



The John of Gaunt School

A Community Academy

Supporting for Success in Year 11

Thursday 2nd February 2023



This evening's aims

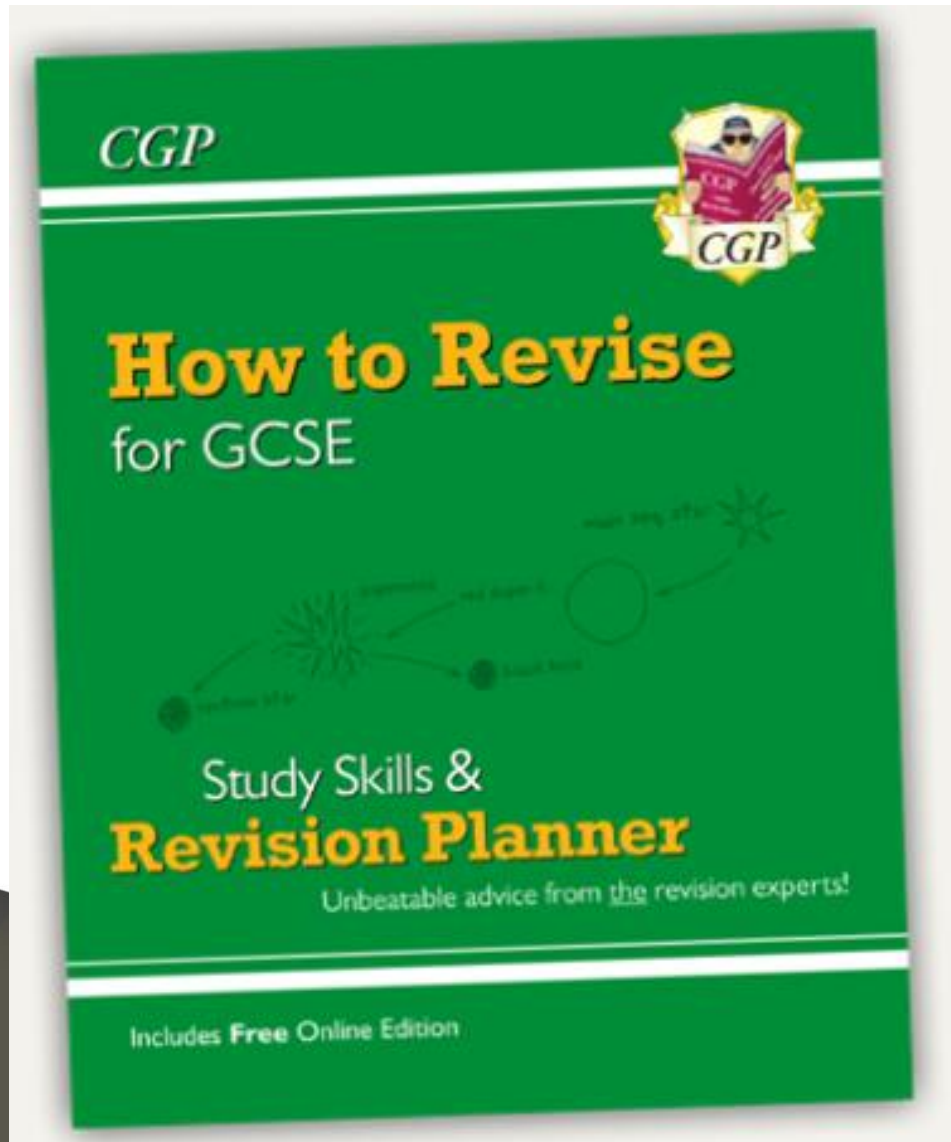
- Give some clear strategies for supporting your child with effective revision
- Give advice about health and well-being of young people during what can be a stressful period
- Give some specific advice about preparation for English, mathematics and sciences

How long should students spend revising?

In addition to what students complete in lessons ...

- we recommend around 10 hours per exam = **200 hours** on average
- we have only 14 school weeks until the GCSE exams start (including holidays)
- 14 weeks x 2 hours per day (on average) = 196 hours
- 11 school weeks x 2 support/revision sessions (on average) = 22 hours
- the key to revision is LITTLE & OFTEN
- ORGANISATION is also very important!

Revision starter pack



- All students have received a copy of this book along with other revision resources

Get organised – revision timetables

- Remember English and Science count as two GCSEs (or three in the case of separate sciences) so twice as much time should be spent on them.
- Buffer slots should be left which can be used if plans change.
- Split each subject into topic areas.
- Get your child to start with their weakest areas.
- Allocate a topic or area to each revision session or make a list of what needs to be done and tick it off when complete.
- Don't let the timetable add to the stress! It should be used as a guide to help manage time.

Revision Timetable

Wk beginning:	Morning	Afternoon	Evening
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Revision is a three step process:

1. Knowledge:

Create notes & revise
the basic facts

2. Understanding:

Describe & explain
the knowledge

3. Application:

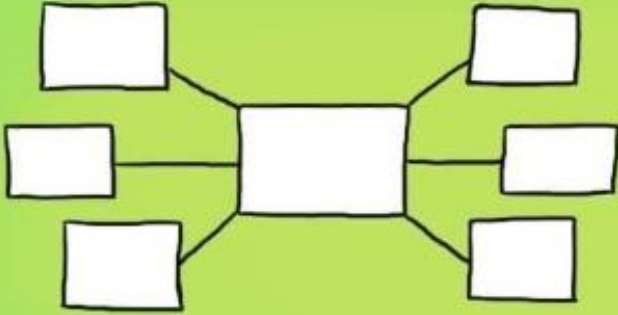
Apply the knowledge
to an examination
question

1. Knowledge

- Brain dump
- Mind maps
- Knowledge organisers
- Class notes
- Revision guides
- YouTube
- Round the clock revision

BRAIN DUMP

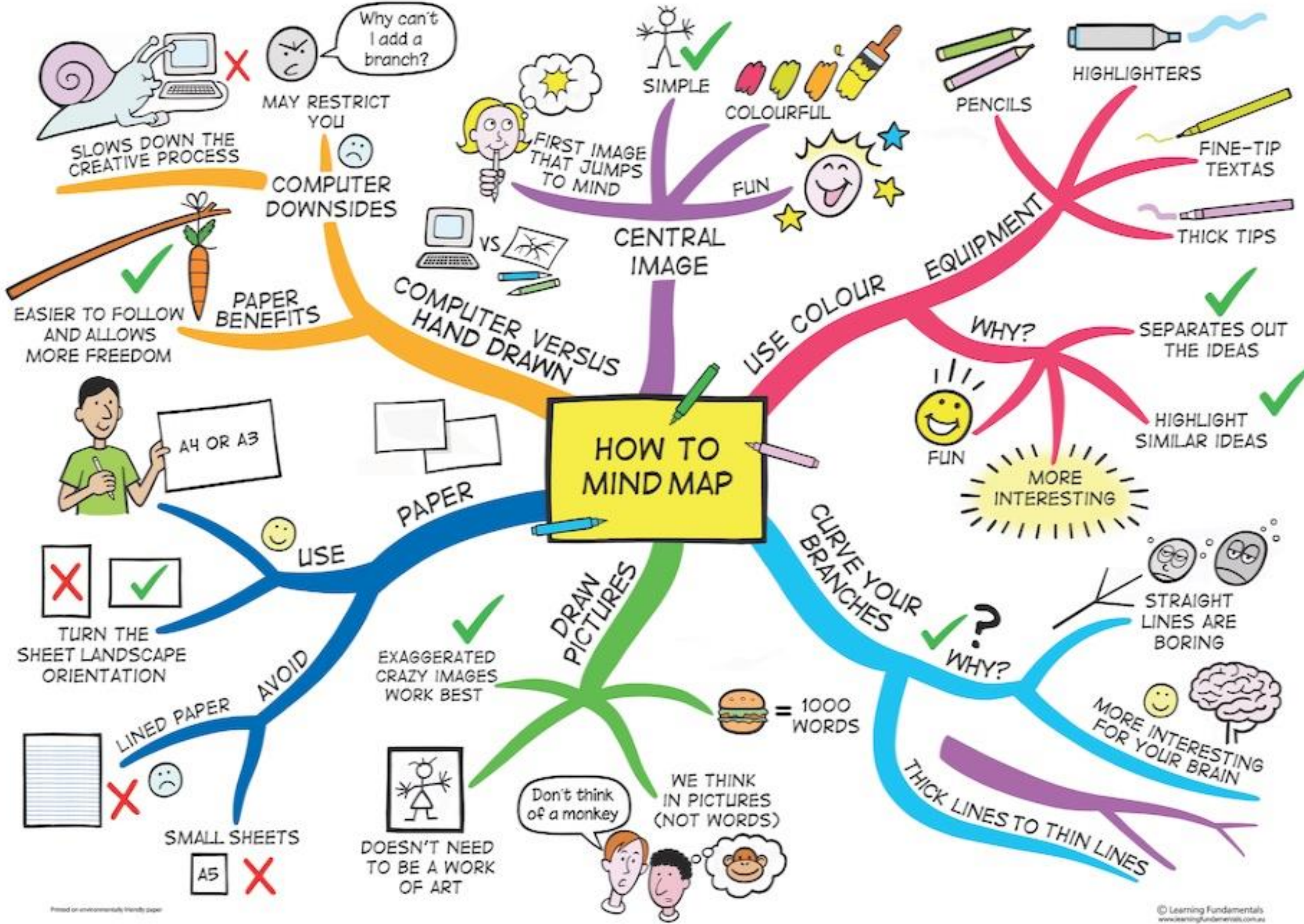
Write, draw a picture, create a mind-map on everything you know about a topic.



Give yourself a time limit, say 3 minutes, then have a look at your books & add a few things you forgot.

What are the benefits?

- ☆ The process of retrieval shows what you can recall and also strengthens your ability to recall it again!
- ☆ It provides clarity on what you know and don't know
- ☆ Ensures that revision is focused
- ☆ Avoids the illusion of 'knowing' that we get from simply highlighting & reading



Effective use of YouTube

Examination board

Different examination boards cover different material

GCSE or KS4

This will ensure the work is at the right level

Other suggested videos

Be careful they do not end up following too many You Tube video links that lead them away from the course criteria!

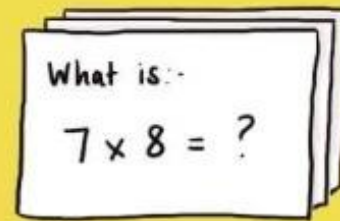
The screenshot shows a web browser window with the address bar displaying 'youtube.com/results?search_query=AQA+GCSE+Biology+Cells'. The search results are filtered for 'AQA GCSE Biology Cells'. The top result is an advertisement for 'Aqa A-level Biology - Gloucestershire Tutors'. Below the ad, there are two video thumbnails. The first is a blue video titled 'Eukaryotes and Prokarotes' by 'Freesciencelessons', with 18 views. The second is a video titled 'GCSE Biology - Cell Types and Cell Structure #2' by 'Cognito', with 223K views and posted 1 year ago. The video description for the second video states: 'In this video, we cover: - The different types of cell (Eukaryotic and Prokaryotic) - The...'. The video player interface shows 'Intro | What are cells | Human cells | Cell structure | Bacteria'.

2. Understanding

- Flash cards
- Quizzing
- Tassomai
- Sparks
- Quizlet

FLASHCARDS

Create your own flashcards, question on one side answer on the other. Can you make links between the cards?



You need to repeat the Q&A process for flashcards you fail on more frequently & less frequently for those you answer correctly.

QUIZZING

Create practice questions on a topic. Swap your questions with a partner & answer.



Question - What is a metaphor?

- A comparison using 'like, as, than'.
- A comparison where one thing is another.
- A comparison with a human attribute.

3. Application

Remote Learning

Although we seem, thankfully, to be past the need for national lock-downs, we feel it is still important to provide clarity and transparency about what students and parents / carers can expect for children to work on who have to remain at home for whatever reason.

-  Term 1 links for student independent remote learning
-  Term 2 links for student independent remote learning

In This Section

Links to Level 2 Past Paper Questions & Mark Schemes

- Students can access past papers on our website above

Examinations and stress

These are high stakes examinations and your child will probably be feeling under pressure;

This pressure is likely to grow between now and May;

You might see some of the following behaviour signs:

- **Increased moodiness and irritability;**
- **Increasingly argumentative;**
- **Disrupted sleep patterns;**
- **Becoming withdrawn;**
- **Complaining of stomach aches and headaches;**
- **Making negative statements about him or herself.**

How to manage stress:

- Listen and try to be available;
- Offer reassurance – these examinations will not last for ever;
- Try not to lose your temper;
- Encourage your child to use problem – focused strategies, by being well planned and developing feelings of control;
- Encourage your child to use emotion – focused strategies by taking planned breaks and arranging some positive distractions.

Support available:

- [YoungMinds](#) is a charity working to improve emotional well-being and mental health amongst children and young people. See [YoungMinds' advice for parents](#).
- [NHS](#): See the advice from the NHS: [Help your child beat exam stress](#).
- [Family Lives](#) is a charity helping parents to deal with the changes that are a constant part of family life. See Family Lives' advice for [supporting your teenager through their exams](#).
- [Relate](#) is a charity offering relationship support. See Relate's advice for [coping with exam stress as a family](#).
- [Teenagers Translated](#) is a website offering information to help parents understand their children during their teenage years. See their advice on [managing exam stress](#).

Contact the Year 11 team if you have any concerns

AQA

GCSE English Literature and
English Language

Exam dates

- **Literature Paper 1 – Weds 17th May**
- **Literature Paper 2 – Weds 24th May**

- **Language Paper 1 – Mon 5th June**
- **Language Paper 2 – Mon 12th June**

Breakfast revision sessions will be available before each of these exams

English Language

2 exams: both worth 50% of final GCSE grade.

Paper 1 - Explorations in Creative Reading and Writing (Fiction paper)

- **1 hour 45 minutes.**
- **One extract - fiction**
- **Section A-Reading** = 4 questions based on the extract.
- **Section B-Writing** = 1 extended writing question. (Descriptive/narrative writing.)

Paper 2 – Writers' Viewpoints and Perspectives (Non-fiction)

- **1 hour 45 minutes**
- **2 extracts – non fiction (one pre 19th Century)**
- **Section A-Reading** = 4 questions based on the extracts.
- **Section B-Writing** = 1 extended writing question (non-fiction writing-letter, speech, article etc)

In both exams, section A and Section B are worth 40 marks each.

English Literature

2 exams

Paper 1 – 40% - Shakespeare and the 19th - century novel

- 1 hour 45 minutes.
- **Section A** Romeo and Juliet
- **Section B** - Dr Jekyll and Mr Hyde
(Frankenstein- Mrs Marshall's class)

Paper 2 – 60% - Modern texts and poetry

- 2 hours 15 minutes.
- **Section A:** An Inspector Calls (Pigeon English – Mrs Marshall's class):
- **Section B:** Power and Conflict Poetry Anthology.
- **Section C** Unseen poetry

These are all closed book exams

Revision timetable



YEAR 11 ENGLISH REVISION TIMETABLE 2023

Chunking your Revision

If you spend 20 minutes a day on English, you can revise thoroughly before the exams.









Revision Materials

Use your revision guides and exercise books. You could also use websites such as Tassomai, BBC Bitesize, SparkNotes, Youtube (Mr Bruff and Mr Salles) to help you with your Literature texts.

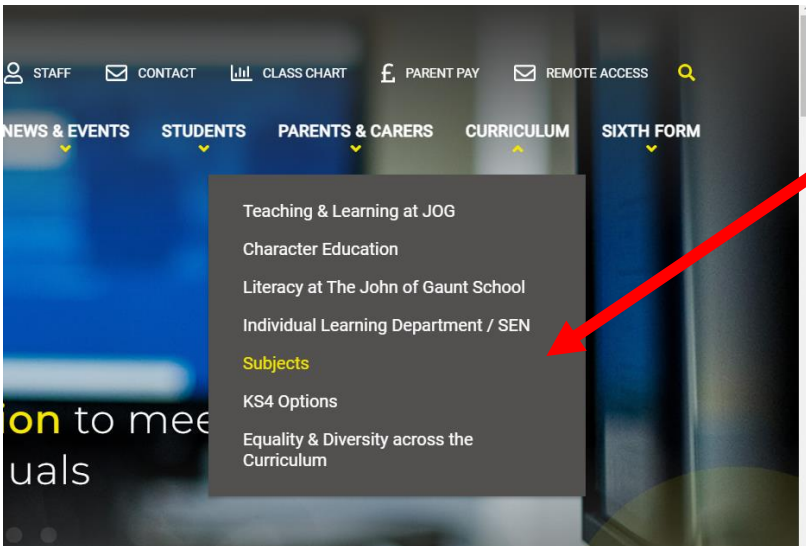
Colour Code

- Holidays
- Language Topics
- Days Off
- Lit Paper 1 Topics
- Lit Paper 2 Topics

Lit Paper 1 – Jekyll and Hyde & Romeo and Juliet
Lit Paper 2 – An Inspector Calls, Power and Conflict Poetry and Unseen Poetry.

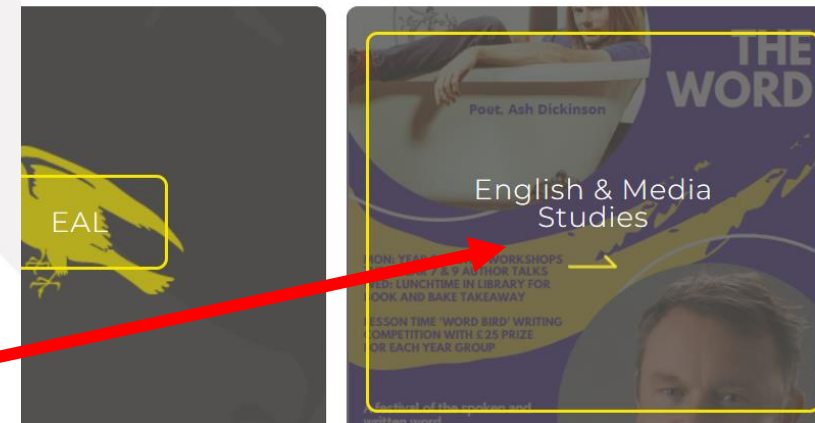
	MON	TUES	WED	THURS	FRI	SAT	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN
JAN/ FEB HALF TERM	6 Make character cards for Romeo and Mercutio. Include their key moments and 3 quotes each.	7 Read 2 newspaper articles on the same topic. Make comparisons between the writers' viewpoints. What methods support these views?	8 Make character cards for The Inspector and Eric. Include key moments and 3 quotes each	9 Read a newspaper article or blog. Write a short paragraph analysing the language used in the article.	10 Make character cards for Juliet and Lord Capulet. Include their key moments and 3 quotes each.	11	12 Watch this video and make notes on the context behind Romeo and Juliet. 	13 Briefly storyboard the plot of Jekyll and Hyde. Do you feel that good or evil triumphs at the end?	14 Watch these videos on Q1 and Q2 (Paper 2). Make notes on how to answer. 	15 Make character cards for Dr Jekyll and Dr Lanyon. Include their key moments and 3 quotes for each	16 Make notes on how to answer Q4 (Lang P2). 	17 Make character cards for Juliet and Lord Capulet. Include their key moments and 3 quotes each.	18	19 Use your notes from Thursday's video to try a Q4. Use the JOG revision guide for an example question.
FEB	20 Make a mind map about what a formal letter should include. Plan a formal letter from one of the practice papers.	21 Watch this video on context in J&H. How does it link to the themes in J&H? 	22 Watch this video with a student exemplar (Q5). What could you magpie for your own writing? 	23 Make character cards Sheila and Gerald Include their key moments and 3 quotes for each.	24 Do a Q3 from Language paper 2 in your revision booklets.	25	26 Watch and make notes on this video on violence in R+J. 	27 Watch and make notes on ' London '. What could be your three main points in an essay about power? 	28 RAG rate the revision checklists for each unit. Remember that you can customise this plan for your own strengths and weaknesses! 	1 Watch and make notes on ' Ozymandias '. What could be your three main points in an essay about power?	2 Plan an answer to a Q2 from Lang paper 1 in your revision booklet.	3 Type 'Poem of the Day' into Google. Create your own unseen poetry question and annotate the techniques the writer has used to share their message.	4	5 Plan an answer to a Q3 from Lang Paper 1 in your revision booklet.
FEB/ MAR	6th – 10th March Mock Week 1 <ul style="list-style-type: none">Revise Language Paper 2Revise Lit paper 1 (J&H and R&J) Once your English mocks are completed for this week, revise Lit paper 2 in preparation for next week.							13th – 17th March Mock Week 2 <ul style="list-style-type: none">Revise lit paper 2 (AIC, Poetry Anthology and Unseen poetry) Once you have sat this mock, evaluate your own weaknesses-was there a question/text you struggled with the most? Focus on this for your revision for the rest of the week.						

Where to find our revision booklets



Click on curriculum and then subjects.

Then scroll down to the list of subjects and select English and Media studies



Scroll all the way to the bottom of the page to find the revision booklets that

- English Revision calendar 2022
- Jekyll & Hyde revision booklet
- Paper 1 revision booklet
- Romeo and Juliet Revision Booklet
- Unseen Poetry revision booklet

Revising for English Literature

What do you need to know?

For each of the set texts students should be revising the following:

- Plot
- Themes
- Characters
- Context
- Structure
- Key quotations – need to have a range from across the text.

Start by making a list of each of these areas for each set text – then RAG rate them.

Start by focusing on the RED areas. Then, in a couple of weeks time, review this and see where you have made progress and which areas you still need to work on.

Ways to revise



Speed Writing Challenges:

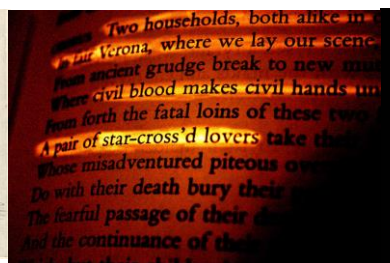
5 minutes



Topic: Conflict in Romeo and Juliet

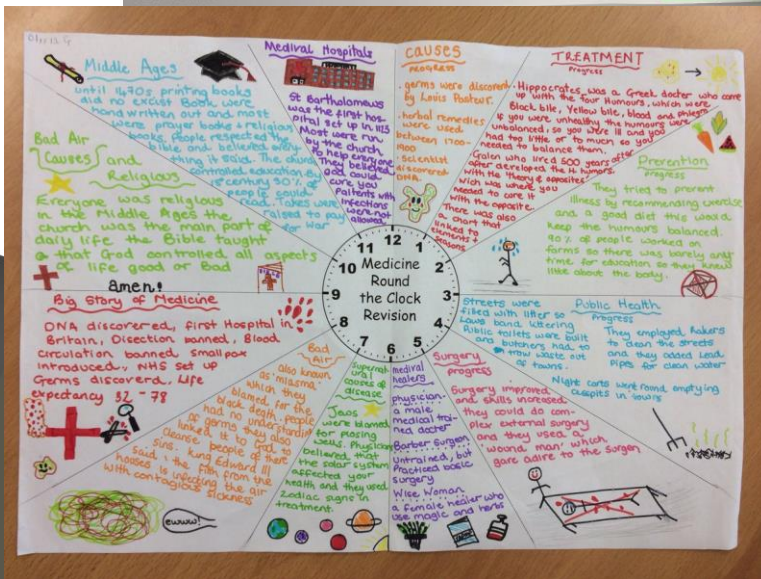
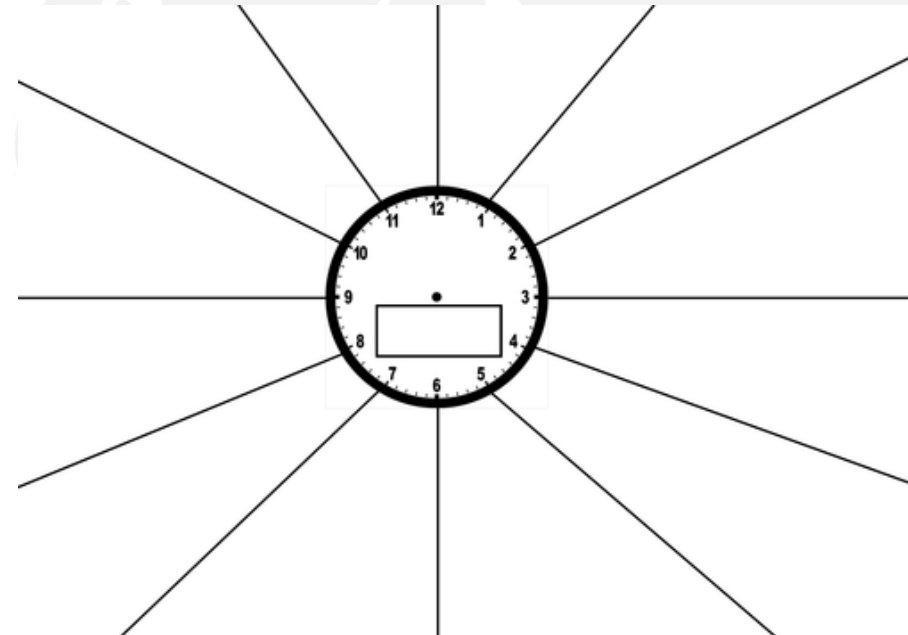
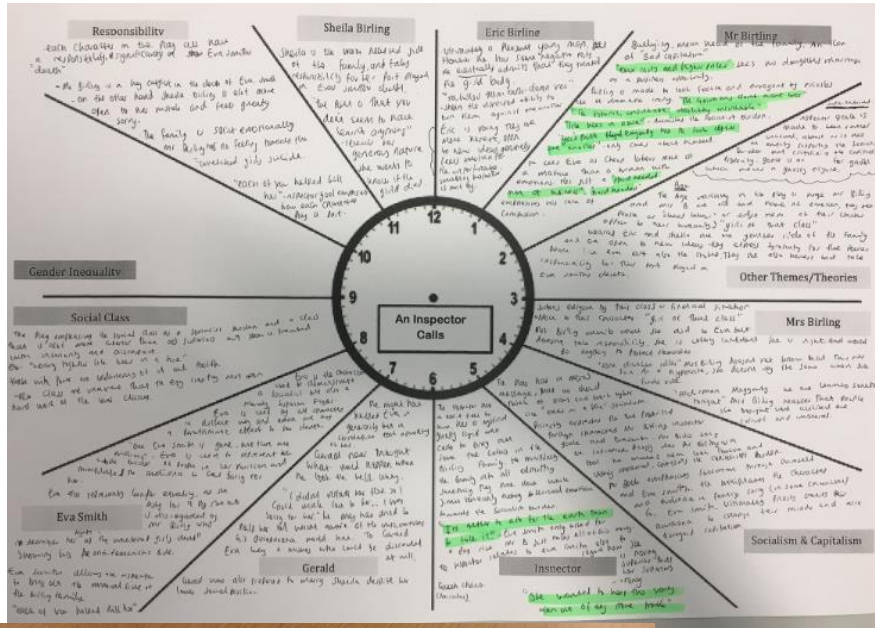
Challenge: Write as much as you can about this topic in 5 minutes. You do not need to paragraph and there does not need to be a clear structure or order to your thoughts. Write in sentences and get it all down!

After the 5 minutes, compare what you have written with your notes – what have you missed? This will help to identify areas you need to revise.



Round the Clock Revision

A 'recall' hour focusing on one text



1. Choose which text you will revise
2. Set your timer for 5 minutes
3. Choose a topic to focus on
4. Write what you think are the most important points and pieces of evidence for that topic in the 5 minutes – without looking at your notes or the text
5. Reset your timer, choose another topic and go again

Creating 'mind-maps' for questions

The Birlings are presented as a microcosm of an unjust, unequal society – the way they treat Eva is representative of the way the upper/upper middle classes treat the working classes as a whole

“As if a girl of that sort would ever refuse money” / “Girls of that class” (Mrs Birling)

“These girls aren’t cheap labour, they’re people” (Sheila)

The Inspector is used by Priestley to convey the author’s socialist message – that greater equality would lead to a better society.

“There are millions and millions of Eva Smiths and John Smiths...” (Inspector Goole)

How does Priestley present social inequality in *An Inspector Calls*?

Priestley uses the changing stance of the younger generation (Eric and Sheila) to suggest there is hope for a more equal society

“It frightens me the way you talk” (Sheila)

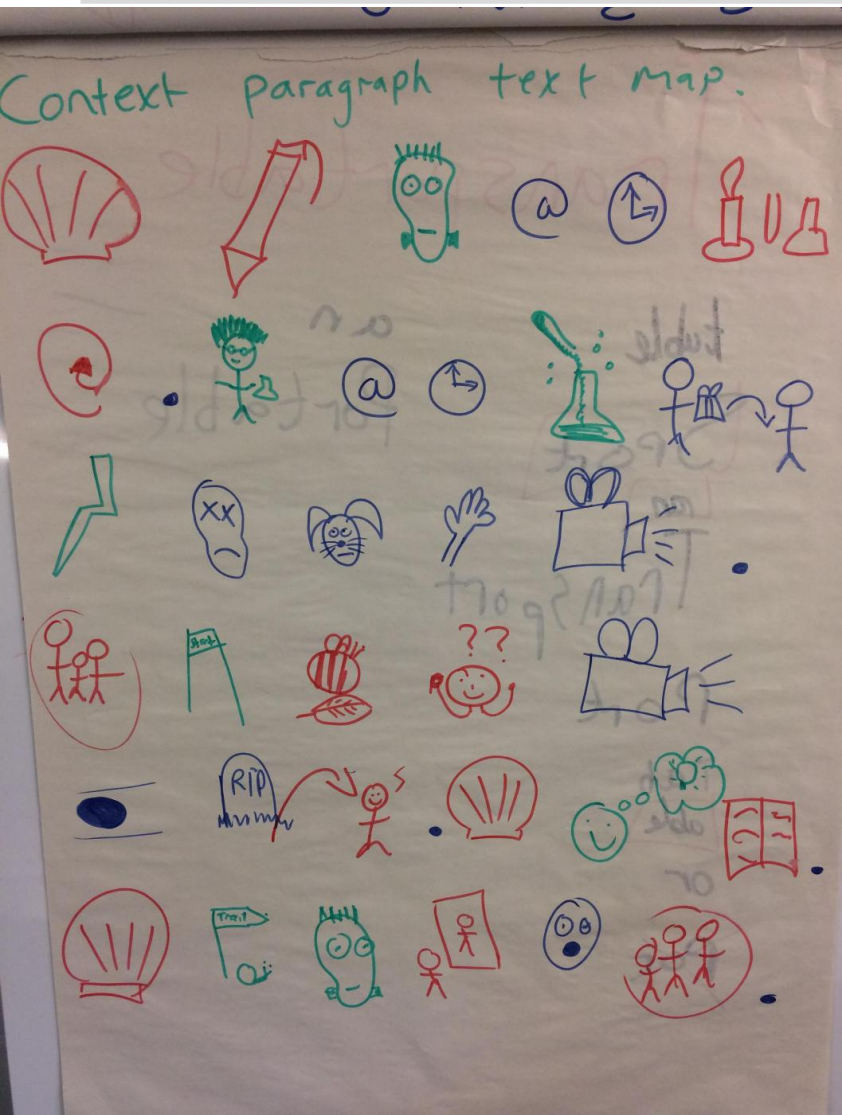
“Why shouldn’t they ask for higher wages?” (Eric)

Priestley also uses the male and female characters to highlight the gender inequality in Edwardian England

“Is it the one you wanted me to have” (Sheila to Gerald)

“I hate those hard-eyed, dough-faced women” (Gerald)

Memorise key information using 'text maps'



Spend 15 minutes one day, turning a key passage of information (such as this 'Frankenstein' contextual information) or some key quotations from a literature text, into a 'text map'.

The next day, spend 5 minutes trying to recall and write out the information or quotations, from your text map.

Repeat a couple of days later. Repeat again...

Using cue-cards to help you memorise key quotations

- The most effective way is to turn the piece of information you need to memorise into a different format.

“with ape-like fury, he was trampling his victim under foot and hailing down a storm of blows”

Turn this into a cue card.

- Side 1: quotation, highlighted words you would analyse, link to the point you make with it.
- Side 2: a clue which will help you to recall it (a text-map of the quotation or a symbol or image).

Then use these to test yourself or ask someone else to test you.

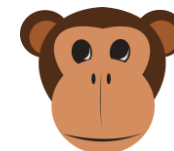
Side 1

“with **ape-like fury**, he was **trampling** his victim under foot and **hailing** down a **storm of blows**”

- **Simile** - ‘ape-like’ = Hyde as devolved form of man
- Links back to chapter 1 (‘trampled calmly’)
- ‘Hailing’ suggests emotional coldness and aggression
- “storm” – wild and unpredictable

Side 2

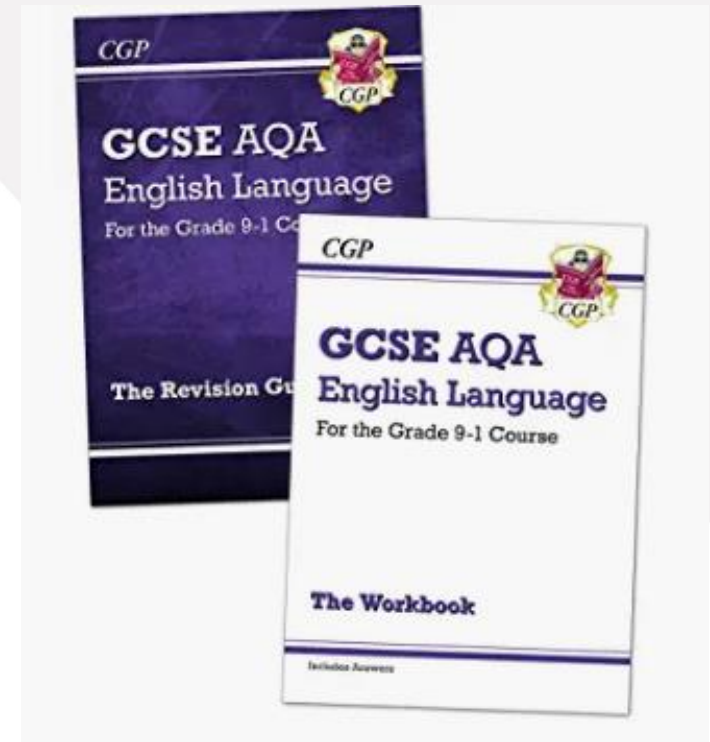
Hyde’s violence



Revising for English Language

Practise, practise, practise...

- Ask your teachers for example papers to complete under timed conditions and hand them in for feedback.
- Buy an English language revision guide – there are practice questions in them, as well as examples of great answers.
(available via 'Parent Pay')



Paper 1 section B – writing practice



Five senses
Adjectives and adverbs
Metaphors
Onomatopoeia
Unusual verbs
Similes

Contrasts and colours
Alliteration
Personification

Search online for interesting images.

Remind yourself of the FAMOUS CAP descriptive writing features.

Choose 3 aspects of the image to focus your description / narrative on.

Box up a 'plan' of what you will include when writing about each of the 3 things.

Write it under timed conditions.

Check you have included the FAMOUS CAP features.

Read a couple of newspaper articles each week

- Discuss them with a member of your family or a friend.
- Get them to ask you questions about what you have read to check you have understood.
- Practise 'speed reading' and selecting 4 facts from one paragraph.
- Identify words you are unfamiliar with and look them up – learn them.
- Choose a paragraph and identify any language features used and for each one try to write a sentence about its effects on you as a reader: what did it make you think, feel, understand, imagine, want to do?

Contact details for English

Director of Learning: Amy Evers

aeyers@jogschool.org

Deputy Director of Learning and Head of
Key Stage 4: Ali Foster

afoster@jogschool.org

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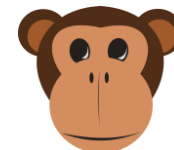
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Side 2

Hyde’s violence



The logo features the text 'Edexcel Maths' centered on a dark grey background. The background is decorated with several large, semi-transparent circles in shades of grey and a bright yellow curved shape at the bottom. The text is white and sans-serif.

Edexcel

Maths

Exam dates

THREE EXAM PAPERS

- PAPER 1 – FRIDAY 19TH MAY 2023 (AM) - 1 ½ HRS – NON-CALCULATOR;
- PAPER 2 – TUESDAY 6TH JUNE 2023(AM) - 1 ½ HRS – CALCULATOR;
- PAPER 3 – WEDNESDAY 14TH JUNE 2023 (AM) - 1 ½ HRS – CALCULATOR.

NOTE:

- BOTH HIGHER AND FOUNDATION TIER EXAMS AT THESE TIMES;
- EACH PAPER IS EQUALLY WEIGHTED AND HAS A TOTAL OF 80 MARKS.

Foundation Formulae for Summer 2023

Perimeter, area and volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

$$\text{Area of a trapezium} = \frac{1}{2}(a + b)h$$

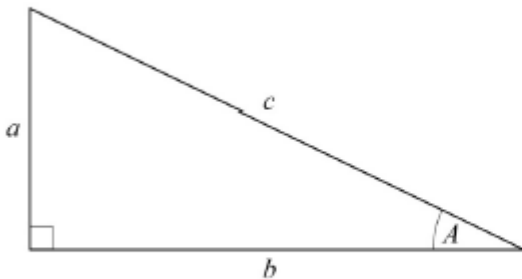
Volume of a prism = area of cross section \times length

Where r is the radius and d is the diameter:

$$\text{Circumference of a circle} = 2\pi r = \pi d$$

$$\text{Area of a circle} = \pi r^2$$

Pythagoras' Theorem and Trigonometry



In any right-angled triangle where a , b and c are the length of the sides and c is the hypotenuse:

$$a^2 + b^2 = c^2$$

In any right-angled triangle ABC where a , b and c are the length of the sides and c is the hypotenuse:

$$\sin A = \frac{a}{c} \quad \cos A = \frac{b}{c} \quad \tan A = \frac{a}{b}$$

Compound Interest

Where P is the principal amount, r is the interest rate over a given period and n is number of times that the interest is compounded:

$$\text{Total accrued} = P \left(1 + \frac{r}{100} \right)^n$$

Probability

Where $P(A)$ is the probability of outcome A and $P(B)$ is the probability of outcome B :

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

Higher Formulae for Summer 2023

Perimeter, area and volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

$$\text{Area of a trapezium} = \frac{1}{2}(a + b)h$$

Volume of a prism = area of cross section \times length

Where r is the radius and d is the diameter:

$$\text{Circumference of a circle} = 2\pi r = \pi d$$

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Quadratic formula

The solution of $ax^2 + bx + c = 0$
where $a \neq 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

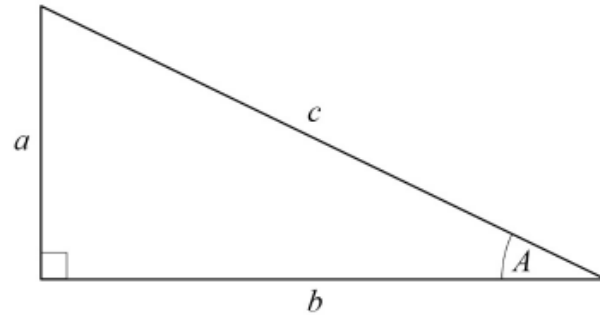
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$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

$$P(A \text{ and } B) = P(A \text{ given } B) P(B)$$

Pythagoras' Theorem and Trigonometry



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In any right-angled triangle ABC where a , b and c are the length of the sides and c is the hypotenuse:

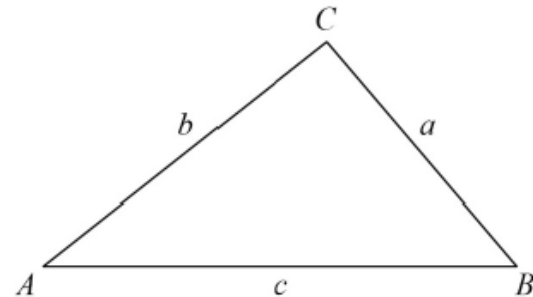
$$\sin A = \frac{a}{c} \quad \cos A = \frac{b}{c} \quad \tan A = \frac{a}{b}$$

In any triangle ABC where a , b and c are the length of the sides:

$$\text{sine rule: } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{cosine rule: } a^2 = b^2 + c^2 - 2bc \cos A$$

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



Revision sessions

- Maths revision sessions as per student's period 6 timetable;
- Targeted intervention;
- National Tutor Program;
- Prior to each exam:
 - Collapsed timetable allows for intensive maths revision;
 - Maths-Ready Breakfast session the morning of the exam.

Equipment

It is essential that students have the following equipment for exams and all lessons:

- **BLACK pen**
- **Pencil**
- **Ruler**
- **Eraser**
- **SCIENTIFIC CALCULATOR.**

Essential in exams and some lessons:

- **Compasses**
- **Protractor**

Essential in Lessons:

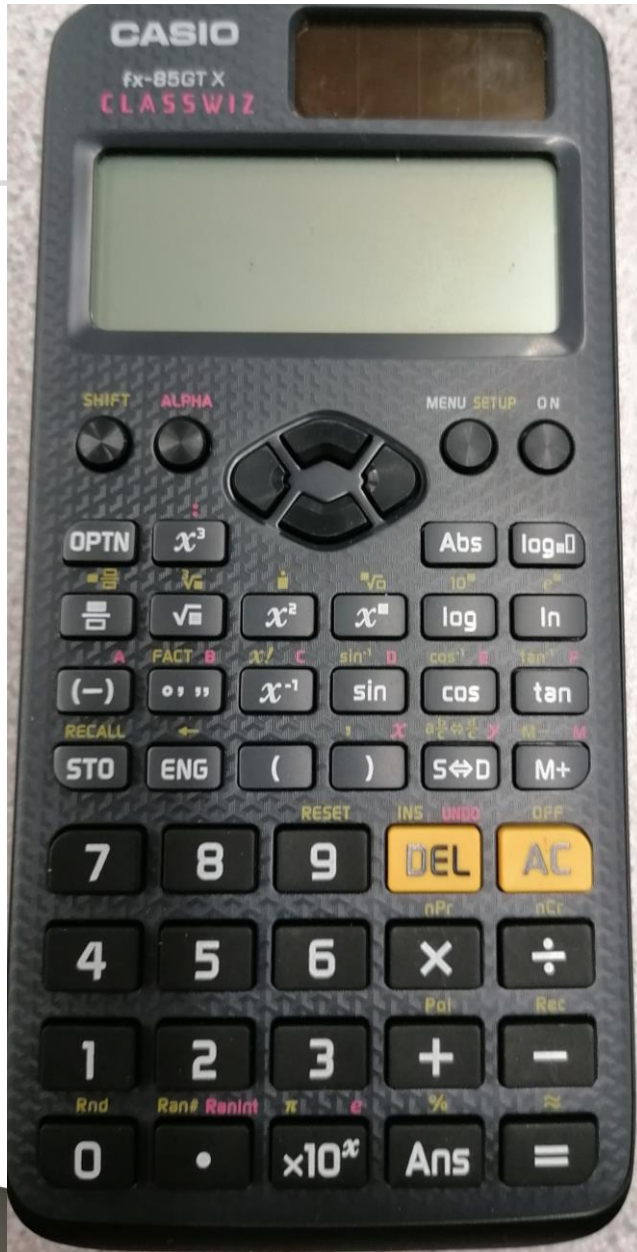
- **Green pen;**
- **Highlighter**

Also recommended in exam:

- **Sharpener**
- **Spare pen**
- **Green pen**
- **Highlighter.**



Available on parent pay and also in most supermarkets and stationers.



- Fractions
- Surds
- Recurring decimals
- Prime factors
- Indices and roots
- Reciprocals
- Percentages
- Pi
- Trigonometry
- Simplifying ratios
- Standard Index Form

How to revise in maths

- **Maths Revision must involve the completion of questions, not just reading over previous work or notes.**
- This can involve:
 - Completion of Past Exam Papers;
 - Use of a Revision Workbook or graded booklet;
 - Questions from a maths specific website, such as:
 - www.SPARXmaths.com
 - www.corbettmaths.com/5-a-day/gcse
 - <https://www.mathsgenie.co.uk>
- If unsure, YOU should then use one of the following to check:
 - Their class notes;
 - A Revision Guide;
 - The SPARX maths website;
 - Asking a maths teacher.

Revision should be regular and sustainable.

All students
will be given
a copy of
maths
topics by
grade

Grade 4 Foundation and Higher

Index Notation
Introduction to Bounds
Midpoint of a Line on a Graph
Expanding and Simplifying Brackets
Solving Equations
Rearranging Simple Formulae
Forming Formulae and Equations
Inequalities on a Number Line
Solving Linear Inequalities
Simultaneous Equations Graphically
Fibonacci Sequences
Compound Units
Distance-Time Graphs
Similar Shapes
Bisecting an Angle
Constructing Perpendiculars
Drawing a Triangle Using Compasses
Enlargements
Tangents, Arcs, Sectors and Segments
Pythagoras' Theorem
Simple Tree Diagrams
Sampling Populations
Time Series

Grade 5 Foundation and Higher

Negative Indices
Error Intervals
Mathematical Reasoning
Factorising and Solving Quadratics
The Difference of Two Squares
Finding the Equation of a Straight Line
Roots and Turning Points of Quadratics
Cubic and Reciprocal Graphs
Simultaneous Equations Algebraically
Geometric Progressions
Compound Interest and Depreciation
Loci
Congruent Triangles
Sectors of a Circle
Trigonometry
Spheres
Pyramids
Cones
Frustums
Exact Trigonometric Values
Introduction to Vectors
Harder Tree Diagrams
Stratified Sampling

Grade 6 Higher

Recurring Decimals to Fractions
Product of Three Binomials
Iteration - Trial and Improvement
Iterative Processes
Enlargement - Negative Scale Factor
Combinations of Transformations
Circle Theorems
Proof of Circle Theorems
Probability Using Venn Diagrams
Cumulative Frequency
Boxplots

Grade 7 Higher

Fractional Indices
Recurring Decimals - Proof
Rearranging Difficult Formulae
Solving Quadratics with the Formula
Factorising Hard Quadratics
Algebraic Proof
Exponential Functions
Trigonometric Graphs
Transformation of Functions
Equation of a Circle
Regions
Direct and Inverse Proportion
Similarity - Area and Volume
The Sine Rule
The Cosine Rule
Area of a Triangle Using Sine
And and Or Probability Questions
Histograms

Grades 8, 9 Higher

Upper and Lower Bounds
Surds
Perpendicular Lines
Completing the Square
Algebraic Fractions
Simultaneous Equations With a Quadratic
Solving Quadratic Inequalities
Finding the n th Term of a Quadratic
Inverse Functions
Composite Functions
Velocity-Time Graphs
Pythagoras in 3D
Trigonometry in 3D
Vectors

Properties of Solids
Nets
Angles on a Line and at a Point
Measuring and Drawing Angles
Drawing a Triangle Using a Protractor
Reflections
Rotations
Translations
Plans and Elevations
Perimeters
Area of a Rectangle
Area of a Triangle
Area of a Parallelogram
Area of a Trapezium
Frequency Trees
Listing Outcomes
Calculating Probabilities
Mutually Exclusive Events
Two-Way Tables
Averages and the Range
Data - Discrete and Continuous
Vertical Line Charts
Frequency Tables and Diagrams

Grade 3 Foundation and Higher

Multiplying Decimals
Dividing Decimals
Four Rules of Negatives
Listing Strategies
Comparing Fractions
Adding and Subtracting Fractions
Finding a Fraction of an Amount
Multiplying Fractions
Dividing Fractions
BODMAS/BIDMAS
Reciprocals
Calculator Questions
Product of Primes
Highest Common Factor (HCF)
Lowest Common Multiple (LCM)
Squares, Cubes and Roots
Working with Indices
Standard Form
Decimals and Fractions
Fractions, Percentages, Decimals
Percentage of an Amount (Calc.)
Percentage of an Amount (Non-Calc.)
Change to a Percentage (Calc.)
Change to a Percentage (Non-Calc.)
Rounding to Significant Figures
Estimating Answers

Using Place Value
Expanding Brackets
Simple Factorisation
Substitution
Straight Line Graphs
The Gradient of a Line
Drawing Quadratic Graphs
Sketching Functions
Solving Equations Using Flowcharts
Subject of a Formula Using Flowcharts
Generate a Sequence from the n th Term
Finding the n th Term
Special Sequences
Exchanging Money
Sharing Using Ratio
Ratios, Fractions and Graphs
Increase/Decrease by a Percentage
Percentage Change
Reverse Percentage Problems
Simple Interest
Metric Conversions
Problems on Coordinate Axes
Surface Area of a Prism
Volume of a Cuboid
Circle Definitions
Area of a Circle
Circumference of a Circle
Volume of a Prism
Angles and Parallel Lines
Angles in a Triangle
Properties of Special Triangles
Angle Sum of Polygons
Bearings
Experimental Probabilities
Possibility Spaces
Venn Diagrams
Pie Charts
Scatter Diagrams
Averages From a Table

Grade 1 Foundation and Higher

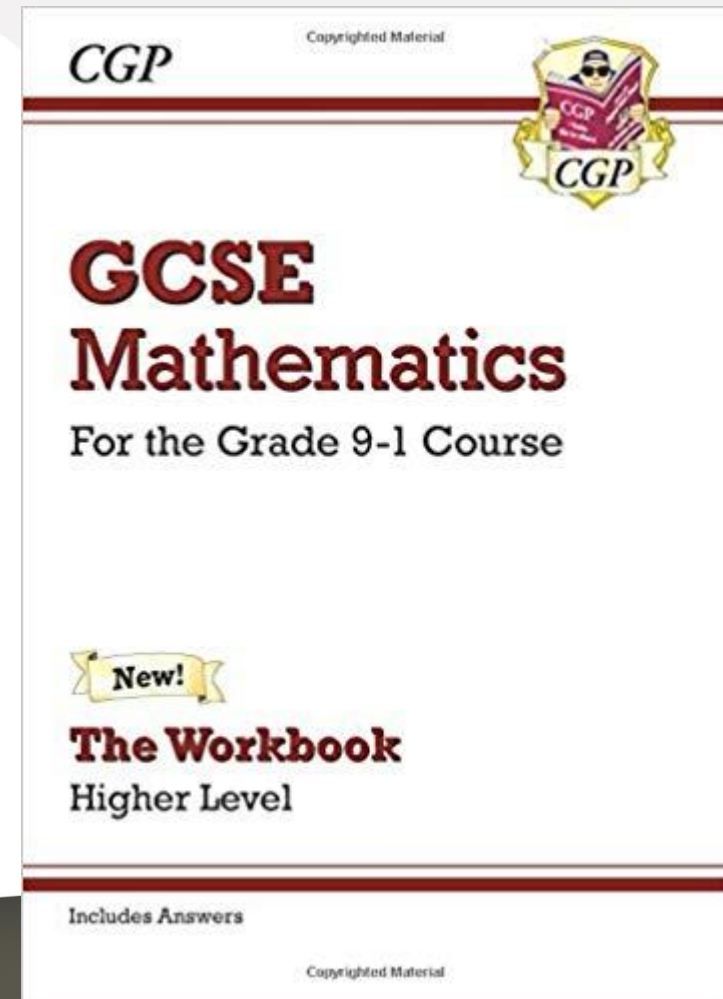
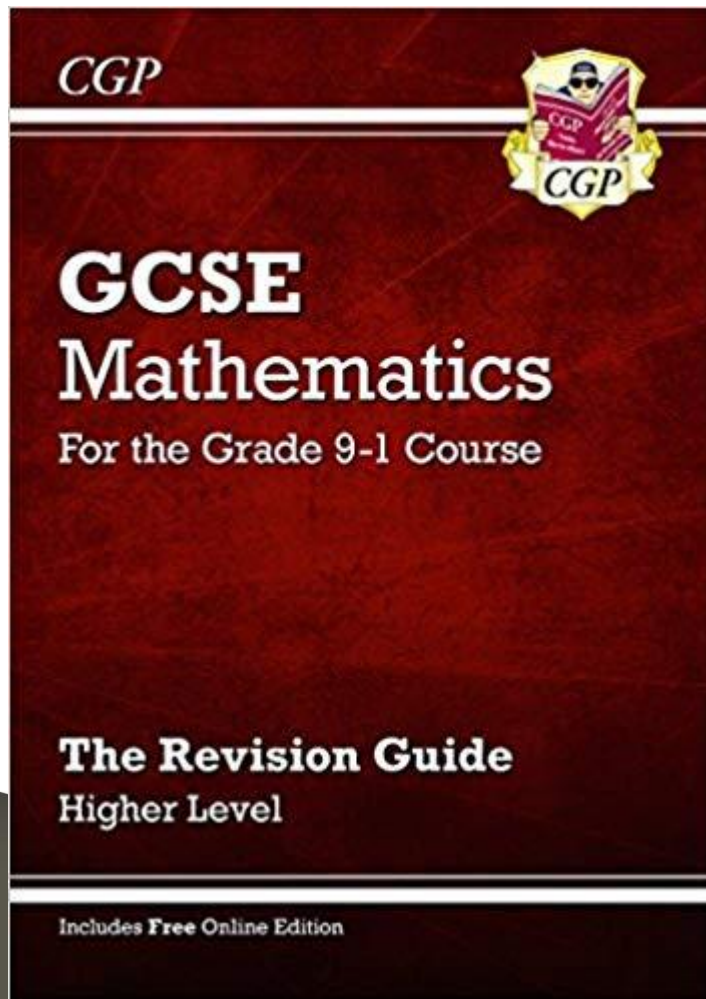
Place Value
Ordering Integers
Ordering Decimals
Reading Scales
Simple Mathematical Notation
Interpreting Real-Life Tables
Introduction to Algebraic Conventions
Coordinates
Simple Geometric Definitions
Polygons
Symmetries
Tessellations and Congruent Shapes
Names of Angles
The Probability Scale
Tally Charts and Bar Charts
Pictograms

Grade 2 Foundation and Higher

Adding Integers and Decimals
Subtracting Integers and Decimals
Multiplying Integers
Dividing Integers
Inverse Operations
Money Questions
Negatives in Real Life
Introduction to Fractions
Equivalent Fractions
Simplifying Fractions
Half-Way Values
Factors, Multiples and Primes
Introduction to Powers/Indices
Multiply and Divide by Powers of 10
Rounding to the Nearest 10, 100 etc.
Rounding to Decimal Places
Simplifying - Addition and Subtraction
Simplifying - Multiplication
Simplifying - Division
Function Machines
Generating a Sequence - Term to Term
Introduction to Ratio
Using Ratio for Recipe Questions
Introduction to Percentages
Value for Money
Introduction to Proportion

The revision book and workbook, for both Higher and Foundation is available via 'Parent Pay'.

There is also a revision guide aimed at the cross-over questions (those grade 4 and 5 questions common to both tiers).



November Mock Higher Analysis Grid

Paper 1:	3
Paper 1&2:	87
Overall:	111

Paper 3

Question:	Topic:	Marks:	All	Some	None
1	Ratio	3	3		
2	Plan (3D to 2D)	2	2		
3	Change the subject	2			
4	Error interval	2			0
5	Scatter Graph	2		1	
6	Proportional Graphs	4		3	
7	Pythagoras Problem	3		1	
8	Capacity	6		5	
9	Percentage Depreciation	5		4	
10	Ratio & Standard Form	3	3		
11	Simultaneous Equations	4	4		
12	Density	4			0
13	Enlargement	2			0
14	Histogram	5		2	
15	Algebraic Fractions	2			0
16	Arc Length	2		1	
17	Algebraic Proof	3		2	
18	Speed-Time	4			0
19	Recurring Decimals	2		1	
20	Vectors	4			0
21	Trigonometry	5		1	
22	Algebraic Probability	7		3	
23	Complete the Square	4		1	

REVISE
Simultaneous
Equations

SPARX clips
to use
are...

Revision Cards

Corbettmαths

Venn Diagrams

A
 B
 A'
 Complement of A
 B'
 Complement of B
 $A \cup B$
 A union B
 $A \cap B$
 A intersection B

Corbettmαths

Compound Interest

Initial \times Multiplier ^{Time}

James invested £8000 in the bank for 3 years. It earns compound interest of 5% per year. Calculate the total amount James has in the bank at the end of the 3 years

The money was invested for 3 years

$$8000 \times 1.05^3 = \text{£}9261$$

initial amount invested The multiplier for a 5% increase is 1.05

Corbettmαths

Simultaneous Equations

Solve the simultaneous equations

$$3x - y = 23 \quad \text{--- (1)}$$

$$2x + 3y = 8 \quad \text{--- (2)}$$

Multiplying (1) by 3 gives: $9x - 3y = 69$ --- (3)

To eliminate y , add together (2) and (3)

$$9x - 3y = 69$$

$$\text{add } 2x + 3y = 8$$

$$11x = 77$$

$$x = 7$$

Substituting $x = 7$ into (2) gives: $14 + 3y = 8$ Check $x = 7$ and $y = -2$ in (1)

$$3y = -6$$

$$y = -2$$

$21 - 2 = 23 \checkmark$

Corbettmαths

Congruent

SSS

Side - Side - Side

ASA

Angle - Side - Angle

SAS

Side - Angle - Side

RHS

Right Angle - Hypotenuse - Side

Product of Primes

a product of primes

$$60 = 2 \times 2 \times 3 \times 5$$

$$60 = 2^2 \times 3 \times 5$$

In index form

Circle any prime numbers

You will need to know the prime numbers
2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31 ...

Exam Advice

1. Double check what the question is asking you to do;
2. Highlight key information;
3. Explain what you are doing!
4. Write down the calculation, even when you are using a calculator;
5. Check if you need to include units;
6. Check whether the answer is sensible?
7. Remember to avoid misconceptions;
8. If possible check by doing the calculations again or in a different way – don't just look at them.

Most importantly: keep positive and concentrate.

**It is important to remember that when it comes to
maths, confidence is key.**

Contact details for maths

- Director of Learning: Andrea Perks
- aperks@jogschool.org

AQA

Combined Science
Triple Science

Exam dates

Paper 1

Biology – 16th May

Chemistry – 22nd May

Physics – 25th May

Paper 2

Biology – 9th June

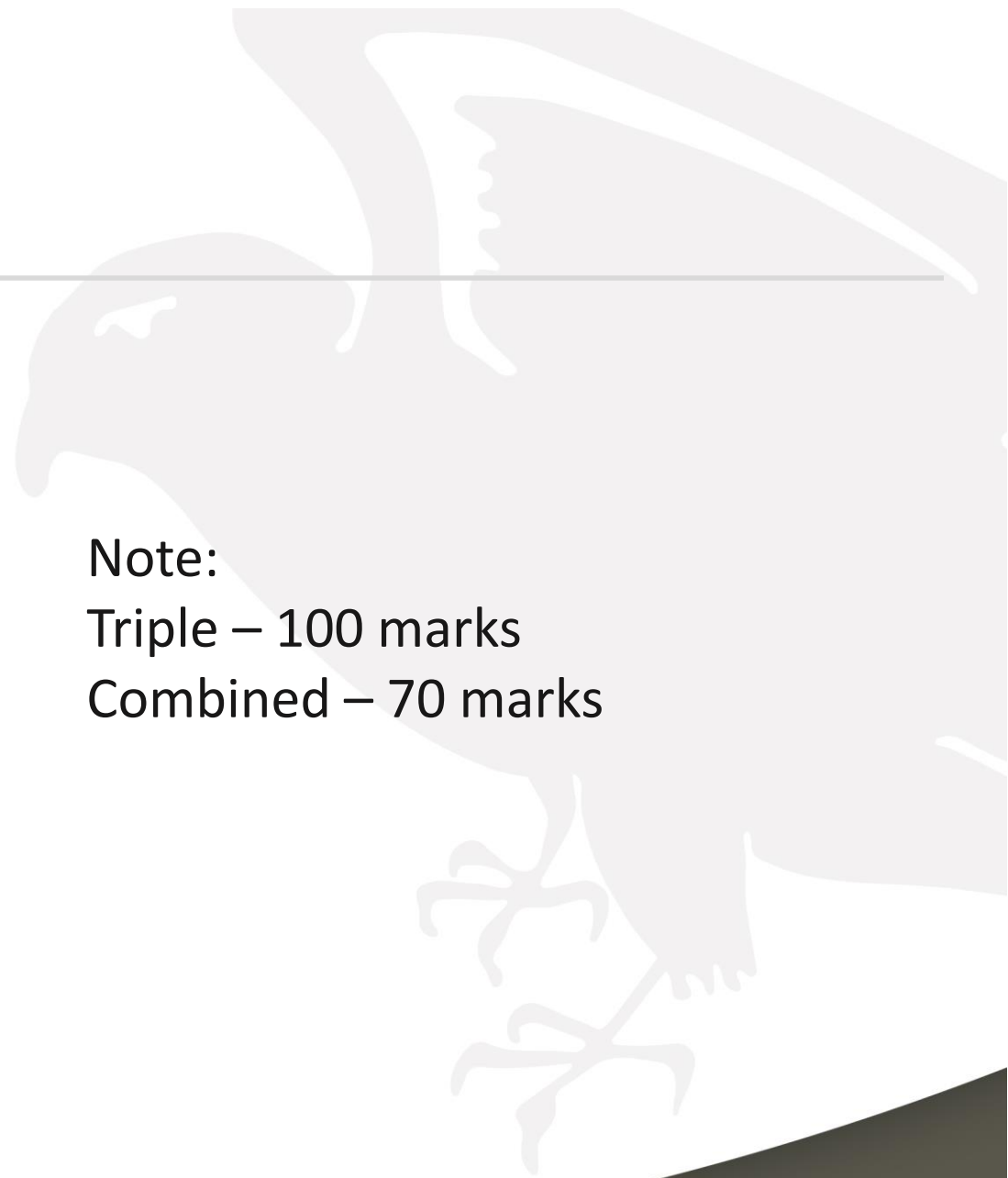
Chemistry – 13th June

Physics - 16th June

Note:

Triple – 100 marks

Combined – 70 marks



Physics Equations Sheet

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

FOR USE IN JUNE 2022 ONLY

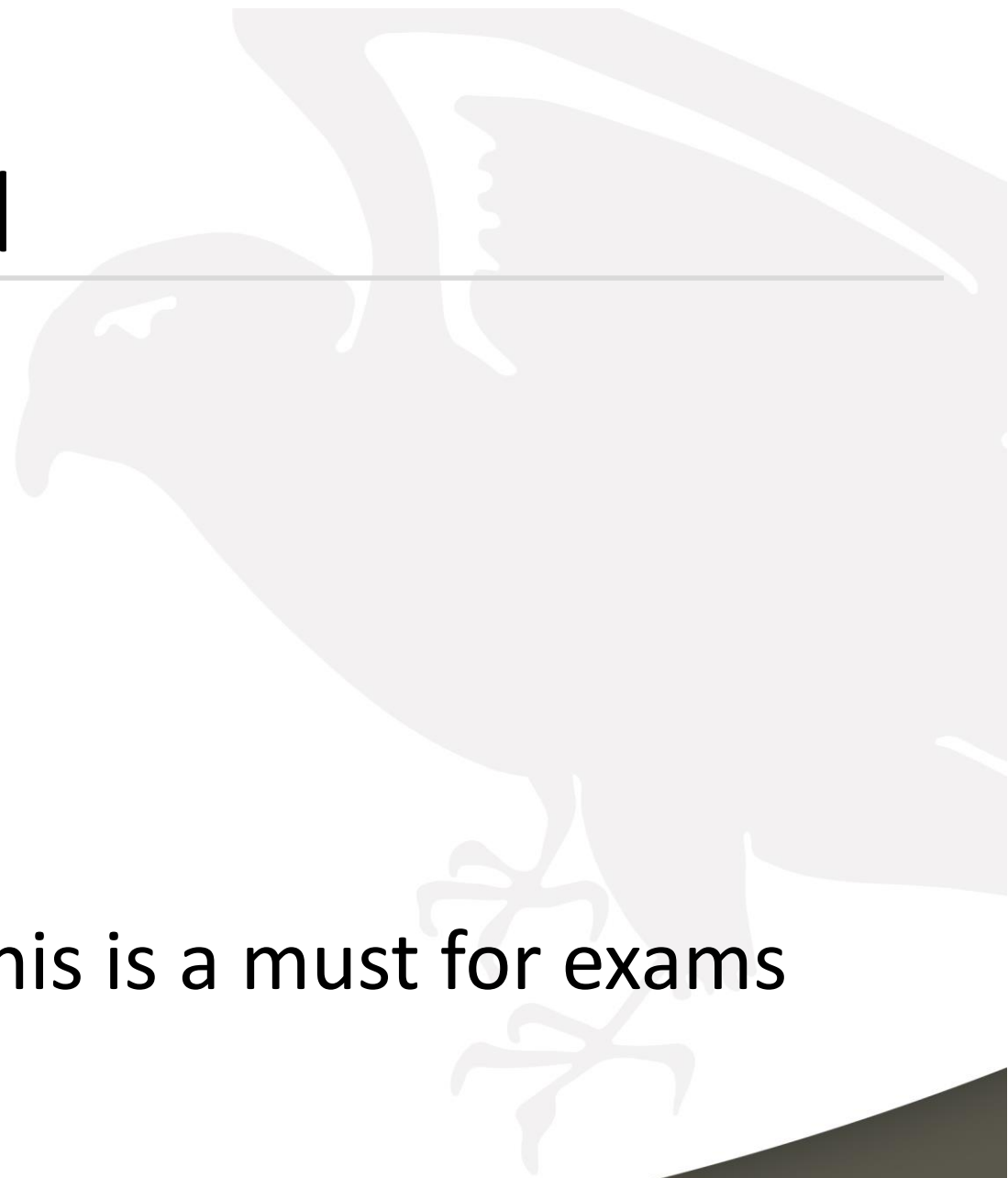
HT = Higher Tier only equations

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 = mass \times gravitational field strength \times height	$E_p = m g h$
change in thermal energy = mass \times specific heat capacity \times 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 = current \times time	$Q = I t$
potential difference = current \times resistance	$V = I R$
power = potential difference \times current	$P = V I$
power = (current) ² \times resistance	$P = I^2 R$
energy transferred = power \times time	$E = P t$

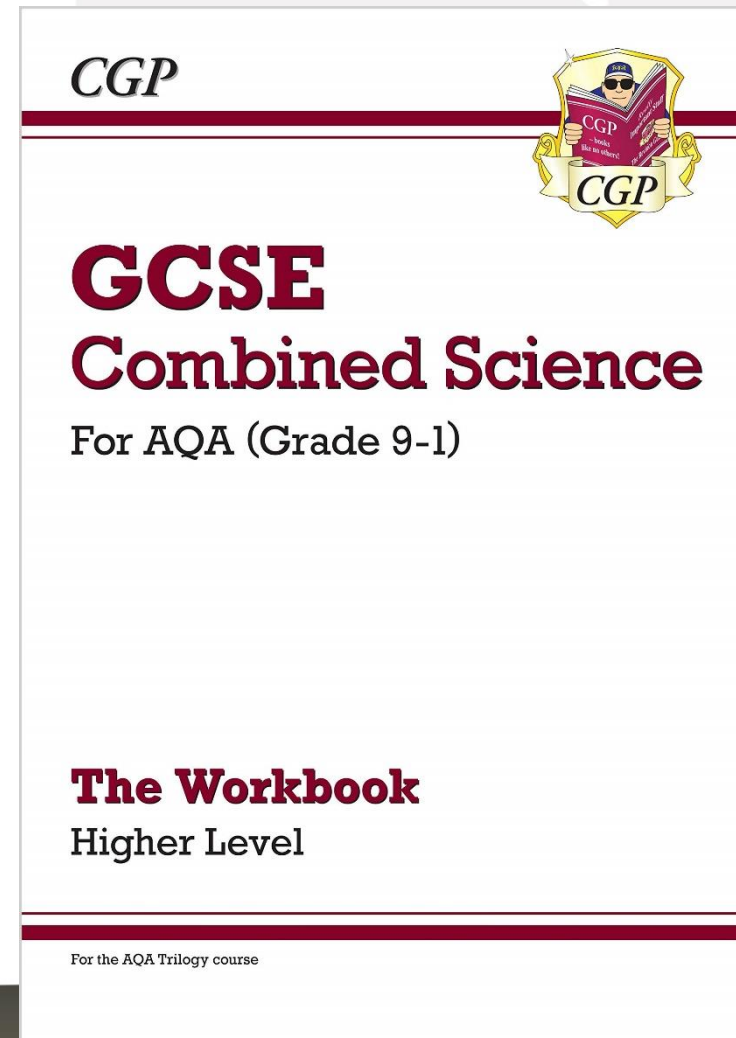
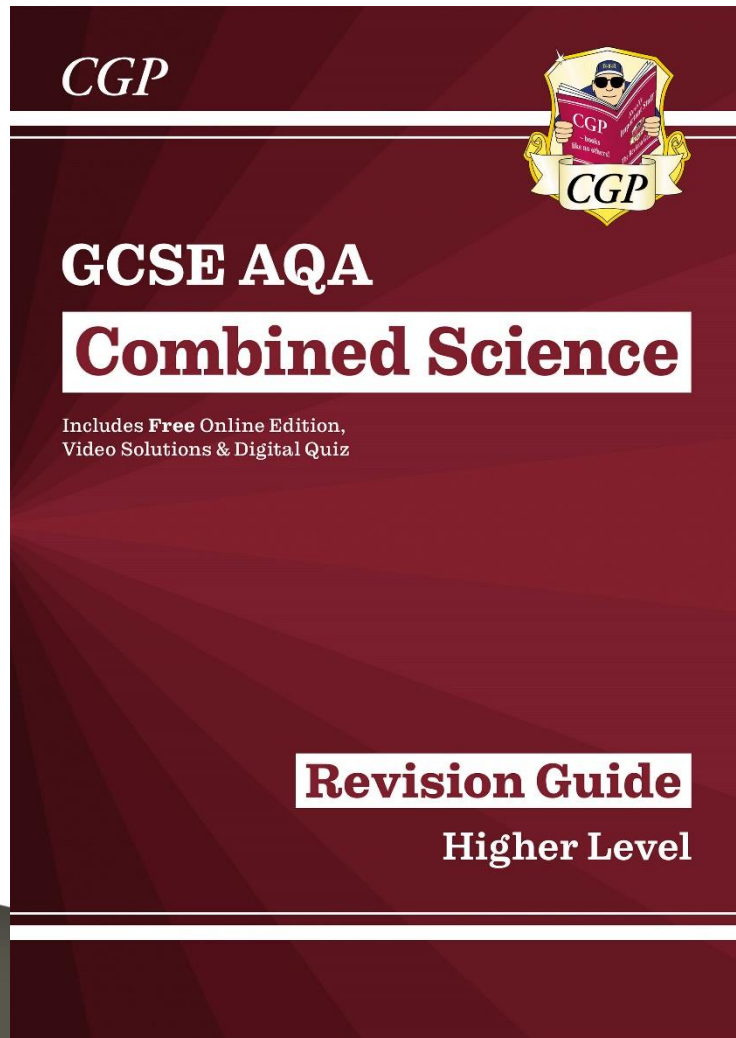
	energy transferred = charge flow \times potential difference	$E = Q V$
HT	potential difference across primary coil \times current in primary coil = potential difference across secondary coil \times current in secondary coil	$V_p I_p = V_s I_s$
	density = $\frac{\text{mass}}{\text{volume}}$	$\rho = \frac{m}{V}$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

Equipment needed

- Pen
- Pencil
- Highlighter
- Ruler
- Scientific calculator – this is a must for exams and lessons



Revision book and work book



Some resources students will get in class....

Biology – Paper two

Resources:

- Lots of past exam questions by topic: <https://www.physicsandmathstutor.com/biology-revision/gcse-aqa/>
- Topic PowerPoints on the students p-drive
- Required practical video clips – YouTube – [Malmesbury Science](#)

Topic	Tick to show how you've revised each one						
	Mind Maps	Revision cards	Seneca Learning	Doddle	YouTube	Practice questions	Revision guide
Topic 5 – Homeostasis							
Autonomic control systems							
Human nervous system – structure & function							
Route of a nerve response & reflex actions							
<i>RP 7 – effect of a factor on human reaction times (dropping ruler)</i>							
Human endocrine system – location of the glands and hormones they release including the 'master' gland (pituitary in brain)							
Control of blood glucose – monitored by pancreas							
Role of insulin in reducing blood glucose							
Type 1 and type 2 diabetes - differences and treatments for both							
Role of glucagon in raising blood glucose levels (HT)							
Negative feedback cycles (HT)							
Role of FSH, LH, oestrogen & progesterone in menstrual cycle							
Role of testosterone in the male reproductive system							
Evaluate the hormonal & non-hormonal methods of contraception							
The steps of IVF & use of FSH & LH in 'fertility drugs' (HT)							
Evaluate the use of IVF (HT)							
Roles of thyroxine & adrenaline in the body (HT)							

Biology Paper 1

Cell Biology: Plant & animal cells (**eukaryotic** cells) have a **cell membrane**, **cytoplasm** and genetic material enclosed in a **nucleus**.

Bacterial cells (**prokaryotic** cells) are much **smaller** in comparison. They have **cytoplasm and a cell membrane** surrounded by a **cell wall**. The genetic material is not enclosed in a nucleus. It is a single DNA loop and there may be one or more small rings of DNA called **plasmids**.

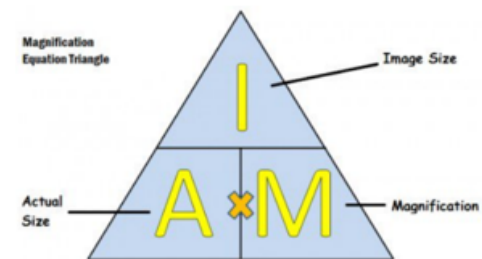
Animal cells have the following parts: a **nucleus** (contains genetic material), **cytoplasm** (where most chemical reactions take place), a **cell membrane** (controls what enters and exits the cell), **mitochondria** (site of aerobic respiration) & **ribosomes** (where proteins are made).

Plant cells also have: **chloroplasts** (where photosynthesis occurs), a permanent **vacuole** filled with cell sap (for support) and **cell wall** (made of cellulose for strength – algal cells also have these)

Required practical activity 1: use a light microscope to observe, draw and label a selection of plant and animal cells. A magnification scale must be included.

Specialised cells – when a cell **differentiates** and acquire different sub-cellular structures to enable it to carry out a specific function. E.g **sperm** cells, **nerve** cells and **muscle** cells in animals; **root hair** cells, **xylem** and **phloem** cells in plants. Most types of animal cell differentiate at an early stage. Many types of plant cells retain the ability to differentiate throughout life.

Electron microscope - has much higher **magnification** and **resolution** than a **light microscope**. This means that it can be used to study cells in much finer detail. This has enabled biologists to see and understand many more sub-cellular structures.



How to revise science:

- Complete past papers – use the AQA website to find these
- Physics & Maths Tutor – they have more past mock papers and plenty of practise questions. They also have notes that can be really helpful
- Save My Exams – detailed notes on the AQA spec
- Tassomai – make sure you are doing your daily goals.
- Seneca
- BBC Bitesize

YouTube:

Primrose Kitten

Required practicals – Malmesbury videos



Contact details for science

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KS4 lead of science: Jess Nelson
jnelson@jogschool.org

two twenty one

You are
CAPABLE
of more than
you know.

