



The John of Gaunt School

A Community Academy

Supporting for Success in Year 11

Monday 20th November 2023



This evening's aims

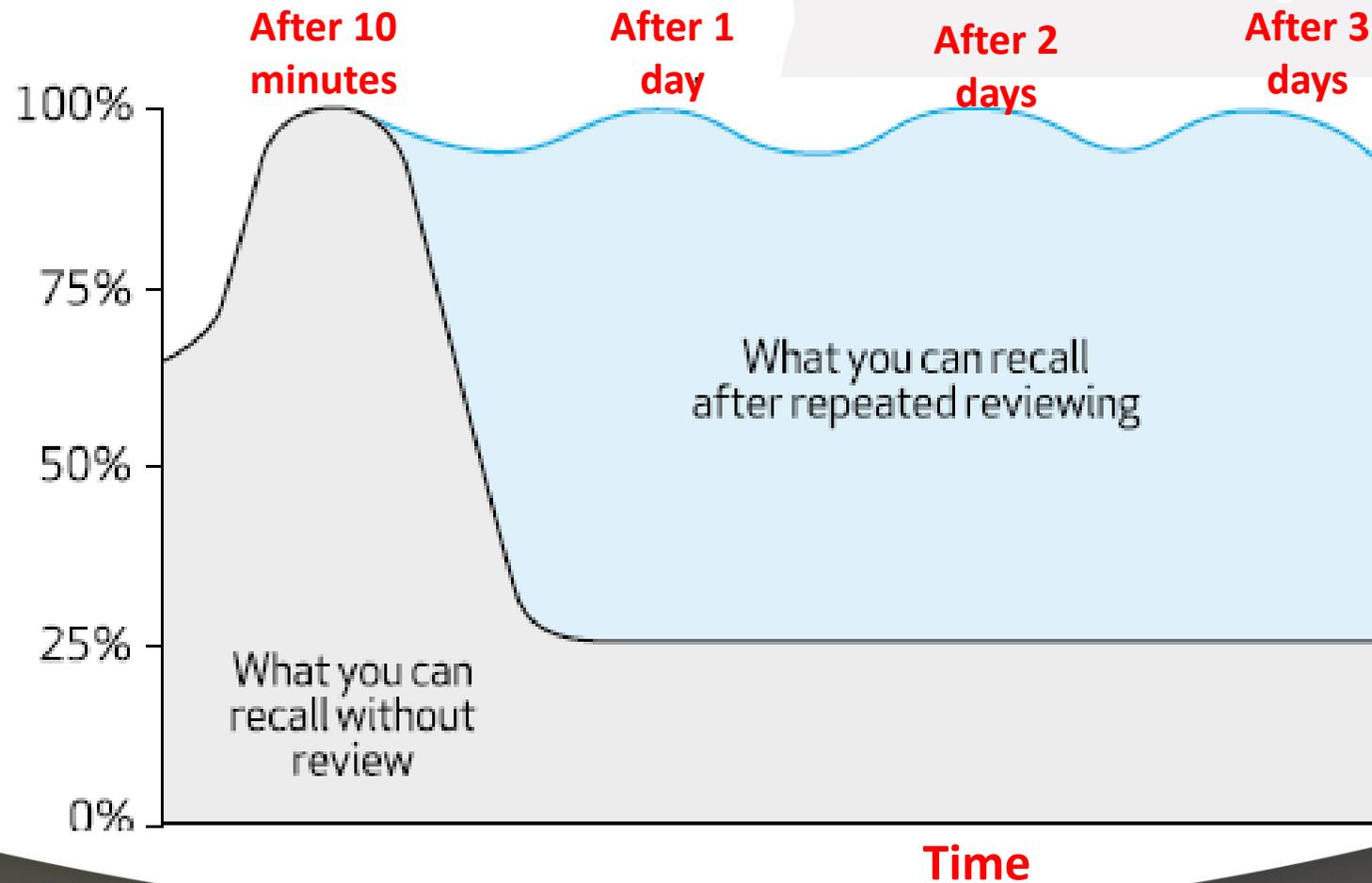
- Give some clear strategies for supporting your child with effective revision
- Give advice about health and well-being of young people during what can be a stressful period
- Give some specific advice about preparation for English, mathematics and sciences

How long should students spend revising?

In addition to what students complete in lessons ...

- we recommend a minimum of 10 hours per exam = **200 hours** on average
- There are 19 school weeks until the main 2024 exam season = **10.5 hours revision per school week**
- the key to revision is **LITTLE & OFTEN**

Why revise – memory performance over time



Students who test their knowledge perform better on tests than those who simply study

Proportion of recall on final testing

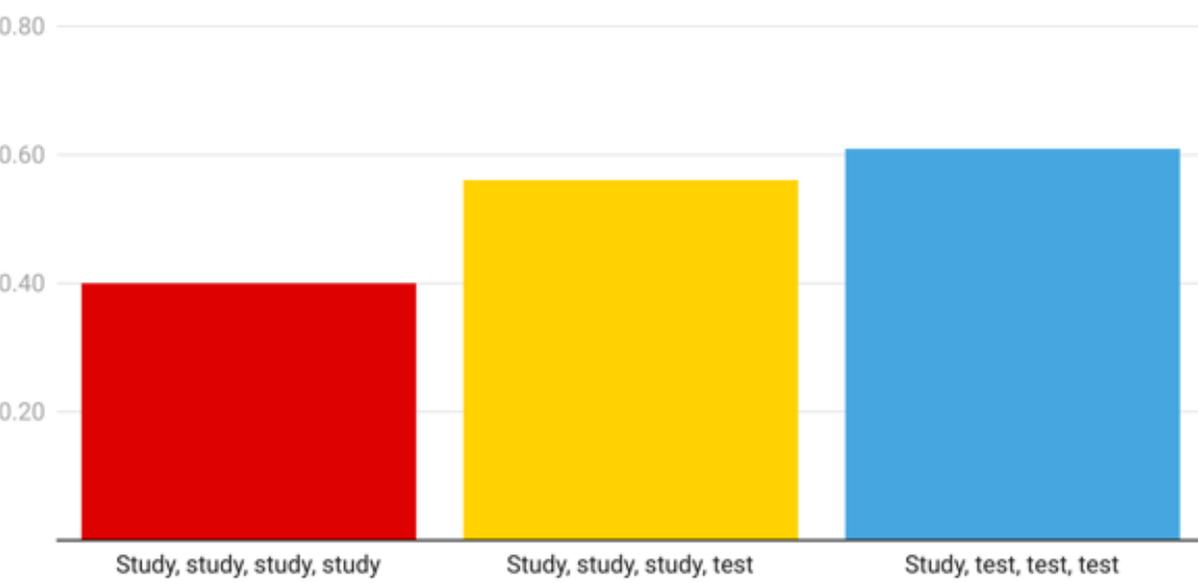
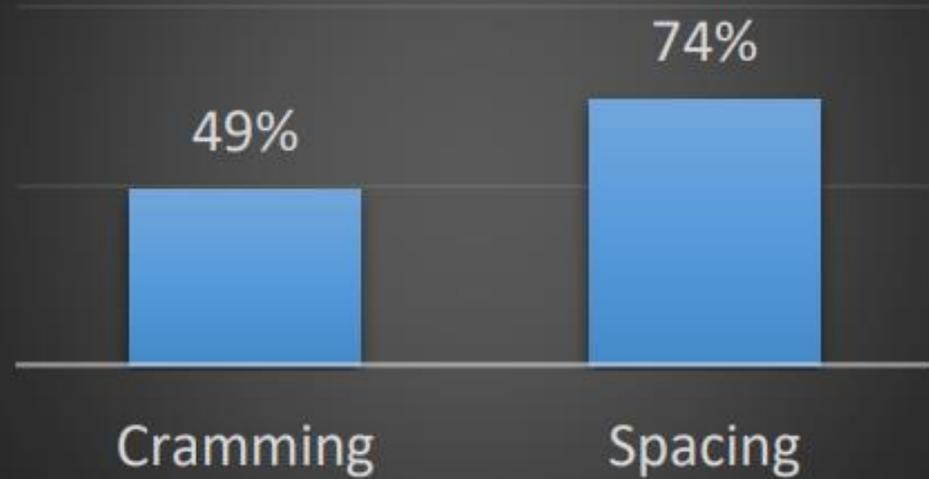
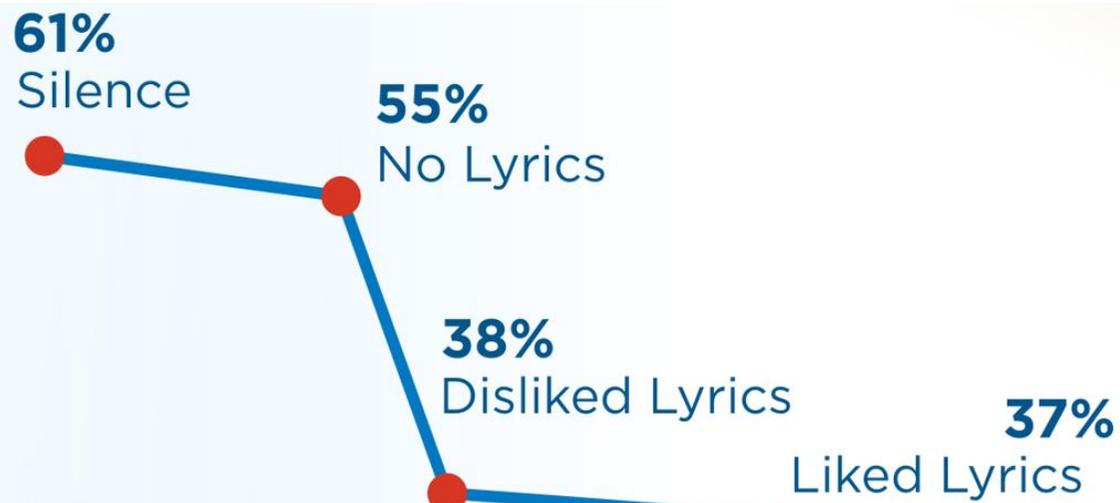
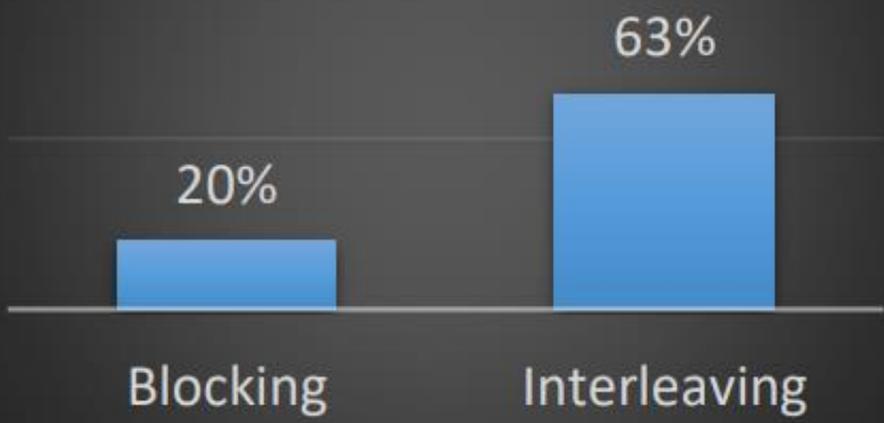


Chart: InnerDrive • Source: Roediger and Karpicke, 2006 • Created with Datawrapper

% of accurate responses

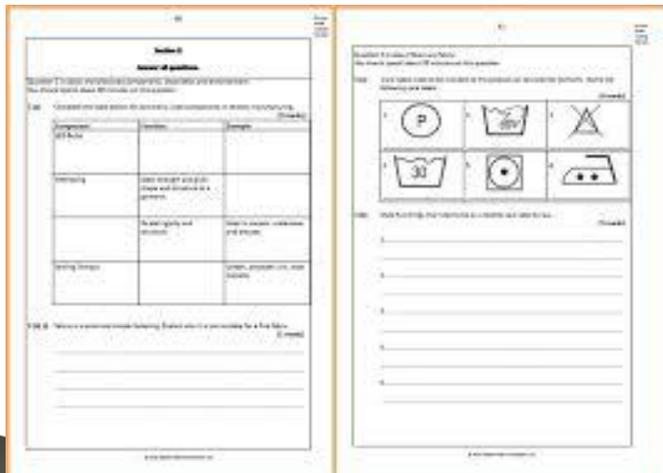
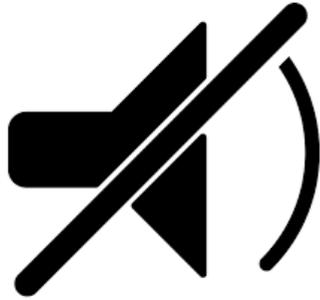


% of accurate responses



Study environment

What will effective revision in your household look/sound like?



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:

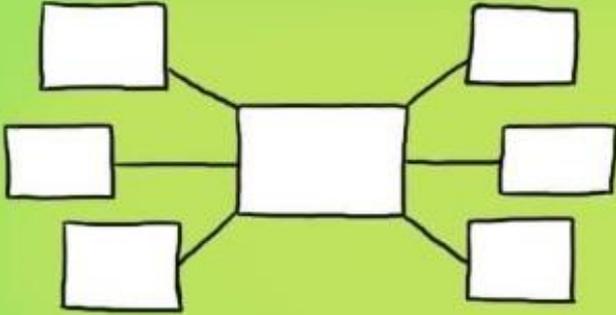
Apply the knowledge
to an examination
question

1. Knowledge

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

BRAIN DUMP

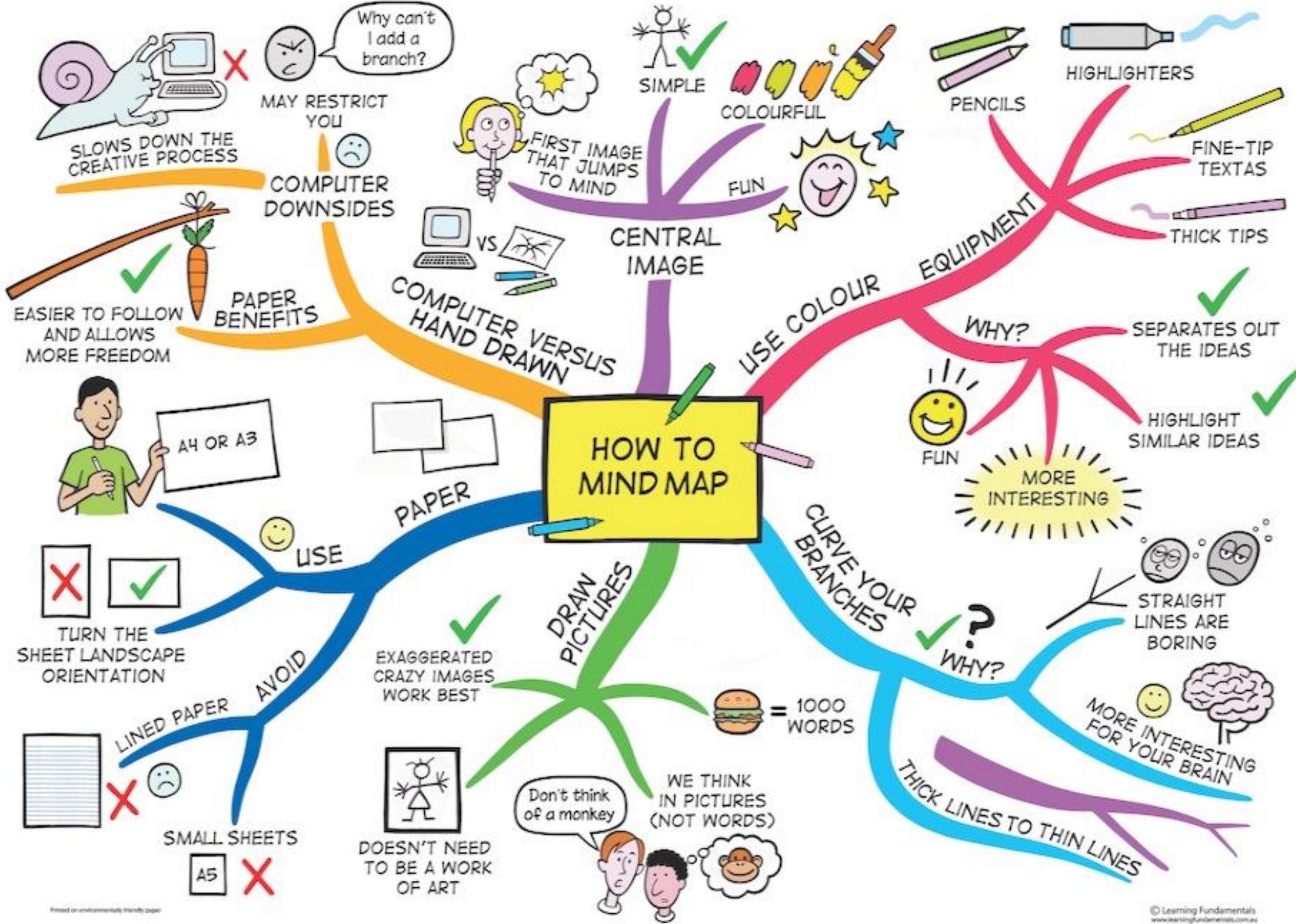
Write, draw a picture, create a mind-map on everything you know about a topic.



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 browser window with the address bar containing 'youtube.com/results?search_query=AQA+GCSE+Biology+Cells'. The search bar on the YouTube page also contains 'AQA GCSE Biology Cells'. The search results are filtered to show 'AQA GCSE Biology Cells'. The top result is an advertisement for 'Aqa A-level Biology - Gloucestershire Tutors'. Below the ad are three video thumbnails:

- 9-1 GCSE Biology Paper 1 Cell Biology** by Freesciencelessons (2:41)
- GCSE Science Revision Biology "Eukaryotes and Prokaryotes"** (2:41)
- GCSE Science Revision Biology "Sizes of Cells"** (4:05)

Below these are two more video thumbnails:

- Eukaryotes and Prokarotes** (GCSE Biology)
- GCSE Biology - Cell Types and Cell Structure #2** (223K views, 1 year ago)

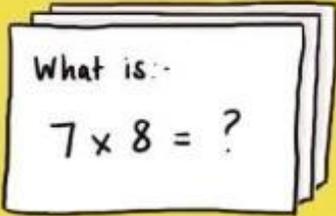
The bottom video thumbnail has a description: 'In this video, we cover: - The different types of cell (Eukaryotic and Prokaryotic) - The...' and a list of topics: 'Intro | What are cells | Human cells | Cell structure | Bacteria'.

2. Understanding

- Flash cards
- Quizzing
- Tassomai
- Sparks
- Quizlet
- SENECA

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.

What are the benefits?

- ☆ Using flashcards that combine images and words can boost our memory
- ☆ Once you have created flash cards you can use them for spaced revision over again
- ☆ Simple & quick way of testing knowledge
- ☆ Can be useful for collaborative revision e.g. revising with friends

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.

What are the benefits?

- ☆ Highlights to you what you do or don't know but also strengthens your ability to recall that information
- ☆ Applying the information to a question can prepare you for exams
- ☆ Self-quizzing requires you to only focus on the process of learning the directed key words and definitions;
- ☆ Improves our long term memory through repeated practice

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

Revision ⌚ POWER HOUR



STEP
01

Choose a past
paper question

Google your subject,
level and exam board
e.g. "Geography A-Level
Past Papers AQA"

STEP
02



Revise

Spend 20 minutes
revising what you need
to know to answer your
chosen question

STEP
03



Do the question

Set a timer for 20
minutes and answer the
past paper question you
chose

STEP
04



Get feedback

Show your teacher your
work. Ask them whether
your marking is accurate
and how you could
improve your answers

Mark your answer
Using the mark scheme
for the past paper mark
your answer. This will
help you to think like an
examiner



STEP
05

“Practice makes perfect”

STUDY	STUDY	RE-STUDY	RE-STUDY	EXAM
STUDY	STUDY	RE-STUDY	RETRIEVAL TEST	
STUDY	STUDY	RETRIEVAL TEST	RETRIEVAL TEST	
STUDY	RETRIEVAL TEST	RETRIEVAL TEST	RETRIEVAL TEST	

Studies show that making and reading over notes is not enough

Stress can be good...

Stress is a normal experience when we have a challenging event. We can experience stress when learning something new.

Our experience of “stress” is actually our body getting us ready to take on the challenge. A stress response is helpful as it can increase oxygen to the brain and improve attention, focus, energy and determination.

Stress can work for a person. But it become bad when we evaluate events as a threat rather than a challenge and when we believe we don't have enough resources to cope.



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:

Make sure your child eats well

Help your child get enough sleep

Be flexible during exams

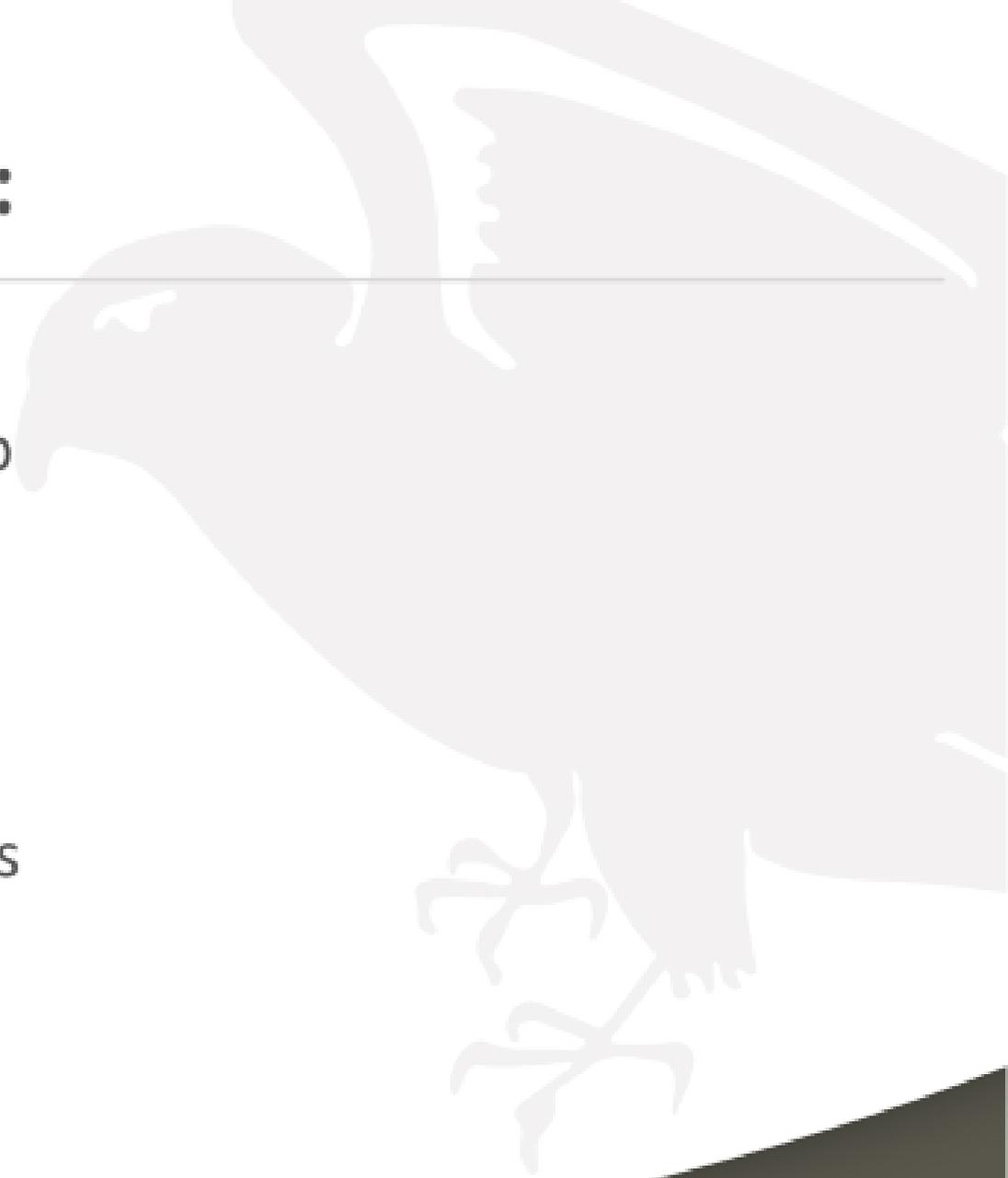
Help them study

Talk about exam nerves

Encourage exercise during exams

Do not add to the pressure

Make time for treats



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

Grounding

'Grounding' refers to techniques that can help 'ground' a person in the present. They can be useful when they are experiencing intense emotions, feeling overwhelmed or having panic attacks.

7/11 breathing

Tense and release

Organisation

Exercising the senses helps children to stay grounded. Depending on age this is an effective means to halt thought streams

5 things you see

4 things you hear

3 things you smell

2 things you can touch

1 thing you taste

<https://www.youtube.com/watch?v=wfDTpZGogaQ>

Important dates

- 4th-14th December – Mock exams
- 31st January 2024 – Year 11 parents' evening
- 9th May- 26th June – Main GCSE exam season
- 28th June – GCSE exam contingency data
- 4th July -Prom
- 22nd August – GCSE results day

AQA

GCSE English Literature and
English Language

Exam dates

- **Literature Paper 1 – Monday 13th May**
- **Literature Paper 2 – Monday 20th May**

- **Language Paper 1 – Thursday 23rd May**
- **Language Paper 2 – Thursday 6th 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** Macbeth
- **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 2024

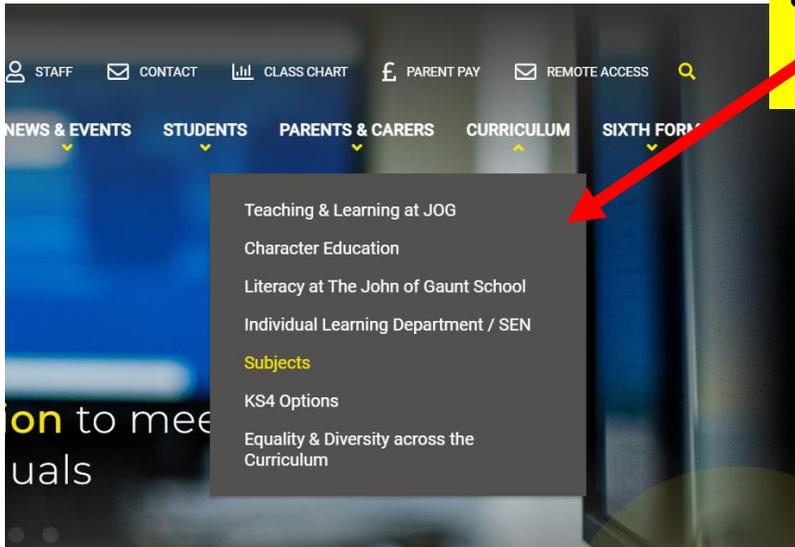


<p>Chunking your Revision</p> <p>If you spend 20 minutes a day on English, you can revise thoroughly before the exams.</p>	<p>Revision Materials</p> <p>Use your revision guides and exercise books. You could also use websites such as BBC bitesize, spark notes, Youtube (Mr Bruff and Mr Salles), National Oak lessons,</p>	<p>Colour Code</p> <ul style="list-style-type: none"> Holidays Days Off Language Topics Lit Paper 1 Topics Lit Paper 2 Topics <p>Lit Paper 1 – Jekyll and Hyde & Macbeth Lit Paper 2 – An Inspector Calls, Power and Conflict Poetry and Unseen Poetry.</p>
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	MON	TUES	WED	THURS	FRI	SAT	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN
JAN	<p>8</p> <p>RAG rate the key areas of revision for each of your literature texts: context, themes, characters, quotations etc. Use this to prioritise your revision.</p>	<p>9</p> <p>Watch these videos on Q1 and Q2 (Paper 2). Make notes on how to answer.</p> 	<p>10</p> <p>Make character cards for The Inspector and Mr Birling. Include key moments and 3 quotes each</p>	<p>11</p> <p>Do a Q1 and Q2 from Language Paper 2 in your revision booklet – time yourself: 5 mins Q1 and 10 mins Q2 – use the mark scheme to grade your answer-how could you have improved it?</p>	<p>12</p> <p>Make a mind map of key context information for An Inspector Calls. Ensure you have a section on writer's purpose – what is Priestley's message?</p>	<p>13</p>	<p>14</p> <p>Watch this video and make notes on the context behind Macbeth</p>	<p>15</p> <p>Watch and make notes on 'My Last Duchess' and Ozymandias. Complete revision cards/posters for both poems. How would you compare them?</p> 	<p>16</p> <p>Plan and answer a Q3 for Language Paper 2 in your revision booklet.</p>	<p>17</p> <p>Make character cards for Dr Jekyll and Dr Lanyon. Include their key moments and 3 quotes for each</p>	<p>18</p> <p>Make notes on how to answer Q4 (Lang P2).</p> 	<p>19</p> <p>Make character cards for Macbeth and Lady Macbeth. Include their key moments and 3 quotes each.</p>	<p>20</p>	<p>21</p> <p>Use your notes from Thursday's video to try a Q4. Use the JOG revision guide for an example question. Time your answer and use the marks scheme to grade your response. How could you improve this further?</p>
Jan/Feb	<p>22</p> <p>Make a mind map about what a formal letter should include. Plan a formal letter from one of the practice papers.</p>	<p>23</p> <p>Watch this video on context in J+H. How does it link to the themes in J&H?</p> 	<p>24</p> <p>Watch this video with a student exemplar (Q5). What could you magpie for your own writing?</p> 	<p>25</p> <p>Make character cards Sheila and Gerald Include their key moments and 3 quotes for each.</p>	<p>26</p> <p>Choose a Paper 2 Question 5 writing task (from your workbook/revision guide) and have a go at planning an answer.</p>	<p>27</p>	<p>28</p> <p>Watch this video reminder on unseen poetry. Then have a go at Set 1 Q1 from your poetry revision workbook.</p> 	<p>29</p> <p>Watch and make notes on 'London' and 'Tissue What could be your three main points in an essay power?</p> 	<p>30</p> <p>Choose 3 different images; for each one, spend 5 minutes planning your answer – what would you include in each paragraph?</p>	<p>31</p> <p>Make character cards for the Witches and Banquo. Include their key moments and 3 quotes for each.</p>	<p>1</p> <p>Choose one of the characters from AIC and plan an essay on how is this character presented in the play. (If you have time, try to plan and write the answer in 45 minutes)</p>	<p>2</p> <p>Choose one of your plans from Tuesday night's revision and write your answer.</p>	<p>3</p>	<p>4</p> <p>Make a mind-map on the features of the Gothic genre and the conventions of a tragedy. Identify how Macbeth conforms, or subverts these features and why.</p>

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

- ▼ An Inspector Calls Revision Guide
- ▼ Jekyll & Hyde revision booklet
- ▼ Macbeth revision booklet
- ▼ Paper 1 revision booklet
- ▼ Language Paper 2 revision guide
- ▼ Poetry Support 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.

Topic	R/A/G – Dec	R/A/G – Feb	R/A/G April
<i>Macbeth</i> - Plot			
<i>Macbeth</i> - characters - Macbeth - Lacy Macbeth - The witches - Banquo - Macduff - Minor characters			
<i>Macbeth</i> – themes - Supernatural - Ambition and power - Appearances and reality - Masculinity and femininity - guilt			
<i>Macbeth</i> - Quotations and textual references			
<i>Macbeth</i> - Shakespeare’s methods and the effects and meanings they create			
<i>Macbeth</i> - Context			

Ways to revise



Speed Writing Challenges:

5 minutes



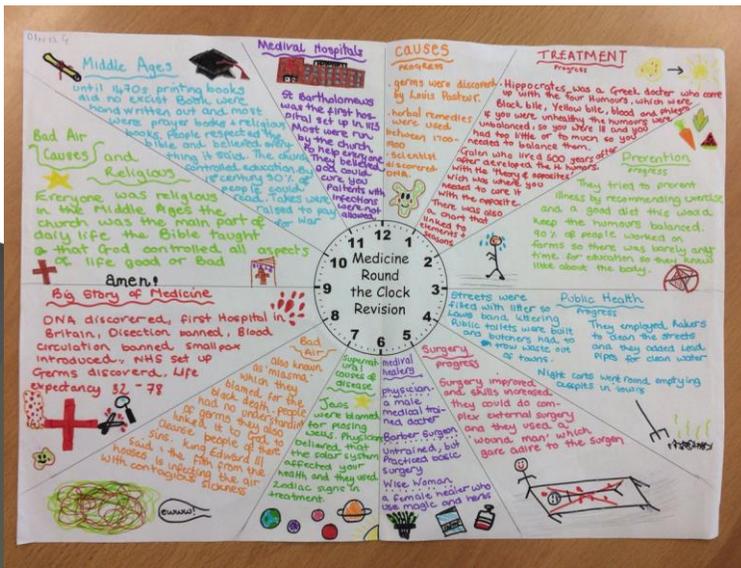
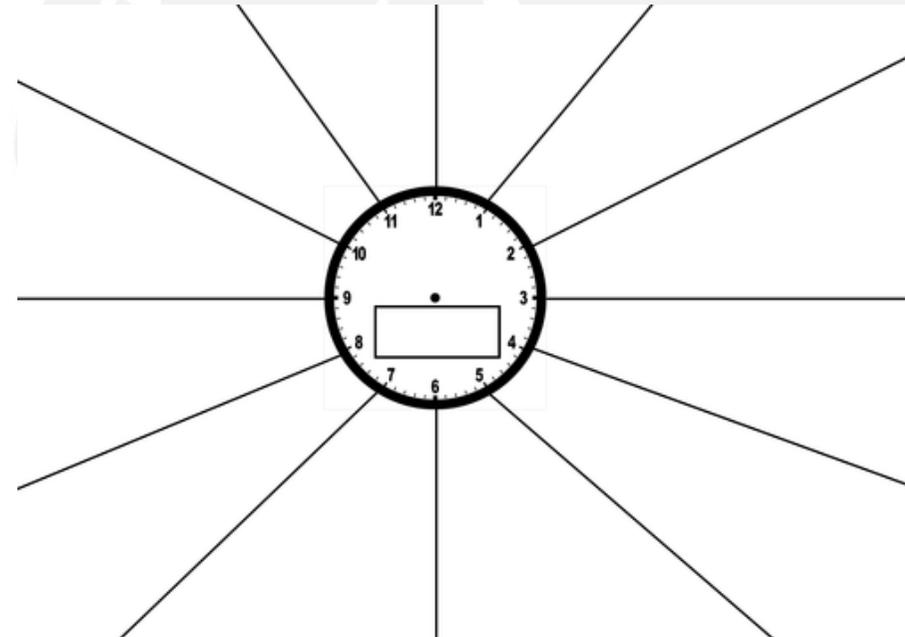
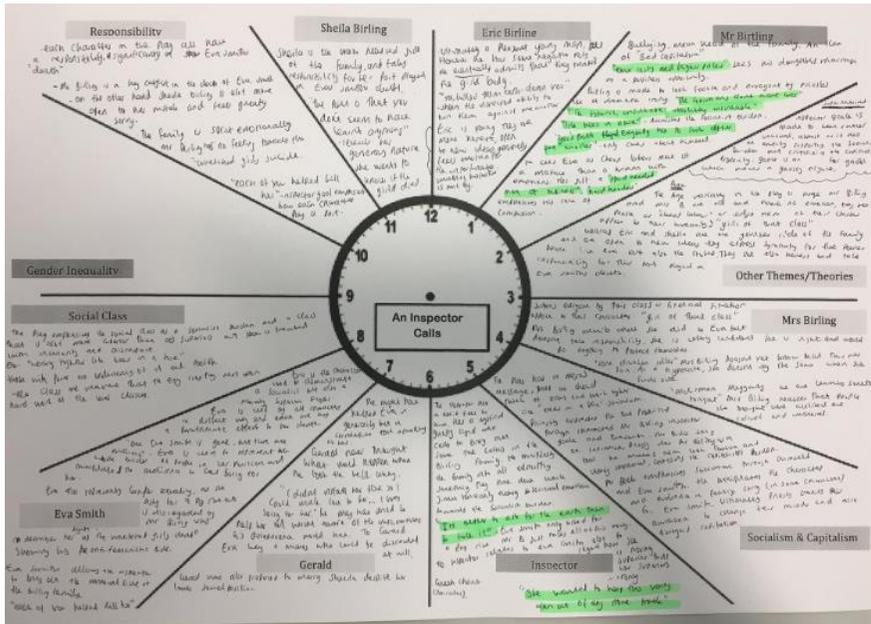
Topic: Ambition in Macbeth

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)

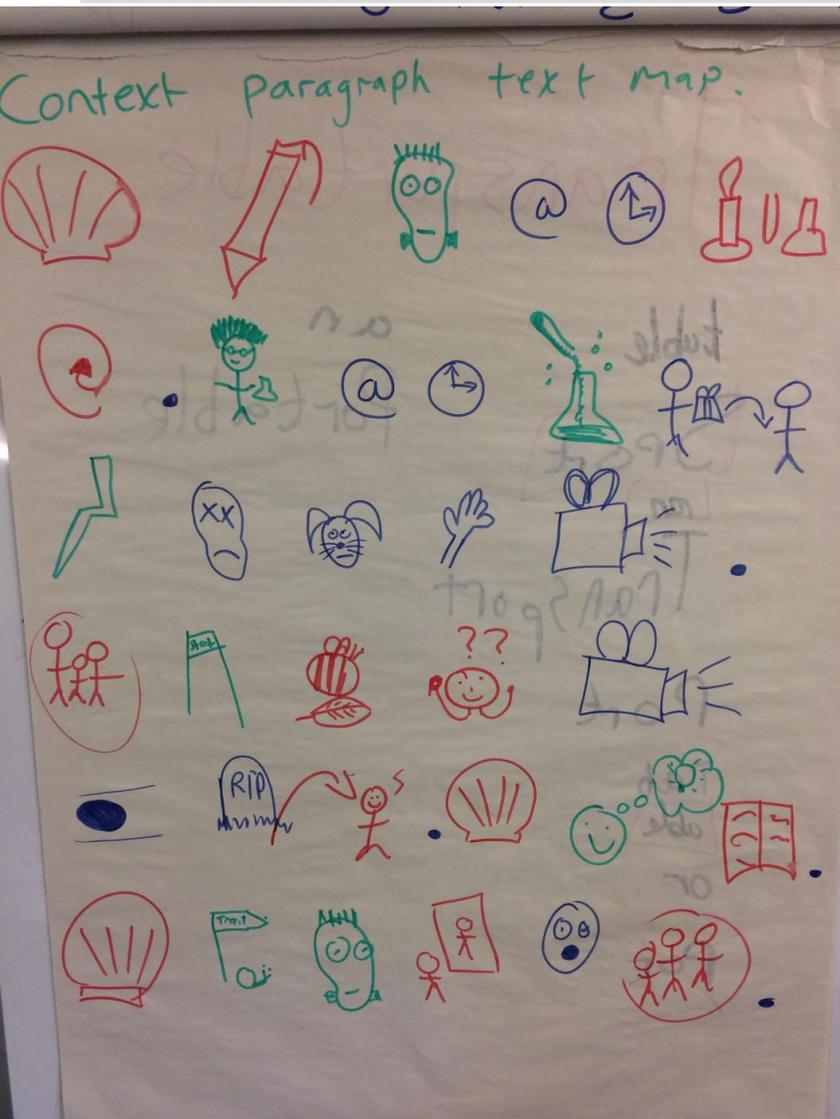
“Why shouldn’t they ask for higher wages?” (Eric)

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

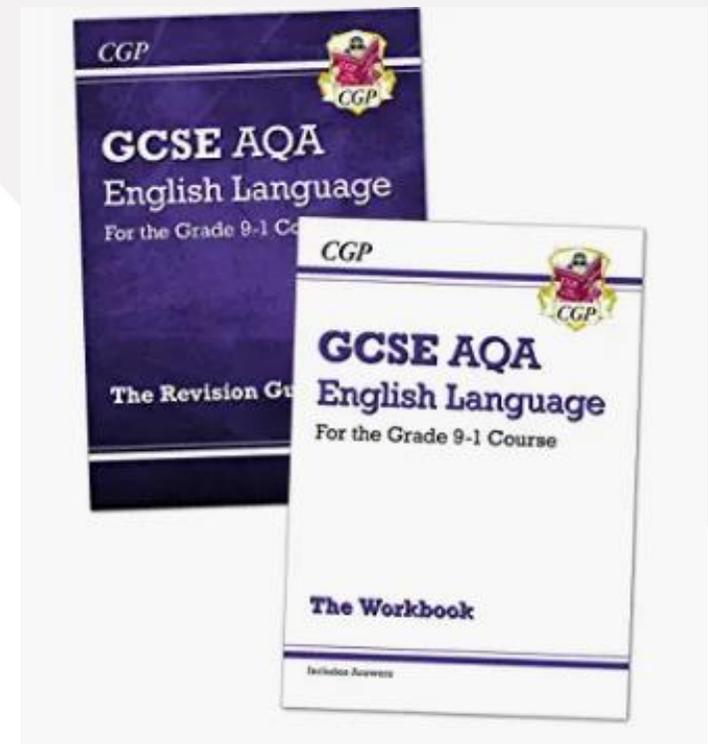
Hyde's violence



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')



Other ways to revise for the Language exams

Paper 1

- Search online for interesting images.
- Remind yourself of the descriptive writing features (FAMOUS CAP)
- 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.



Five senses
Adjectives and adverbs
Metaphors
Onomatopoeia
Unusual verbs
Similes

Contrasts and colours
Alliteration
Personification

Paper 2

Read a newspaper/a couple of articles each week and ...

- 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: Gemma Gilvin

ggilvin@jogschool.org

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

afoster@jogschool.org

Using cue-cards to help you memorise key quotations

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“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).

Quotations

"Satan's signature upon a face"

"Man is not truly one, but truly two"

"I sprung headlong into the sea of liberty"

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



AQA

Maths

Have you tried the exam questions on your tables?

Exam dates

THREE EXAM PAPERS

- PAPER 1 – THURSDAY 16TH MAY 2024 (AM) - 1 ½ HRS – NON-CALCULATOR;
- PAPER 2 – MONDAY 3RD JUNE 2024(AM) - 1 ½ HRS – CALCULATOR;
- PAPER 3 – MONDAY 10TH JUNE 2024 (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.

Revision sessions

- Maths revision sessions as per student's period 6 timetable;
- Targeted intervention (during school hours);
- National Tutor Program (on-line evening revision);
- Prior to each exam, there will be a Maths-Ready Breakfast session that morning.

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.



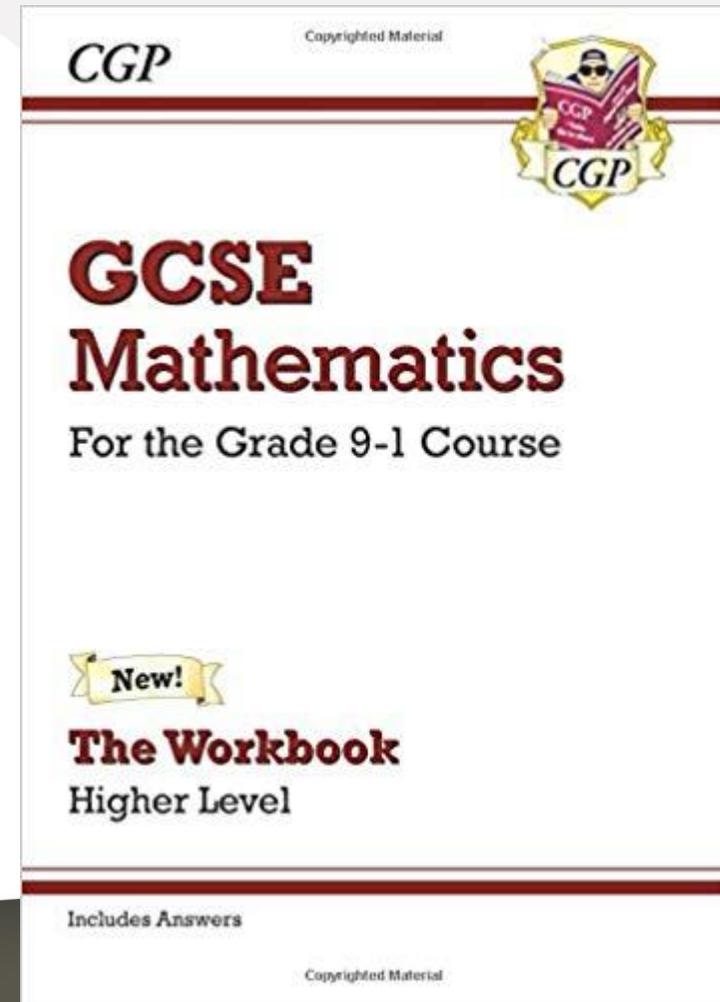
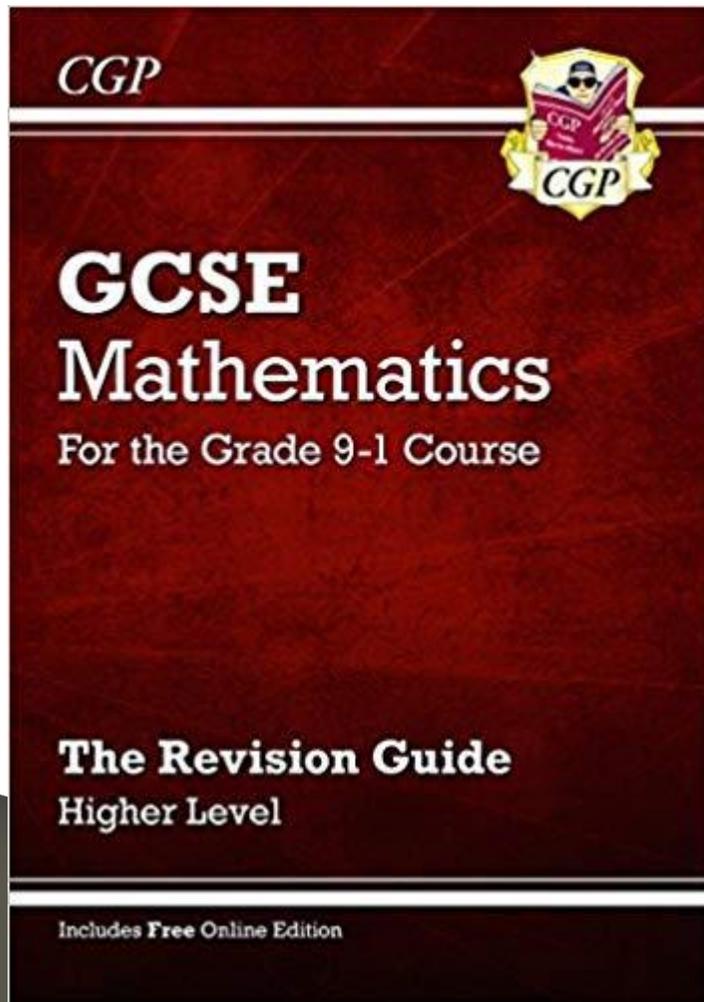
- Fractions
- Surds
- Recurring decimals
- Prime factors
- Indices and roots
- Reciprocals
- Percentages
- Pi
- Trigonometry
- Simplifying ratios
- Standard Index Form

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;
 - Revision Cards;
 - Questions from a maths specific website, such as:
 - <http://vle.mathswatch.co.uk>
 - 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.

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).



Exam Advice for students

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.

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

Contact details for maths

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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

Breakfast revision sessions will be available before each of these exams

Exam Pathway overview – Separate Sciences

GCSE Biology, Chemistry & Physics (Triple award)

Total of 6 exams; two biology papers, two chemistry papers and two physics papers.

Each exam is 1hr 45 mins with a total of 100 marks.

Questions consist of multiple choice, structured, closed short answer and open response.

GCSE Combined Science: Trilogy Pathway – (dual award)

Total of 6 exams; two biology papers, two chemistry papers and two physics papers.

Each exam is 1hr 15mins with a total of 70 marks.

Questions consist of multiple choice, structured, closed short answer and open response.

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	$F = B I l$

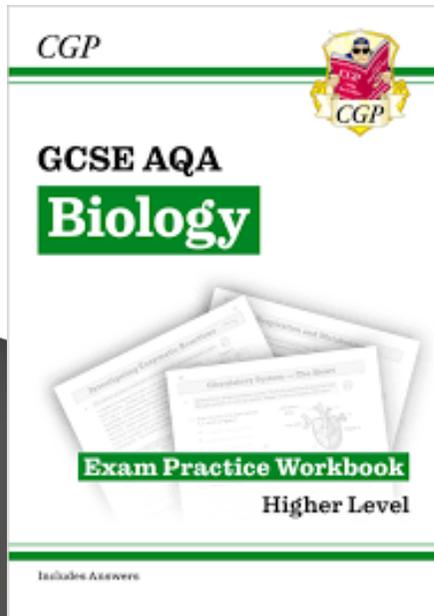
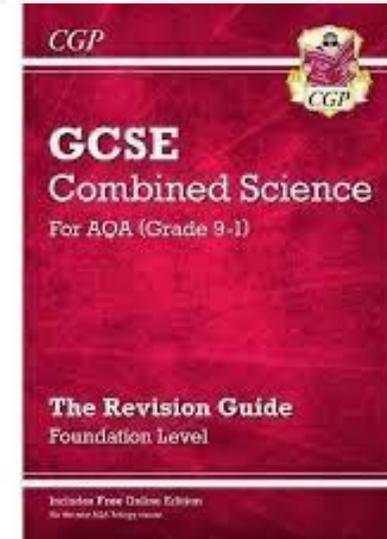
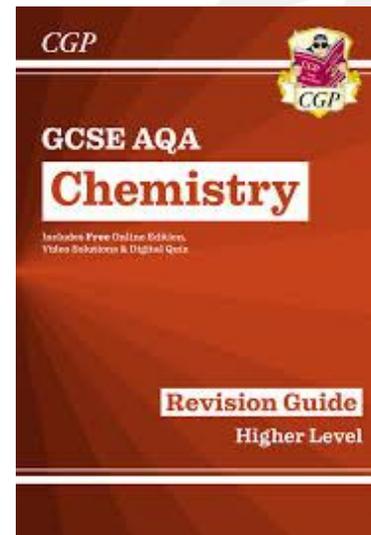
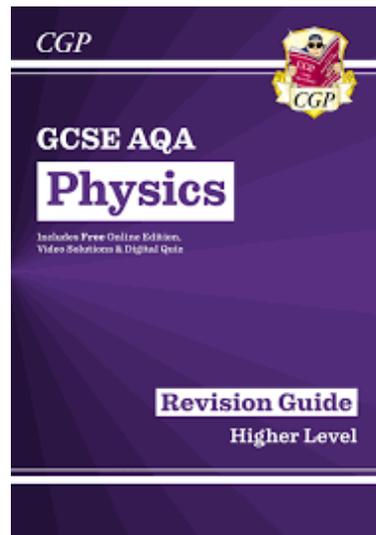
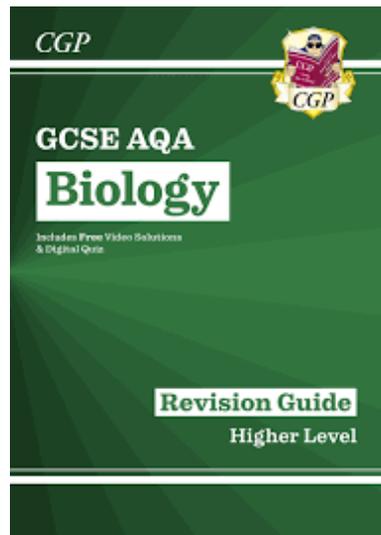
Equipment needed

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



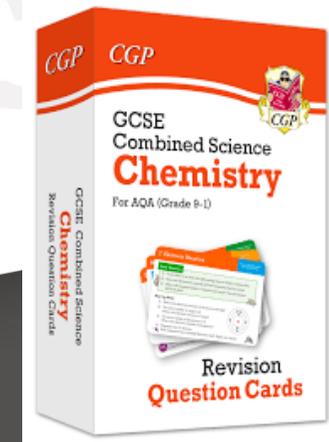
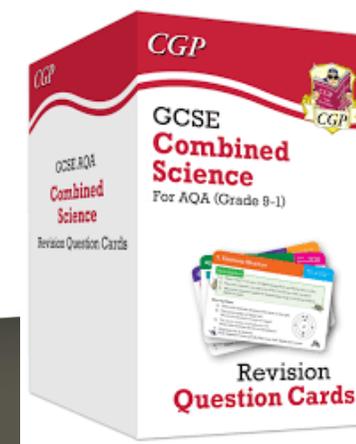
Revision materials

Revision guides



Workbooks that go alongside the revision guides

Revision question cards



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							
RP 7 – effect of a factor on human reaction times (dropping ruler)							
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**.

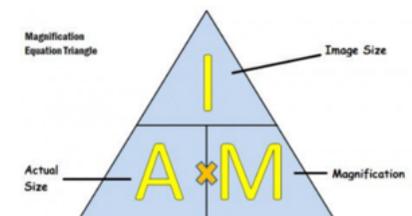
Animal cells have the following parts: a **nucleus** (contains genetic material), **cytoplasm** (where most chemical reactions take place), a **cell membrane** (controls what enters and exits the cell), **mitochondria** (site of aerobic respiration) & **ribosomes** (where proteins are made).

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



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

Effective organisation & preparation

Make sure you have the following resources:

- The syllabus overview for your course so you can see exactly what course content you need to learn.
- Know what tier paper you are sitting.
- Know your target grade, current working at grade and what you need to do to achieve your next steps.
- Past exam papers for subjects with mark schemes
- Revision guides & textbooks for your particular course.

Revision ideas

- Flashcards, revision cards, question & answer cards
- KEYWORD QUESTIONS
- Post-its 'all around the house!'
- make you own revision podcast – listen on the way to school and back.
- Do exam questions – then check and amend using the mark scheme.
- Work with a revision buddy or revision group.
- Create mind maps – each one more dense than the previous
- Text to image (PICTIONARY) or image to text.
- PEE - point, example, explain
- Keyword games, taboo, explain without using key word
- Explain definitions and concepts to yourself or anyone at home.
- Create arguments for & against, think of debates!
- Read -highlight what you don't know or RAG.
- Reading is NOT revision!

YouTube:

Primrose Kitten

Required practicals – Malmesbury videos



Contact details for science

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You are
CAPABLE
of more than
you know.

