



The Marlborough
Science Academy
'shaping futures'



Year 11

GCSE Support

2024



How to
approach
your exams
like an
Olympian

Three way Partnership



Student



School

Family

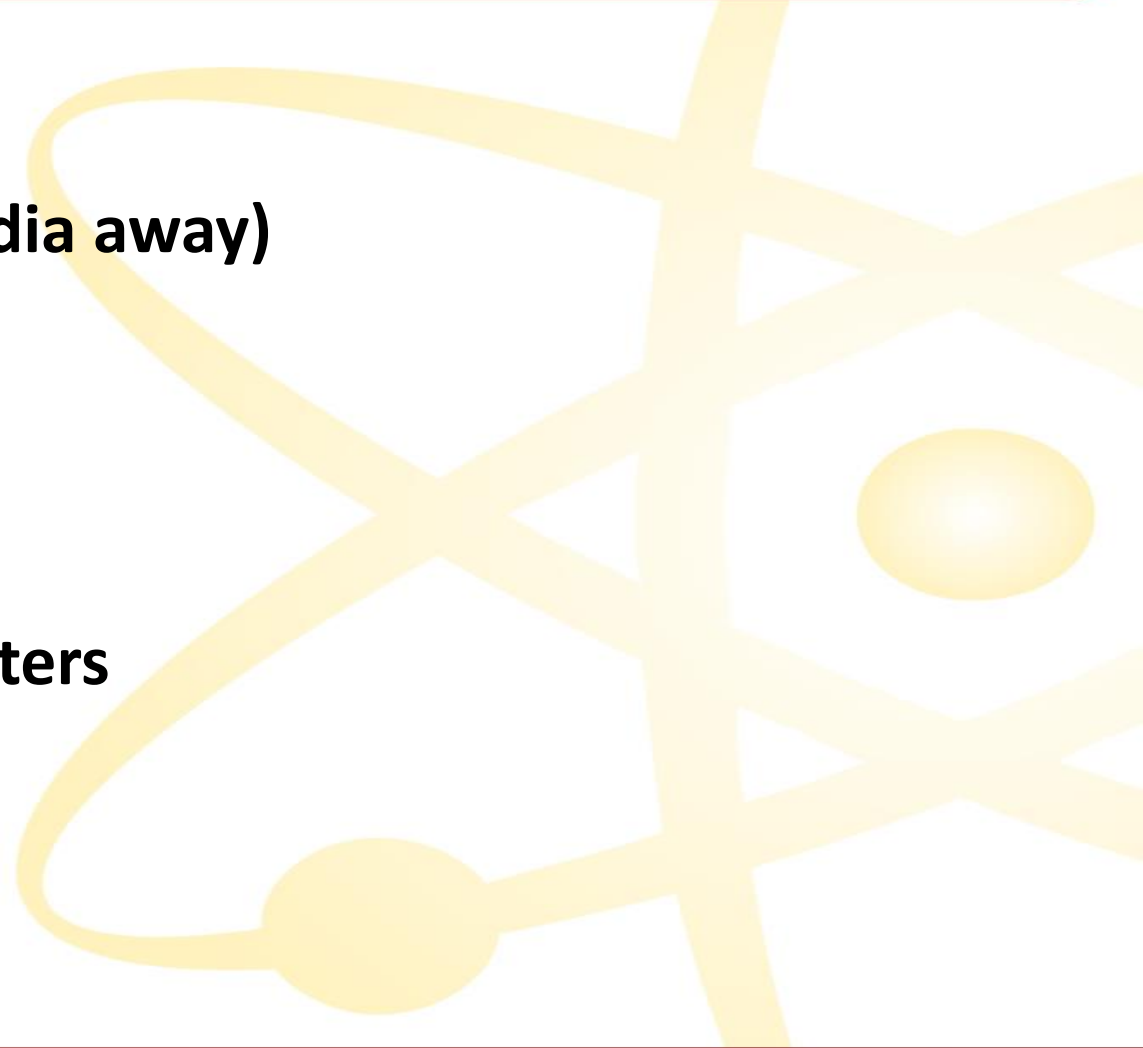


Before you do any revision

- **Eat breakfast**
- **Put your phone away (social media away)**

During revision sessions

- **Start early and spread it out**
- **Test yourself**
- **Teach someone**
- **Think twice about using highlighters**
- **Don't listen to music**
- **Get some fresh air and exercise**
- **Sleep**





Your training schedule

It starts with a revision timetable

<https://getrevising.co.uk/planner>

Revision Ace

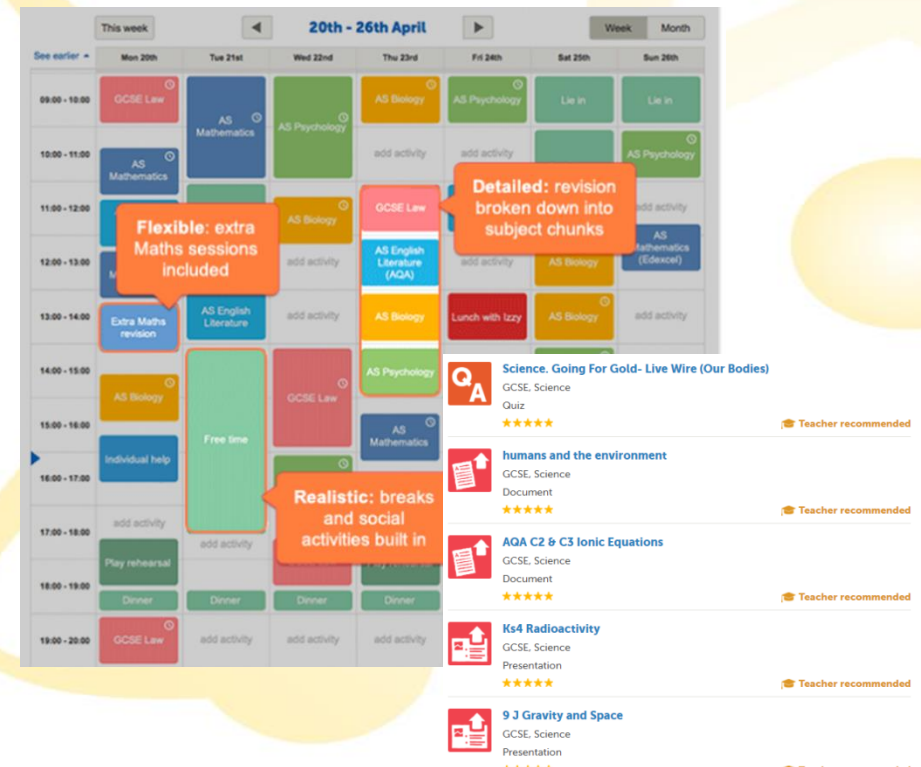
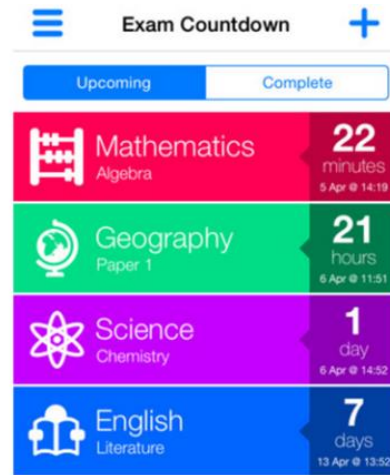
FREE



With this exciting app you can easily organise your revision schedule, keep track of your targets and set revision reminders.

Features:

- Schedule of exams and target revision time
- Progress tracking and intelligent revision suggestions
- Revision comparison graph
- Previous week revision summary with feedback
- Set daily revision reminders





Working Together: Supporting your child with GCSE English Language and GCSE English Literature



Exams

- GCSE English Language
 - Paper 1: 23rd May 2024
 - Paper 2: 6th June 2024
- GCSE English Literature
 - Paper 1: 13th May 2024
 - Paper 2: 20th May 2024



English Language

- **Paper 1 (1 hr 45 mins)**
- Explorations in Creative Reading and Writing (Fiction)
- **Paper 2 (1 hr 45 mins)**
- Writer's Viewpoint and Perspectives (Non-fiction)



English Literature

- **Paper 1 (1 hr 45 mins)**
- Shakespeare - *Romeo and Juliet*
- 19th Century Novel - *A Christmas Carol*
- **Paper 2 (2 hrs 15 mins)**
- 'Modern text' - *An Inspector Calls*
- Power and Conflict poetry
- Unseen poetry



Week B	8th January	Power and Conflict Poetry	Revise: Storm on the Island, The Prelude, Exposure, Kamikaze Model a comparison essay	Timed comparison e.g. How has the power of the natural world been presented in Storm on the Island and one other poem from the P&C collection?	Create revision notes and cards for the 4 poems from this week.
Week A	15th January (Learning Walk)	An Inspector Calls	Revise remaining characters: Gerald, Sheila, Eric, Eva Smith, The Inspector	Timed response e.g. How has Priestley used the character of Eva Smith to demonstrate his criticisms of society?	Create revision notes and cards for all characters: Mr Birling, Mrs Birling, Gerald, Sheila, Eric, Eva, Inspector
Week B	22nd January	Power and Conflict Poetry	Revise: My Last Duchess, London, Tissue, The Emigree, Checking Out Me History, Ozymandias	Timed comparison e.g. How has the power of man been presented in The Emigree and one other poem from the P&C collection?	Create revision notes and cards for the 6 poems from this week.

In class, all students are following our Countdown Plan for 2024. This covers revision of all topics, practice questions and specific home learning revision tasks.



Writing Stamina

Pens - try out different types. You need a reliable pen which works for you. Get a large supply.

Finger gym - exercises. Hand stretches and flexing. Flex while you think.



Exam knowledge

English Language

Unseen texts but questions remain the same.

Skills and practice are vital. Know the format, know the structure.

English Literature

Known texts but questions will change.

Textual knowledge and practice are vital. Closed book exams.



How to revise for English Literature

- Revision guides
- Knowledge organisers
- Retrieval practice for quotations
- Exercise books, class notes and school handouts
- Websites
- Make notes, mindmaps or posters for each character, theme or contextual factor.
- Make quosters (quotation posters)



Revising for English Language - Reading:

- Read – fiction and non-fiction such as newspapers, magazines or novels.
- Buy a broadsheet newspaper – look at the comment style articles. These are also available online.
- Read articles together and discuss, draw out the main ideas/arguments of a piece and the writer's techniques.



Retrieval Practice

Associating an image or a key word with a quotation/summary of the topic.



'Into the jaws of Death/Into the mouth of Hell'

'The Charge of the Light Brigade'



'a huge peak, black and huge'

'The Prelude'



Writing:

- Learn commonly misspelled words using strategies such as read – write – check.
- Get students to check their writing when they have finished to ensure that it is as accurate as possible
- Have a dictionary for checking.
- Encourage them to realise that being good at reading and writing is a skill most people have to work at and they can improve...and will.



Each poem is
separate

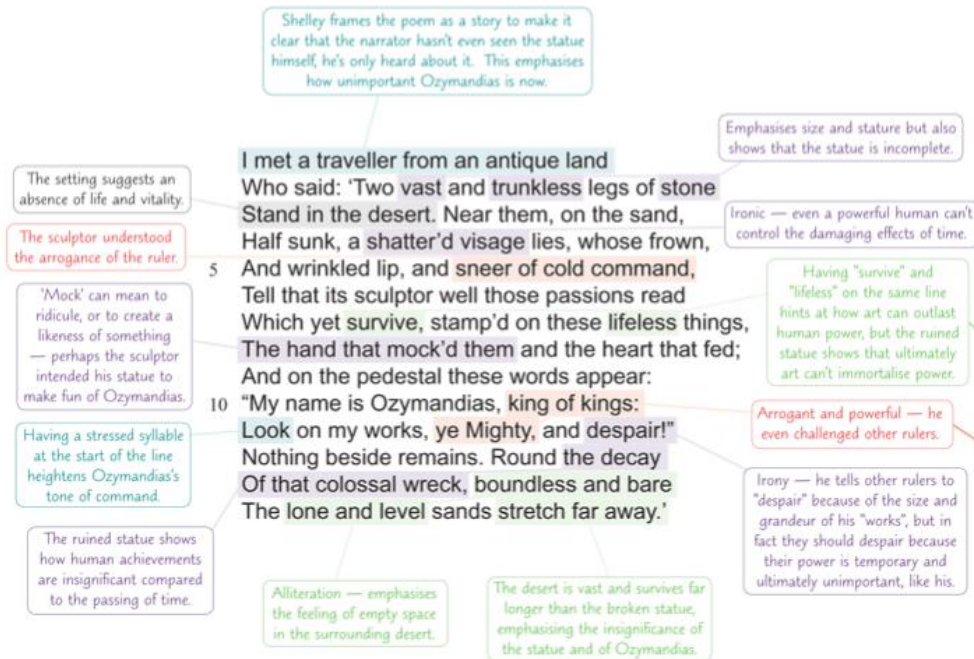
Key
Quotations
highlighted

Colour coded
annotations

2

Section One — The Poems

Ozymandias





2 Section One — The Poems

Ozymandias

Shelley frames the poem as a story to make it clear that the narrator hasn't even seen the statue himself, he's only heard about it. This emphasises how important Ozymandias is now.

The setting suggests an absence of life and vitality.

The sculptor understood the arrogance of the ruler.

'Mock' can mean to ridicule, or to create a likeness of something — perhaps the sculptor intended his statue to make fun of Ozymandias.

Having a stressed syllable at the start of the line heightens Ozymandias's tone of command.

The ruined statue shows how human achievements are insignificant compared to the passing of time.

Allegation — emphasises the feeling of empty space in the surrounding desert.

The desert is vast and survives far longer than the broken statue, emphasising the insignificance of the statue and of Ozymandias.

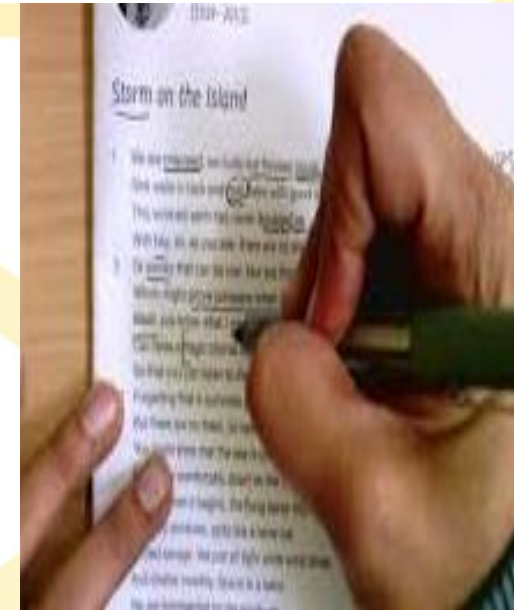
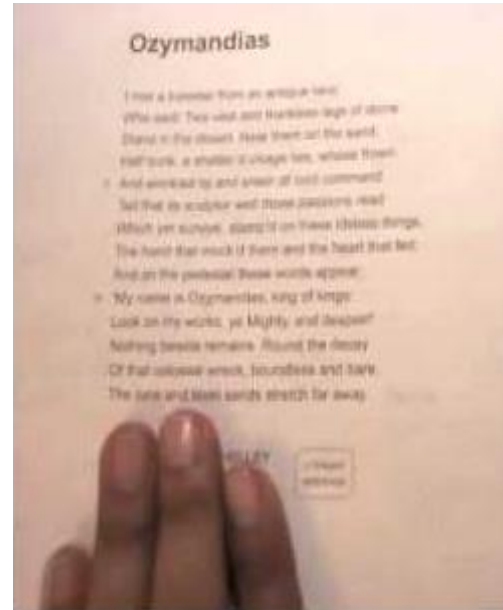
Irony — even a powerful human can't control the damaging effects of time.

Having 'funnel' and 'blows' on the same line hints at how art can outlast human power, but the ruined statue shows that ultimately art can't immortalise power.

Arrogant and powerful — he even challenged other rulers.

Irony — he tells other rulers to 'despair' because of the size and grandeur of his 'works', but in fact they should despair because their power is temporary and ultimately unimportant, like his.

I met a traveller from an antique land
Who said: 'Two vast and trunkless legs of stone
Stand in the desert. Near them, on the sand,
Half sunk, a shattered visage lies, whose frown,
And wrinkled lip, and sneer of cold command,
Tell that its sculptor well those passions read
Which yet survive, stamp'd on these lifeless things,
The hand that mock'd them and the heart that fed;
And on the pedestal these words appear:
"My name is Ozymandias, king of kings:
Look on my works, ye Mighty, and despair!"
Nothing beside remains. Round the decay
Of that colossal wreck, boundless and bare
The lone and level sands stretch far away.'



**Remind
yourself of
the original**



**Get a clean
copy**



**Annotate the
poem again**



A clear summary

Percy Bysshe Shelley

Percy Bysshe Shelley was a 'Romantic' poet, who only really became famous after his death. He wrote 'Ozymandias' in 1817, after hearing about how an Italian explorer had retrieved the statue from the desert.

You've got to know what the poem's about

- 1) The narrator meets a **traveller** who tells him about a **statue** standing in the middle of the desert.
- 2) It's a statue of a **king** who ruled over a past civilisation. His face is **proud** and he arrogantly **boasts** about how **powerful** he is in an **inscription** on the statue's base.
- 3) However, the statue has fallen down and **crumbled away** so that only the ruins remain.

Learn about the form, structure and language

- 1) **FORM** — The poem is a **sonnet**, with a **turning-point** (volta) at line 9 like a **Petrarchan** sonnet. However, it doesn't follow a regular sonnet rhyme scheme, perhaps reflecting the way that **human power** and structures can be **destroyed**. It uses **iambic pentameter**, but this is also often **disrupted**. The story is a **second-hand account**, which **distances** the reader even further from the dead king.
- 2) **STRUCTURE** — The narrator builds up an image of the statue by focusing on **different parts** of it in turn. The poem ends by describing the **enormous desert**, which helps to sum up the **insignificance** of the statue.
- 3) **IRONY** — There's **nothing** left to show for the ruler's arrogant boasting or his great civilisation. The ruined statue can be seen as a **symbol** for the temporary nature of **political power** or human **achievement**. Shelley's use of irony reflects his **hatred** of **oppression** and his belief that it is possible to **overturn** social and political **order**.
- 4) **LANGUAGE OF POWER** — The poem focuses on the power of **Ozymandias**, representing **human** power. However his power has been **lost** and is only visible due to the power of **art**. Ultimately, **nature** has **ruined** the statue, showing that **nature** and **time** have more **power** than anything else.
- 5) **ANGRY LANGUAGE** — The **tyranny** of the ruler is suggested through **aggressive** language.

Remember the feelings and attitudes in the poem

- 1) **PRIDE** — The ruler was **proud** of what he'd achieved. He called on other rulers to **admire** what he did.
- 2) **ARROGANCE** — The inscription shows that the ruler **believed** that he was the most powerful ruler in the land — nobody else could **compete** with him. He also thought he was **better** than those he ruled.
- 3) **POWER** — Human civilisations and achievements are **insignificant** compared to the passing of **time**. **Art** has the power to **preserve** elements of human existence, but it is also only **temporary**.

Go a step further and give a personal response

Have a go at **answering** these **questions** to help you come up with **your own ideas** about the poem:

- Q1. Why do you think the poem is set in a vague "antique" land?
Q2. Why do you think "Nothing beside remains" comes directly after the ruler's proud inscription?

Colour coded analysis

Key Questions to work through



Be prepared

**Set time
aside**

**Rewrite the
key parts**

**Keep notes
logical**

**Keep
referring**





Practice Questions

*It's no big secret — the best way to prepare for writing an essay in the exam is... by writing a practice essay.
Here are five questions for you to have a crack at — don't forget to plan your answer before you start writing.*

Exam-style Questions

- 1) Compare the way in which the theme of pride is presented in 'My Last Duchess' and one other poem from 'Power and Conflict'.
- 2) Explore the ways in which the effects of conflict are portrayed in 'The Charge of the Light Brigade' and one other poem from 'Power and Conflict'.
- 3) Compare the poets' feelings towards a place in 'The Emigrée' and one other poem from 'Power and Conflict'.
- 4) Explore the ways that ideas about power are presented in 'Tissue' and one other poem from 'Power and Conflict'.

**Short
questions on
each poem
and theme**



**Practice
questions**

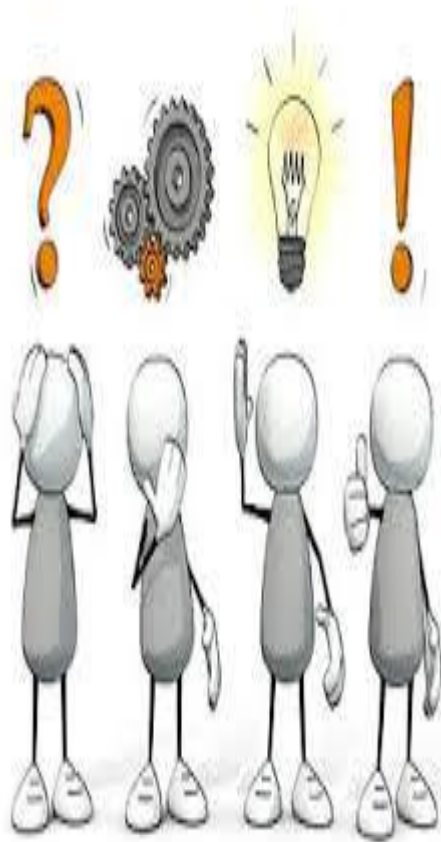


**Use the mark
schemes
assess**





There's no set way



**Try to think
about the
links**

**Learn the key
ideas**

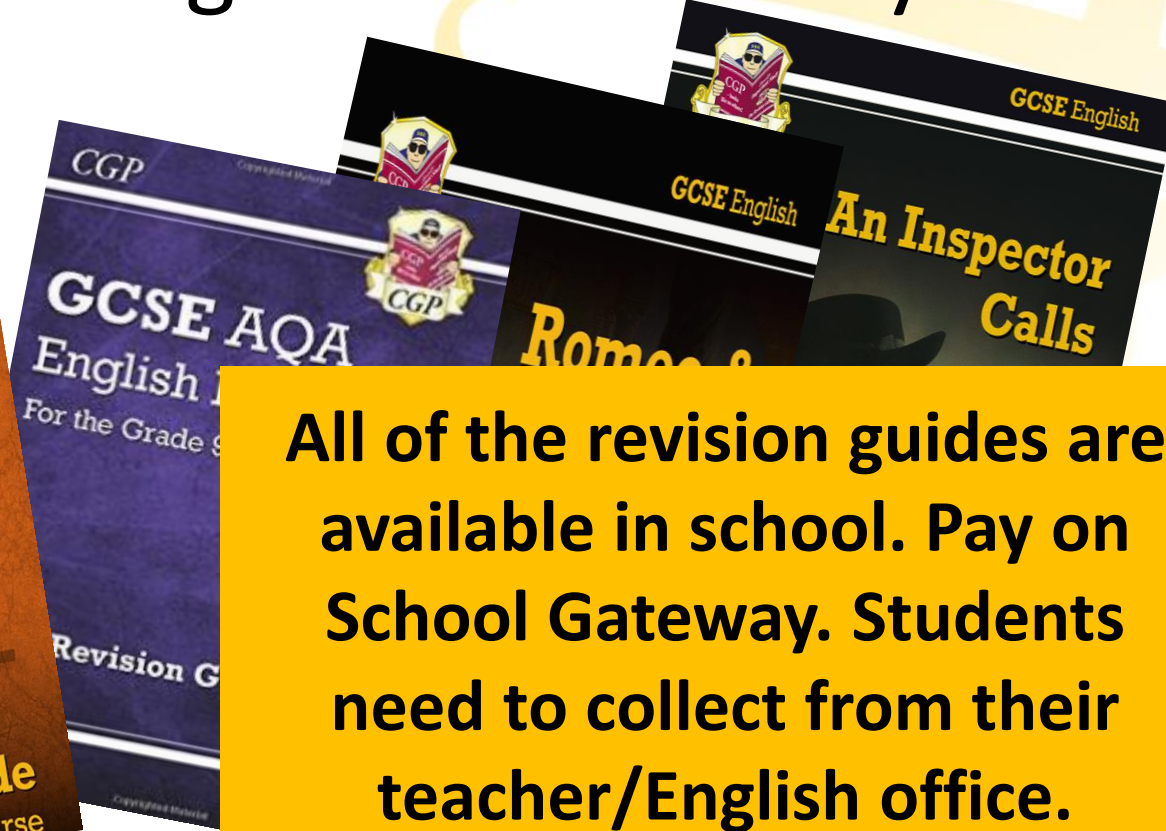
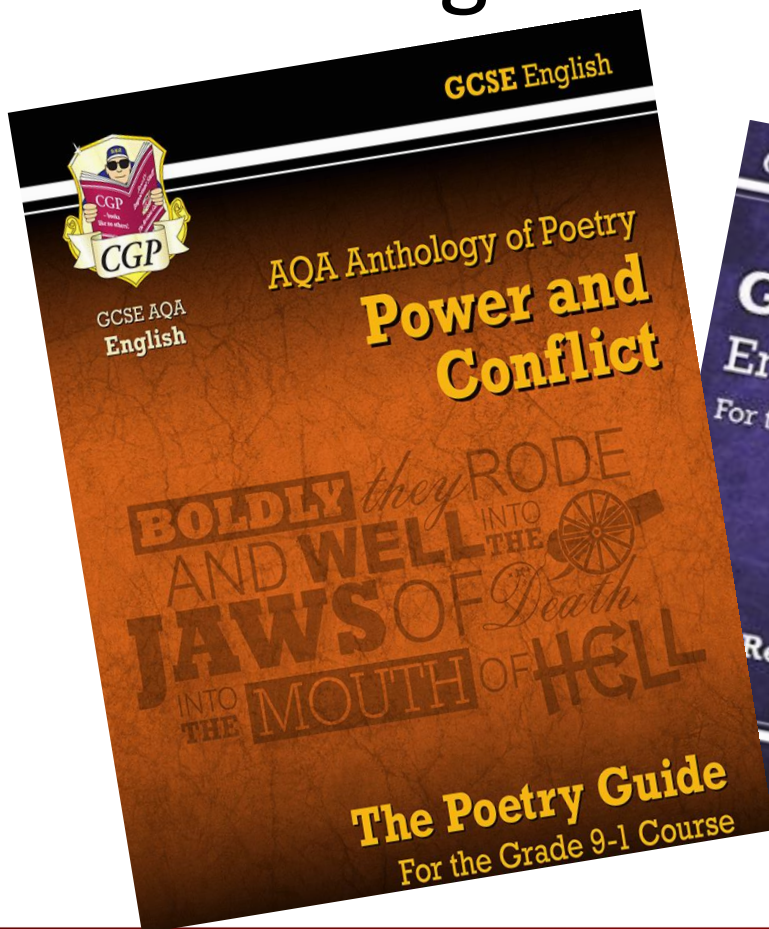
- Knowledge organisers
- Flash cards
- Mindmaps
- Rewriting class/revision notes
- Timed questions
- Revision sites
- YouTube revision

**Keep the
focus and
objective
clear**

**Prioritise in
order of your
exams**



Making revision guides work for you.



All of the revision guides are available in school. Pay on School Gateway. Students need to collect from their teacher/English office.



Really quick revision



- Working together complete the quick quiz on the Power and Conflict poems.

The exam requires the students to think quickly and form an opinion even more quickly.



Support available and useful links

- Revision guides are available to purchase from school and the Smart Revision guide will soon be available on the school website.
- **Online versions of A Christmas Carol, Shakespeare plays and other texts are easily found: e.g. <https://www.gutenberg.org/files/46/46-h/46-h.htm>**
- Geoff Barton (Headteacher and English teacher) – www.geoffbarton.co.uk (Student resources)
- Revision guide and YouTube mini lessons - www.mrbruff.com and www.youtube.com
- Online newspapers or magazines – www.theguardian.co.uk, www.thetimes.co.uk, www.theindependent.co.uk, www.bbcnews.co.uk
- Examination Board website – www.aqa.co.uk (for information and sample papers)



Thank you for your support



Working Together:

How to prepare for the GCSE maths exams

- **Paper 1 (non calculator): Thursday 16th May 2024**
- **Paper 2 (calculator): Monday 3rd June 2024**
- **Paper 3 (calculator): Monday 10th June 2024**



All 3 papers: 1 hour 30 minutes

Higher:

Grades available: (3) 4 to 9

Foundation:

Grades available: 1 to 5



Grade boundaries (CAUTION) – out of 240

Foundation

1 – 36

2 – 73

3 – 111

4 – 149

5 – 184

Higher

3 – 38

4 – 52

5 – 80

6 – 108

7 – 137

8 – 167

9 – 198



The only way to revise maths, is to DO maths!!

Craig Barton, 'How I Wish I'd Taught Maths' 2017



Methods to revise maths

- Use past papers. This is our focus for this evening.
- Use a revision guide and workbook to fill the gaps in understanding.
- Websites such as Maths Genie and Corbett Maths (see handout for details).
- Use pre-made flash cards by CGP or Corbett Maths. Make your own (much better!).
- Set up revision groups with friends and quiz each other – you could use the flash cards.
- Attend revision sessions in school, hosted on a Tuesday after school.



How to revise maths

How to use exam papers at home

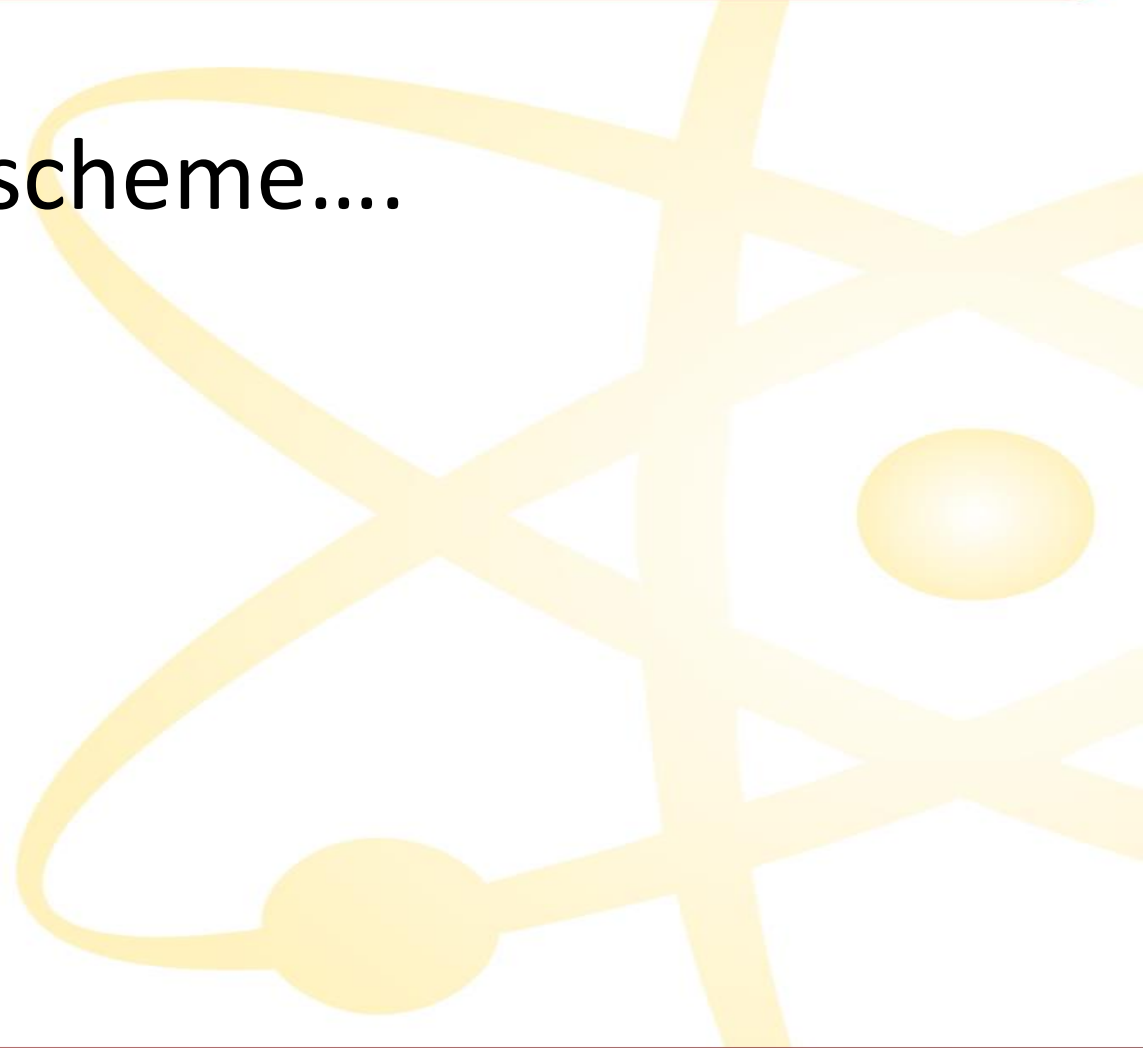
Either:

- Complete in exam conditions (1 hour 30 for a paper), mark at the end
- Complete in small chunks (20/30 minutes, then break), then mark
- “Teach” somebody at home how to answer the questions, mark as you go along

CRUCIAL – no music, exam conditions



Not being scared of the mark scheme....



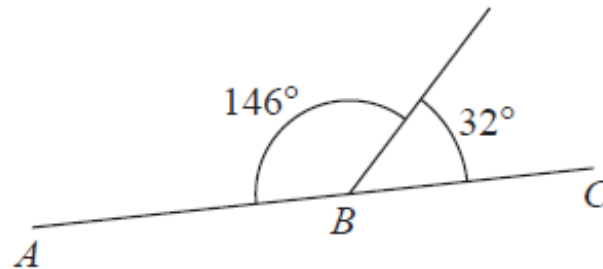


Guidance on the use of abbreviations within this mark scheme

M	method mark awarded for a correct method or partial method
P	process mark awarded for a correct process as part of a problem solving question
A	accuracy mark (awarded after a correct method or process; if no method or process is seen then full marks for the question are implied but see individual mark schemes for more details)
C	communication mark awarded for a fully correct statement(s) with no contradiction or ambiguity
B	unconditional accuracy mark (no method needed)
oe	or equivalent
cao	correct answer only
ft	follow through (when appropriate as per mark scheme)
sc	special case
dep	dependent (on a previous mark)
indep	independent
awrt	answer which rounds to
isw	ignore subsequent working



9



Tom says,

“ABC cannot be a straight line.”

Explain why Tom is correct.

(Total for Question 9 is 2 marks)



Answering procedural questions...

The first five terms of an arithmetic sequence are

1 4 7 10 13

Write down an expression, in terms of n , for the n th term of this sequence.

(a) Find the value of $\sqrt[4]{81 \times 10^8}$

5 Solve the simultaneous equations

$$\begin{aligned} 4x + y &= 10 \\ x - 5y &= 13 \end{aligned}$$

17 Work out $2\frac{3}{5} - 1\frac{5}{6}$

(b) Find the value of $64^{-\frac{1}{2}}$



Knowing your own calculator...

Find the value of $\frac{\sqrt{13.4 - 1.5}}{(6.8 + 0.06)^2}$

Write down all the figures on your calculator display.



- Look at the marks

20.	(a)	$7a + 4a - 8b$	$11a - 8b$	2	M1 for $4a - 8b$ A1 for $11a - 8b$
	(b)		n^{11}	1	B1 <u>cao</u>
	(c)		$5(x + 2)$	1	B1 <u>cao</u>

24	$\begin{array}{rcl} 6x - 4y & = & -10 \\ \underline{2x - 4y} & = & 2 \\ 4x & = & -12 \end{array}$ <p>OR</p> $\begin{array}{rcl} 6x - 4y & = & -10 \\ \underline{6x - 12y} & = & 6 \\ 8y & = & -16 \end{array}$	$x = -3, y = -2$	M1	for a method to eliminate either x or y (condone one arithmetic error)
			M1	(dep on previous M1) for correct substitution of their value of x or y or for a method to eliminate the other unknown
			A1	cao



10 minutes:

Year 11 – can you teach your
parents/carers how to answer the
questions?

Parents/carers – try using the mark
scheme to check the answers



Important points:

- Don't forget your equipment, especially calculator for 2nd and 3rd paper
- Try different methods with the exam paper booklet and find the one that works best for you
- Let us know if you need any more information or support:
- Mrs Greenwood j.greenwood@marlborough.herts.sch.uk

Year 11 GCSE Evening - Science

Learning Outcomes:

- Examine some effective revision techniques.
- Understand the different command words used and their meanings.
- Try some techniques.





6 papers in total
Time: 1 hour 15 minutes each
Marks: 70
16.7% of total

Equipment to bring: Pencil, pen, ruler and scientific calculator

For 2024 only, an equations sheet will be provided in the exam for GCSE Combined Science. Found in Specification Appendix B.

PAPER 1

Biology topics 1–4: Cell Biology; Organisation; Infection and response; and Bioenergetics.

Chemistry topics 8–12: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes; and Energy changes.

Physics topics 18–21: Energy; Electricity; Particle model of matter; and Atomic structure.

SCIENCE EXAMS - COMBINED

PAPER 2

Biology topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.

Chemistry topics 13–17: The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere; and Using resources.

Physics topics 22–24: Forces; Waves; and Magnetism and electromagnetism



6 papers total
Time: 1 hour 45 minutes each
Marks: 100
50% of total for each subject

Equipment to bring: Pencil, pen, ruler and scientific calculator

For 2024 only, an equations sheet will be provided in the exam for GCSE Physics. Found in Specification Appendix B.

PAPER 1

Biology Topics 1–4: Cell biology; Organisation; Infection and response; and Bioenergetics.

Chemistry Topics 1–5: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry, Chemical changes; and Energy changes.

Physics Topics 1-4: Energy; Electricity; Particle model of matter; and Atomic structure.

SCIENCE EXAMS - SEPARATE

PAPER 2

Biology Topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.

Chemistry Topics 6–10: The rate and extent of chemical change; Organic chemistry; Chemical analysis, Chemistry of the atmosphere; and Using resources.

Physics Topics 5-9: Forces; Waves; Magnetism and electromagnetism; and Space physics.



Revision techniques for Science students



Know what to revise

- Make sure you know what to revise.
- Look at the requirements for your tier.
 - Get the correct revision guide.
- If you're not sure, ask your teacher.

TAKE BREAKS

- Revision need not be daunting!
 - Take enough breaks.
- Exciting might mean a chat with your friends, a cup of tea, or walking the dog etc.



bridging the gap

Proven strategies for overcoming the gaps
between learning and remembering



- Timetable your revision

JANUARY 2024						
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

www.free-printable-calendar.com

why it works

- If you don't timetable, you'll miss things out and end up not doing what you need to
- It feels like wasted time, but will save you work in the long run

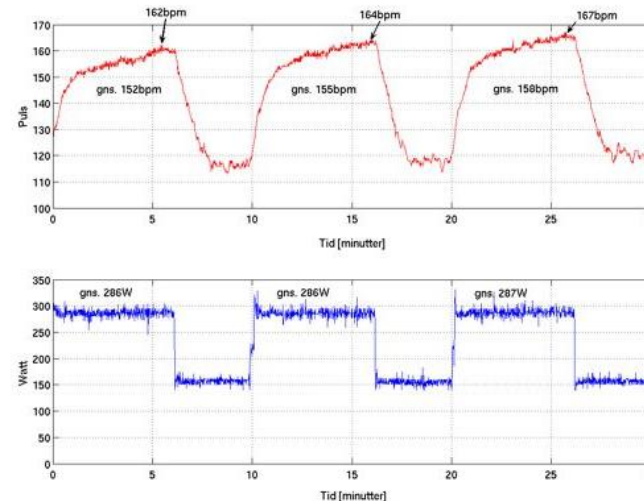


Intervals/interleaving

- Timetable your revision to repeat subjects and topics
- Gaps between study should be short (1-2 days).

why it works

- Gaps and repetition have an additive effect
- It helps you remember more facts and knowledge





Active recall

- Don't read the book- try and recall it without the text to hand
- It may help to explain things to a friend or family member
- Get your parents involved (especially if they bug you to revise)!!

why it works

- If you just read things you end up thinking you know more than you actually do
- Active recall helps you deepen learning



Flash Cards

- Writing summarised notes on cards which you can turn over and try to remember
- Cards you can remember easily can be put in one pile
- Cards you don't remember easily can be put in another pile to come back to more often



why it works

- You can get through things in small chunks
- You can also use this with active recall.



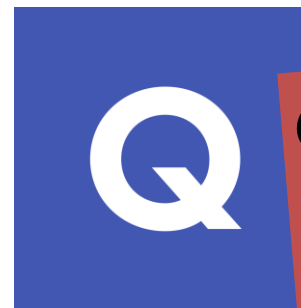
Quizzes

- Make yourself a quiz on an app, or share them with friends
- You can also search for quizzes online on platforms such as quizizz, quizlet etc.

why it works



- Helps to force recall in a pressure-free environment



Quizlet can also be used for flash cards/matching games



Quizlet

- Use the QR code.
- Work your way through the cards.
- Play the “match” game.





No multi-tasking

- If your phone is to hand, you'll end up using it!
- Turn off notifications for your social media apps if you use technology for revision

why it works

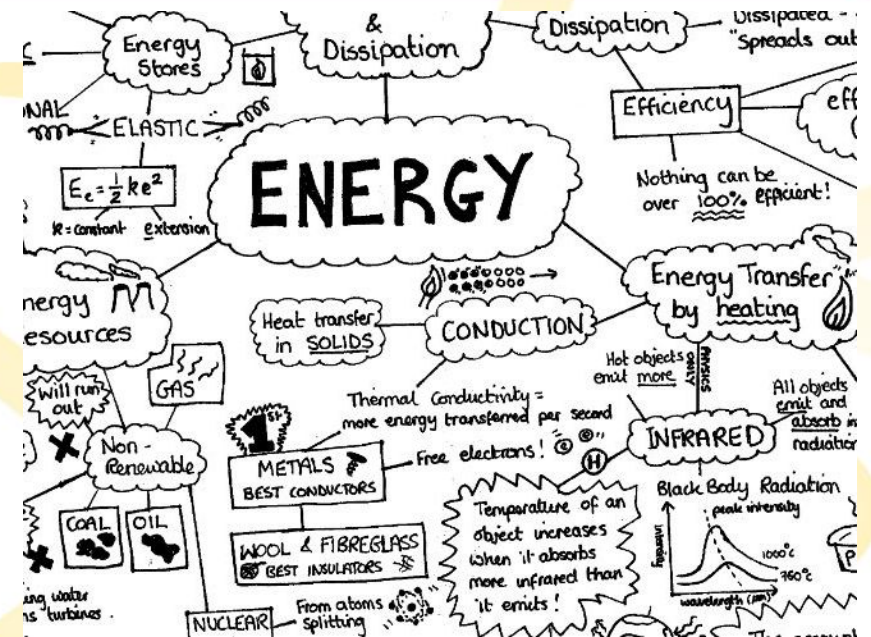
- If you're distracted you'll remember a lot less!





Make Connections

- mind-maps are great for making connections between ideas
- Popplet is great for this!



why it works

- This is visual and you can "paint a picture" with your revision.



READ

Read a chunk of information.

COVER

Cover it up.

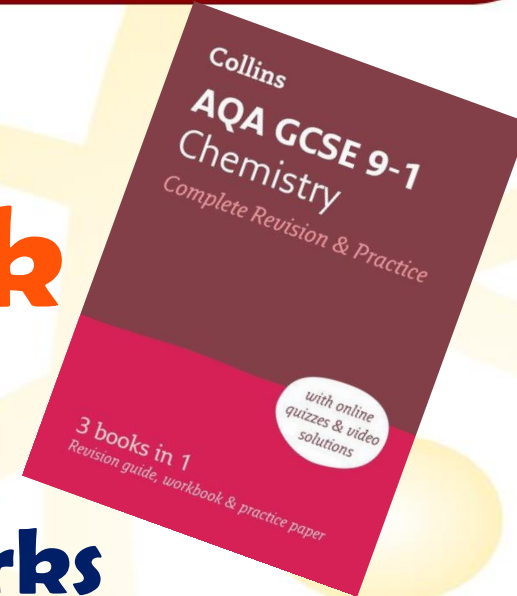
WRITE

Write as much detail as you can about the information.

CHECK

Check your work against the original.

Read, Cover, Write, Check



why it works

- A form of active recall.
- You can fill in gaps and build confidence quickly.



Practice Questions

- Practice exam style questions
- Mark them and review any WWWs and EBIs to improve your skills

Q1.
Diagram 1 shows a section through the heart.

Diagram 1

(a) Use words from the box to label parts A, B, C and D.

artery	atrium	capillary	platelet	vein	ventricle
--------	--------	-----------	----------	------	-----------

(4)
(Total 4 marks)

Q2.
Complete each sentence about the heart by choosing the correct words from the box.

an artery	an atrium	a cuspid valve
a semi-lunar valve	a vein	

A ventricle fills with blood by the contraction of _____.

When a ventricle contracts, blood is forced into _____.

When a ventricle relaxes, the backflow of blood into it is prevented by the closing of _____.

(Total 3 marks)

why it works

- You will face a certain style of question in each subject
- If you're used to them, you won't make silly mistakes



	1	2	3	4	5	6
A						
B						
C						
D						
E						



	1	2	3	4	5	6
A						
B						
C						
D						
E						



Revision Techniques

Revision is not a one size fits all. It is unique for everyone.

The time and method that suits you is what will make you most successful.

USEFUL WEBSITES

Math and Physics Tutor



Collins Connect Textbook

Collins Connect

SaveMyExams

Save My Exams

AQA Website – Past exams and commentary

BBC Bitesize

BITESIZE

AQA
Realising potential

Google Classroom Revision

Seneca

SENECA

GCSE Science Revision Classroom

1 USE FLASHCARDS

Write down the key points from a topic on a flashcard. You should put the topics you find easiest at the back of the cards and the harder ones at the front. This means you can focus more on the more challenging topics and less on the ones you already know.



2 USE MIND MAPS

Create mind maps on flashcards or plain A4 paper. Then revise from them periodically. Creating mind maps on a unit or topic helps you link concepts with one another and you can easily see which topics you need to spend more time on.



3 REVISE ACTIVELY

Use the 'read-cover-recite-check' method. All you need is a piece of paper and pen for this, but you can also use flashcards and mind maps.



4 SPACE OUT YOUR LEARNING

Start revising as early as you can and then go over topics at increasing intervals. E.g. 2 days, 5 days, 10 days etc until you can recall everything. This method drives information into your long-term memory. It ranks amongst the highest for effective learning techniques.



5 CHUNK YOUR LEARNING

Break up the large syllabus into smaller topics and then into individual concepts that are easier to digest. You can also use mnemonics to remember concepts. Common examples include ROYGBIV or OIL RIG.



6 WRITE YOUR OWN QUESTIONS

This is a way to actively engage in your learning. At school, or when you are reading your textbook, create at least one question that relates to your learning outcome. Then in your next revision session, try to answer the question.

7 PRACTISE PAST PAPERS

Practising exam papers ranks highest amongst effective learning techniques. They help you develop your subject knowledge and identify gaps in your knowledge. You'll also be able to spot recurring topics and use the mark scheme to learn how to best answer questions to get full marks.



8 TEACH SOMEONE ELSE

Teaching forces you to actively understand and recall what has been learnt. So how do you get an opportunity to teach? Well, you can get a study partner or take advantage of homework or classwork where the task involves presenting a topic.

9 MAKE MENTAL ASSOCIATIONS

This is a technique used by top learning and memory experts. If you want to learn the EM spectrum for example, try associating each wave with a vivid image. Then link all the images together to form a story.



10 CREATE ANALOGIES

An analogy is when you compare one thing to another similar thing. E.g. you can liken a plant cell wall to a school wall because they both provide support. An analogy is a good way to show you understand what you have learnt.



Command words in Science

Understand the different command words used and their meanings.



Command Words

Add / Label

Show information or name something on a graph, diagram or table.

Describe

Give an account of something, or link facts, information, events or processes in a logical order.

Explain

Say how or why something happens, 'because' will be an important part of your answer.

State

Recall one or more pieces of information.

Complete

Add values to a table or diagram.

Devise

Plan a method or experiment using your knowledge.

Predict

Say what you think will happen based on what you know.

Evaluate

Look at the information in the question and bring it together to make a decision and come to a conclusion with evidence from the question.

Show that

Prove the statement in the question is right.

Compare
&
Contrast

Give similarities and differences between several things, not just one.

Justify

Give evidence to support an answer.

Calculate

Work out your answer using the numbers in the question- include units.



What is the **command word**?

State three types of chemical bonding (3 marks)

What is the question asking of you?



All you need to do is list/write down 3 types of bonding.



Using exam questions

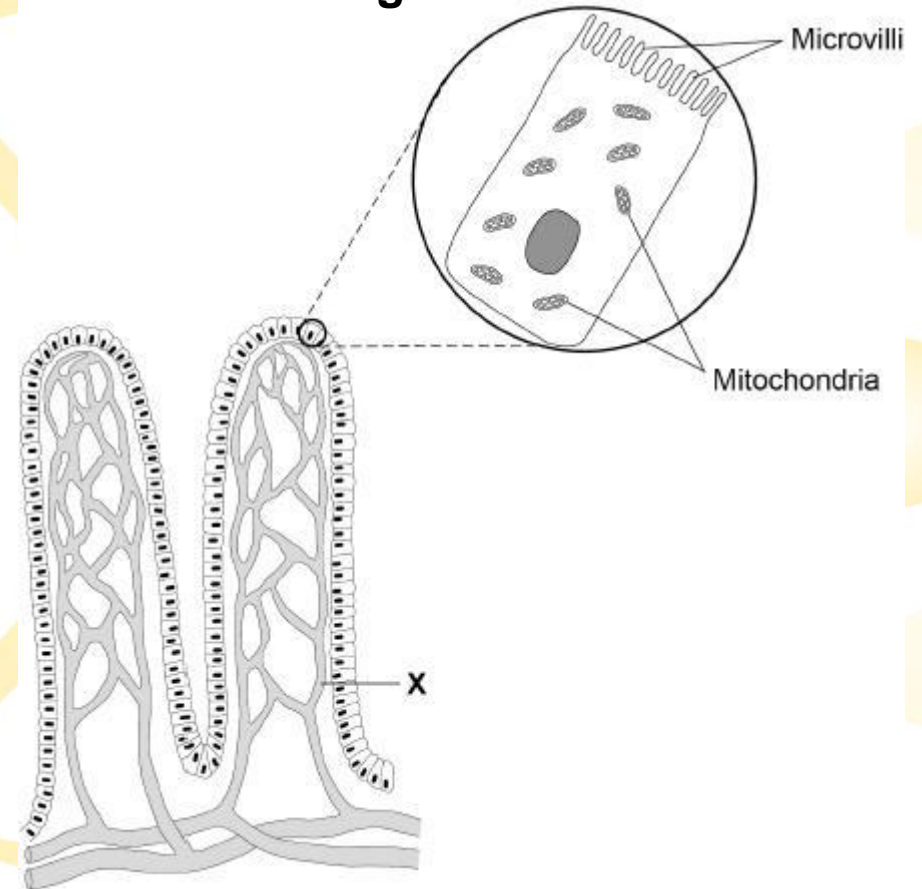
1. Attempt the question with no extra help.
2. Look at the topic (revision guide or reliable website).
3. Fill in any gaps in your answer using another colour.
4. Use the mark scheme to mark your answer and work out what you missed.



Question

- **Figure 1** shows two villi.
- **Figure 1** also shows one cell on the surface of a villus as seen using an electron microscope.
- Explain how villi are adapted for efficient absorption of sugar molecules.


Figure 1



The rate of diffusion can be affected by a number of factors:

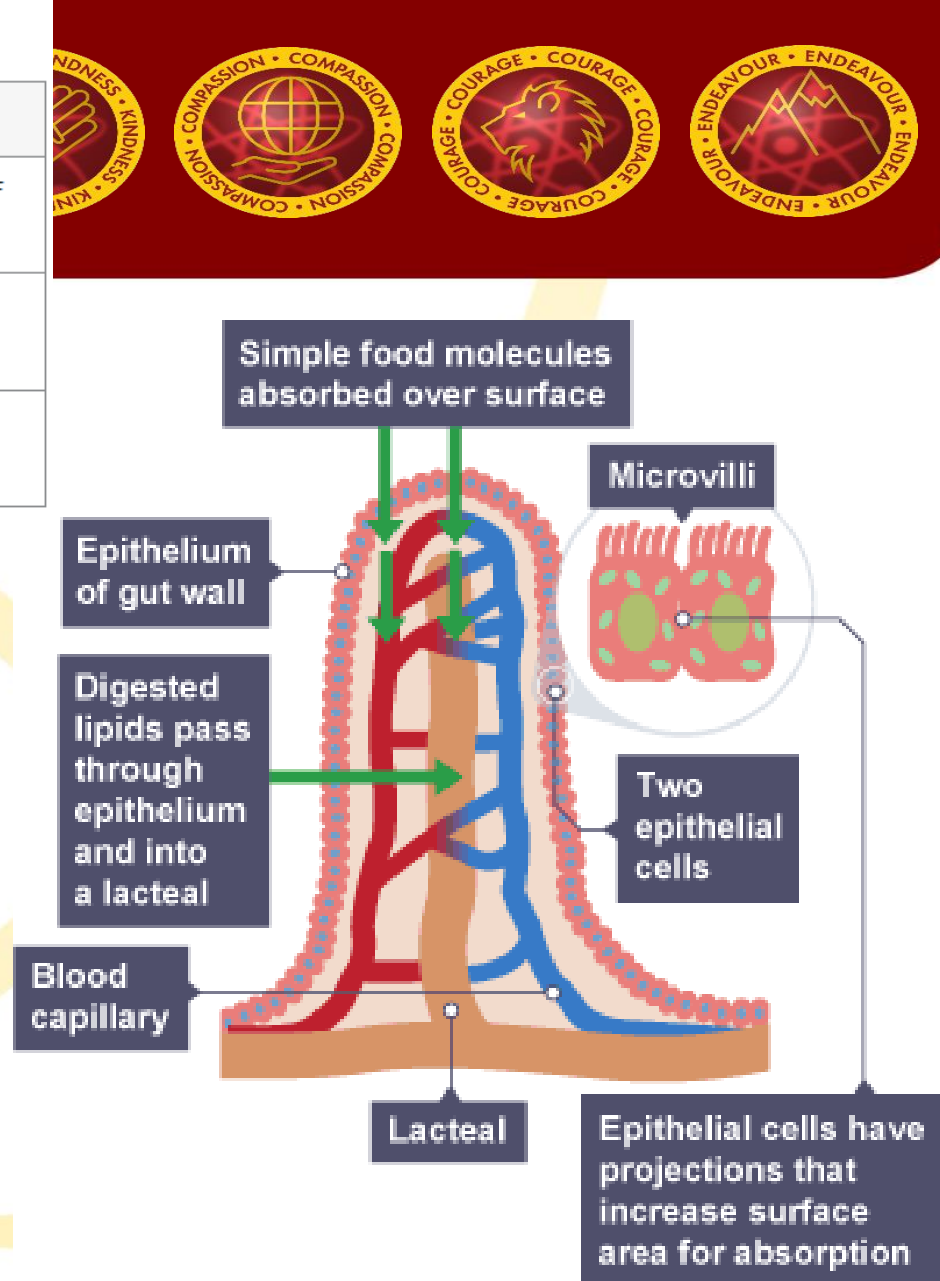
Factor	Reason
The concentration gradient	The greater the difference in concentration, the quicker the rate of diffusion.
The temperature	The higher the temperature, the more kinetic energy the particles will have, so they will move and mix more quickly.
The surface area of the cell membrane separating the different regions	The greater the surface area, the faster the rate of diffusion.

Information (from BBC Bitesize)

The epithelial cells that cover each villus themselves have projections called microvilli .

These all increase the surface area over which digested food – now simple molecules – is absorbed.

Most of the digested food passes through the epithelial cells of the gut wall and is carried by blood to the liver. Digested lipids pass through the gut wall and enter the lacteals.

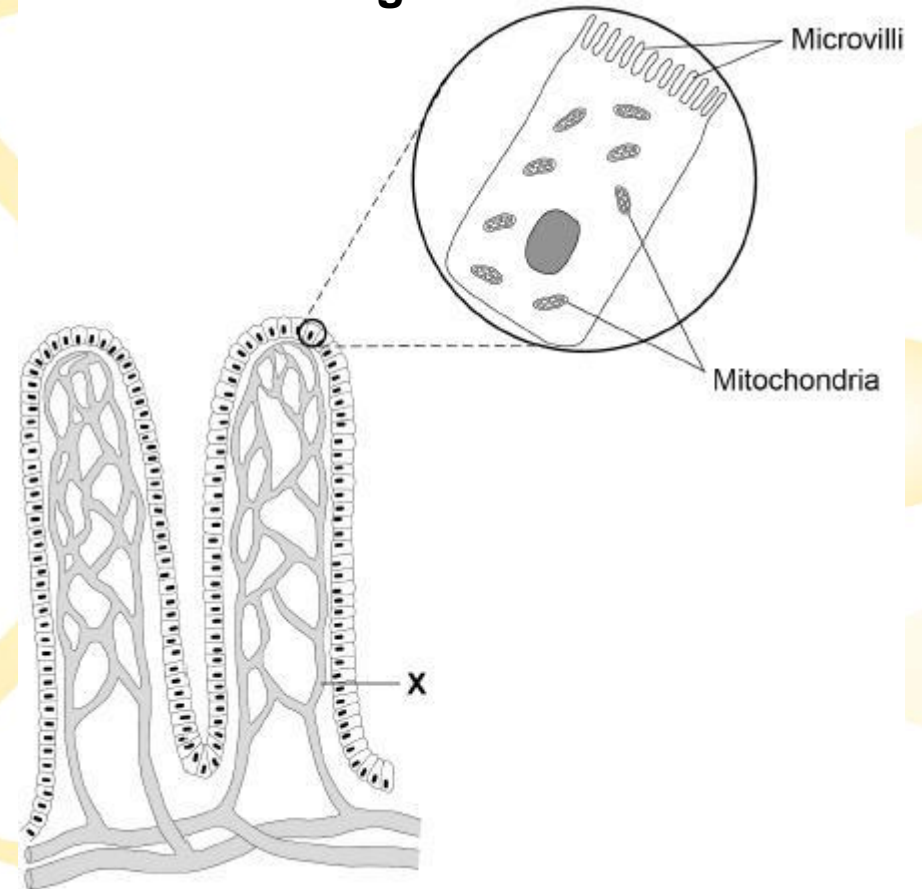




Question

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Figure 1





Mark scheme

- **Level 2:** Relevant points (reasons/causes) are identified, given in detail and logically linked to form a clear account.
 - 3–4
- **Level 1:** Points are identified and stated simply, but their relevance is not clear and there is no attempt at logical linking.
 - 1–2
- No relevant content
 - 0



Mark scheme

Indicative content

- have (many) microvilli
- (to) increase surface area
- wall of villus only one cell thick **or** is thin
- capillaries are close to surface
- (so) short pathway
- good blood supply
- (to) transport food molecules away **or** to the body

- (and) maintain a diffusion gradient
- cells have many mitochondria
- (where) respiration takes place
- (where) energy is transferred
- (as) active transport requires energy
- energy is needed to absorb sugar / food / molecules

For Level 2 must make links between structure and it's function.



Thank you for coming to our GCSE Evening. We hope you have found the information useful. Please may we ask that you complete a feedback sheet and place these at the back of the hall on your way out.

Have a safe journey home.