method.
Determine	Use the data or information given to you to obtain an answer.
Draw	Produce a diagram, or complete an existing diagram.
Estimate	Work out an approximate value.
Evaluate	Use your knowledge and understanding, and the information supplied, to consider evidence for and against something. You must include a reasoned judgement in your answer.
Explain	Give the reasons why something happens, or make something clear.
Give, name, write	Only write a short answer, not a description or explanation. Your answer might be a single word, phrase or sentence.
Identify	Name or point out something.
Justify	Support your answer using evidence from the information given to you.
Label	Add the correct words or names to a diagram.
Measure	Use a ruler or protractor to obtain information from a photo or diagram.
Plan	Write a method.
Plot	Mark data points on a graph.
Predict	Write a likely outcome of something.
Show	Give structured evidence to come to a conclusion.
Sketch	Make an approximate drawing, such as a graph without axis units.
Suggest	Apply your knowledge and understanding to a new situation.
Use	You must base your answer on information given to you, otherwise you will not get any marks for the question. You might also need to use your own knowledge and understanding.

KEY TERMS IN PRACTICAL WORK

Experimental design

Key term	Meaning
Evidence	Measurements or observations collected using a valid method
Fair test	When the dependent variable is only affected by the independent variable
Hypothesis	A suggested explanation for observations or facts
Prediction	A reasoned statement that suggests what will happen in the future
Valid	A valid method involves fair testing and is suitable for an investigation
Valid conclusion	A discussion of a valid experiment and what it shows

Variables

A variable is a characteristic that can be measured or observed.

Type of variable	Meaning
Categoric	It has names or labels rather than values
Continuous	It has values rather than names or labels
Control	It affects the dependent variable, so it must be kept the same or monitored
Dependent	It is measured or observed each time the independent variable is changed
Independent	It is deliberately changed by the experimenter

Measurements and measuring

Key term	Meaning
Accurate	Close to the true value
Calibrated	A device is calibrated when its scale is checked against a known value
Data	Measurements or observations that have been gathered
Interval	The measured gap between readings
Precise	Very little spread about the mean value
Range	The values between the measured maximum and minimum values
Repeatable	When the same results are obtained using the same method and apparatus
Reproducible	Someone else gets the same results, or when different apparatus and methods are used
Resolution	The smallest change a measuring device can show
True value	The value you would get in an ideal measurement
Uncertainty	An interval in which the true value will be found

Errors

Type of error	Meaning
Anomaly	Anomalous results lie outside the range explained by random errors
Measurement	The difference between the true value and a measured value
Random	Unpredictably different readings – their effects are reduced by repeats
Systematic	Readings that differ from true values by the same amount each time
Zero	A type of systematic error where a device does not read 0 when it should

Sparx Science

<https://sparxscience.com>

IN DEVELOPMENT

Building scientific knowledge
and understanding through
personalised homework

Get started >

Sparx Science 10x/Sc2

Need help? Adam Smith

Hand-in

Week 28 23/05/2023 Week 34 19/04/2023 Week 35 24/04/2023 Week 36 01/05/2023 Week 37 08/05/2023 Week 38 15/05/2023 **Week 39 22/05/2023**

Set date/time: Tue 23rd May 9:00 AM Due date/time: Tue 6th Jun 9:00 AM Compulsory completion: 27/30

Name	Completion	Working time	Completion day	Answers
Etta Box	0%	0h 0m	Incomplete	View >
Heather Drew	0%	0h 0m	Incomplete	View >
Elliot Kaiser	90%	0h 47m	Incomplete	View >

Sparx Science Adam Smith

Q1 ✓ Q2 ✓ Q3 ✓ Q4 ✓ Q5 ✓ Q6 ✓ **Q7** Q8 Q9 Q10 Q11 Q12 Q13

The diagram represents a plant cell. Name each labelled part of the cell.

A: cell membrane ✓

B: chloroplast ✓
✓ chloroplast

C: permanent vacuole ✓

D: cell wall ✓

I don't know Submit >

We support students aged 11-16

Questions that promote genuine understanding

Our bank of over 7500 questions is designed to test knowledge and promote scientific thinking across the secondary curriculum.

Biology
 Chemistry
 Physics
 Working scientifically
 Maths for science

Example questions: **Easy** Medium Hard

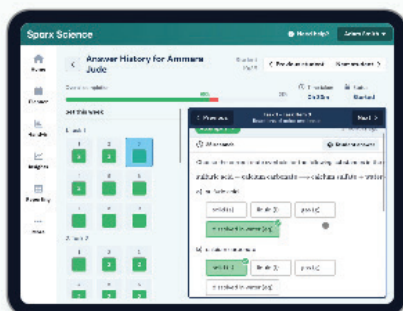
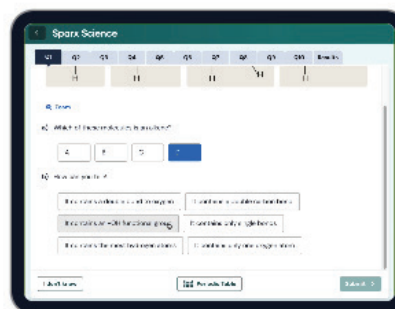
The diagram represents the 'lock and key' model of an enzyme.

a) Give the name of region A.

b) Give the general name of substance B.

Innovative student support

- Students **actively engage** with support that addresses misconceptions and gaps in learning
- Help provided for **every question** to help unblock students when they get stuck
- Supports setting **high expectations** for students

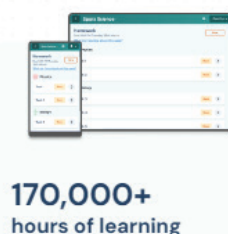
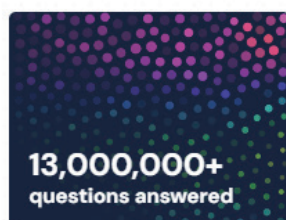


Understand student performance

- Class-level insights uncover material that students are struggling with
- See exactly which questions a student has done so you can **provide help when required**
- Live reporting to help you **monitor and support homework completion**

Our community

Sparx Science is in the **development phase** and **we are working with a small group of schools** to improve the system before we launch





Physics Equations Sheet

GCSE Combined Science: Trilogy (8464) and GCSE Combined Science: Synergy (8465)

FOR USE IN JUNE 2024 ONLY

HT = Higher Tier only equations

kinetic energy = $0.5 \times \text{mass} \times (\text{speed})^2$	$E_k = \frac{1}{2} m v^2$
elastic potential energy = $0.5 \times \text{spring constant} \times (\text{extension})^2$	$E_e = \frac{1}{2} k e^2$
gravitational potential energy = $\text{mass} \times \text{gravitational field strength} \times \text{height}$	$E_p = m g h$
change in thermal energy = $\text{mass} \times \text{specific heat capacity} \times \text{temperature change}$	$\Delta E = m c \Delta \theta$
power = $\frac{\text{energy transferred}}{\text{time}}$	$P = \frac{E}{t}$
power = $\frac{\text{work done}}{\text{time}}$	$P = \frac{W}{t}$
efficiency = $\frac{\text{useful output energy transfer}}{\text{total input energy transfer}}$	
efficiency = $\frac{\text{useful power output}}{\text{total power input}}$	
charge flow = $\text{current} \times \text{time}$	$Q = I t$
potential difference = $\text{current} \times \text{resistance}$	$V = I R$
power = $\text{potential difference} \times \text{current}$	$P = V I$
power = $(\text{current})^2 \times \text{resistance}$	$P = I^2 R$
energy transferred = $\text{power} \times \text{time}$	$E = P t$

	energy transferred = charge flow × potential difference	$E = Q V$
HT	potential difference across primary coil × current in primary coil = potential difference across secondary coil × current in secondary coil	$V_p I_p = V_s I_s$
	density = $\frac{\text{mass}}{\text{volume}}$	$\rho = \frac{m}{V}$
	thermal energy for a change of state = mass × specific latent heat	$E = m L$
	weight = mass × gravitational field strength	$W = m g$
	work done = force × distance (along the line of action of the force)	$W = F s$
	force = spring constant × extension	$F = k e$
	distance travelled = speed × time	$s = v t$
	acceleration = $\frac{\text{change in velocity}}{\text{time taken}}$	$a = \frac{\Delta v}{t}$
	(final velocity) ² – (initial velocity) ² = 2 × acceleration × distance	$v^2 - u^2 = 2 a s$
	resultant force = mass × acceleration	$F = m a$
HT	momentum = mass × velocity	$p = m v$
	period = $\frac{1}{\text{frequency}}$	$T = \frac{1}{f}$
	wave speed = frequency × wavelength	$v = f \lambda$
HT	force on a conductor (at right angles to a magnetic field) carrying a current = magnetic flux density × current × length	$F = B I l$

A 'little and often' approach is the best

- Start revising early (now!)
- Use the topic list in this booklet as a start point, tick off topics once revised
- Make lists/revision posters of important facts and methods you need to learn
- Seek help from your teacher out of class (lunchtime) if you are struggling with a question or topic

The best advice is



Try to tackle small chunks of revision at a time - keep it specific and put away your phone!

Mrs Wilson (Director of English)



Work with 100% effort every lesson and complete all homework to the best of your ability, seeking help if necessary.

Miss John (Head of Maths Department)



80% of success is showing up, so attend today, and achieve tomorrow.

Mrs Priestley (Director of Science)



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