How?

How do you revise for knowledge tests and assessments? What do you think works?

Note taking	Highlighting notes or work completed	Post-it notes of key facts	Mnemonics
Re-reading of old notes	Summarising key points	Creating visual representations of knowledge	Testing yourself with short quizzes
Completion of practice papers	Flashcards	'Bulk revision' – revising one subject for a long period	Revision timetable

Note taking	Highlighting notes or work completed	Post-it notes of key facts	Mnemonics
Re-reading of old notes	Summarising key points	Creating visual representation s of knowledge	Testing yourself with short quizzes
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* Studies have ranked common revision strategies / methods according to effectiveness — red (least effective) and green (most effective)

Research also found that two techniques in particular were found to be not very helpful:

- Highlighting / Underlining
- Re-reading

Although the 'weapon of choice' for lots of students who feel a sense of accomplishment when they use these strategies and may feel that they have learnt something. However, multiple studies show how these strategies often fail to lead to long-term learning and are not as beneficial as students might think.

Why?

Why are some strategies more useful than others? How does our brain store and retrieve information?

What can cognitive science tell us about how to design learning experiences? - BBC Teach

Why are the following important to remember when planning our revision?

- Desirable difficulties
- The spacing effect
- The testing effect

How does our brain store and retrieve information?

The video is approx. 5 mins long - It's the first video on the page, top right. - Some of the key ideas are listed below but please do watch the video beforehand.

Learning – the long term retention of knowledge and the ability to transfer it to different contexts.

Working memory – thoughts & experiences in the moment, we only have space to deal with about 4 things at a time.

Long term memory – memory stores, unlimited?

Learning happens when we transfer from working memory to long term memory.

Information is organised into schema / networks

Retrieval strength -how easy it is to remember now, storage strength - how easy it will be to remember later.

Forgetting – makes room for retrieval practice which leads to better storage strength.

- Desirable difficulties if a task is made a bit harder & requires more effort, as long as it results in successful retrieval, it's more likely to lead to long term storage.
- The spacing effect to create a desirable difficulty leave time between periods of learning. It's more effective to revise for a test every other day than every day. The day off makes it harder to remember the material when it's returned to. Even though this may make short term performance worse, it also forces the brain to search for information in long term memory and strengthens schema (the information networks which increases storage strength.
- The testing effect when studying, going over and over the same material is not effective (re reading !!!). It's better to study once and test. This act of retrieval reinforces storage strength and leads to more durable, flexible learning.

Rainford Revision Strategies

The strategies that we have been pushing as a school across all key stages are flashcards and self quizzing – these are both excellent ways of doing all the things we have just heard about – spacing our revision, testing, creating desirable difficulties and retrieving information from memory to strengthen our long term storage. They are proven as some of the most effective ways to revise by a huge amount of research. We will go through the best ways to create and use these revision methods to maximise learning and your outcomes in exams.

Flashcards & self quizzing

Flashcards

- Flashcards make you revise actively
- You should make your own flashcards
- Keep the information brief
- Illusions of competence
- Say your answers out loud while studying (or write them down!)
- Add an image
- Test your learning multiple times successive relearning
- Space out your revision

Flashcards

- 1) Flashcards make you revise actively
- 2) You should make your own flashcards
- 3) Keep the information brief
- 4) Illusions of competence
- 5) Say your answers out loud while studying (or write them down!)
- 6) Add an image
- 7) Test your learning multiple times successive relearning
- 8) Space out your revision

1) Flashcards make you revise actively

Flashcards should be used to test your knowledge, not as a way to condense your notes As we've already mentioned - rereading notes is a <u>passive learning activity</u> so is not an economical use of your revision time.

Flashcards promote studying through **active recall**, which is one of the practices through which our brains learn most effectively – as explained on the video!

However, many students use flash cards in ways that aren't very efficient.

We're going to look at how to make and use flashcards to maximise our learning.

2) You should make your own flashcards

Why?

One of the most important and integral parts of the learning process is the act of:

- . Intaking new information
- . Wrangling with it in your brain
- Creating something new with it your own words, pictures, and methods of explaining that information
- Doing so creates strong neural pathways, which enable you to easily retrieve what you've learned at a later date.
- When you use pre-made flash cards, you're skipping that entire part of the process. In most cases, the time you save isn't worth it.
- Plus, deciding to make your own flash cards gives you the ability to customise them and make them better.

3) Keep the information brief

Why?

- Your goal isn't to fill your flashcards with points to make the most of the space. The most effective flashcards include one question followed by one answer (or one term followed by one definition).
- Don't force your brain to remember a complex and wordy answer. It's easier for your brain to process simpler information so split up your longer questions into smaller, simpler ones.
- You will end up with more flashcards this way but your learning will be a lot more effective.
- You may only remember part of a wordy answer so you could trick yourself into thinking you understand it all. Or you could waste time repeating a long question over and over to try and remember all parts perfectly. Splitting the information allows you to learn each part separately at your own pace which should save time and improve your memory retention.

4) Illusions of competence

These happen when you think you know something that you actually don't – a situation that usually arises when your brain mistakes **recognition** for **recall.**

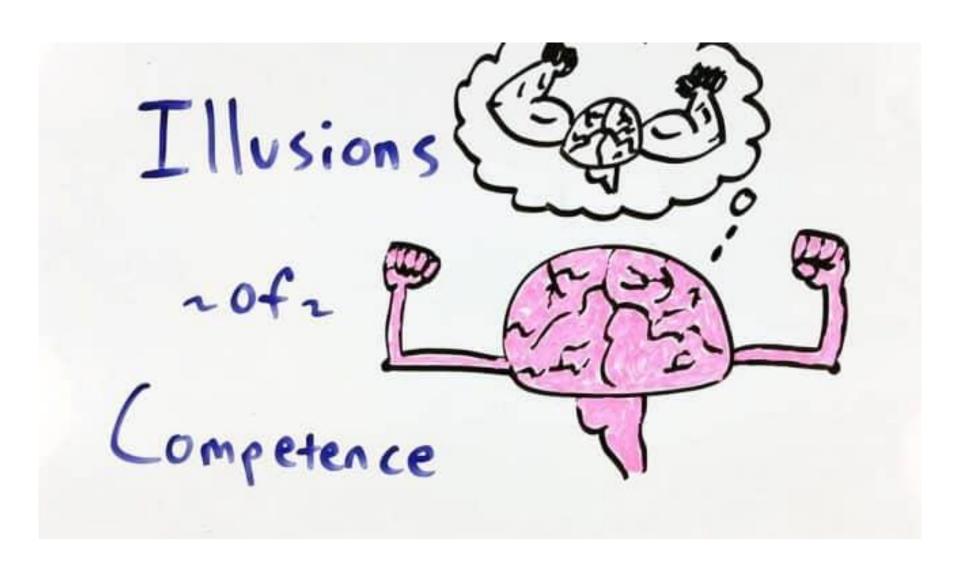
Our brains are *really* good at recognizing things we've seen before. However, recall isn't the same thing – recall is the act of retrieving something from memory without an explicit cue.

For example when you study a flash card with multiple facts on it, you risk making this mistake. Say you pull out your "First Airplane" card later on during a study session. You're going quickly, and your brain readily pulls up the first three facts. Wright Flyer... check! 1903... double check! Flew four times... easy. You forgot about the sprocket chain drive... but then you turn the card over, see it listed with the other facts, and say to yourself:

"Oh yeah, I knew that."

...and then you move on. You feel like you know the card since you got it *mostly* right, and because you **recognised** the fourth fact.

By ensuring that each of your cards only contains one question or fact, you won't run into this mistake.



5) Say your answers out loud while studying (or write them down!)

As with the previous tip, this is another way to keep those illusions of competence at bay!

Lots of students don't talk aloud or write their answers down – they 'think' them. On turning over the card they see the answer and again recognise that it's correct. This is NOT the same as knowing the answer.

So make sure to:

- Ask someone else to quiz you on the cards
- If there is no one available you can say the answers out loud (or write them down) before flipping your flashcards. That way, you're committing to your answer before checking it.

6) Add an image

Why?

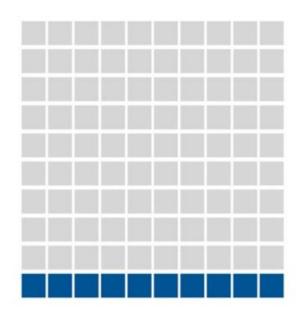
- The <u>Pictorial Superiority Effect</u> (PSE) explains that our brains find it easier to recognise and recall visual inputs – pictures are easier to remember than words.
- John Medina, memory expert (and developmental biologist), explains that text is pretty inefficient as words are actually viewed by our brains as lots of tiny little images that it has to process to find meaning. This takes time so pictures beat text especially in the revision world.
- Medina discovered in his research that, after three days, someone is likely to remember around 10% of information they read. If an image is added to text this figure increases and 65% of information is remembered.

You may not think you can come up with pictures for a lot of your revision material – but here's some ideas.

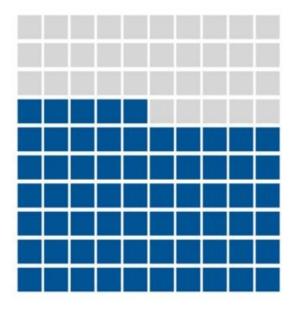
- Authors and people draw a simple portrait or stick figure
- Places a quick map
- Figures and data a chart or graph
- Dates and sequences of events a timeline
- Process or system a flowchart.

These pictures should not be works of art – quick and simple sketches are great.

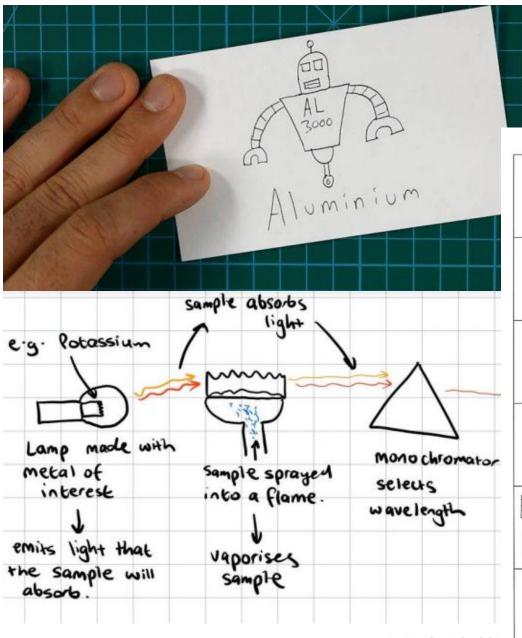
Memory retention after 3 days



10% Text or Audio Only



65% Text + Picture



Soothsayer, notorius MOTHER for prophesying SHIPTON events 1854: Plotted Cholera JOHN cases during epidemic. SNOW Removal of handle @ Broad St. pump: 1753: Identified cause of scurry. Unsisted sailors given time juice daily. 1795: Advocated washing CORDO hands + clothes in Chlorine to prevent child-bed tever. LADY MARY 1721: Introduced innoculation to England (Smallpox) MONTAGU 1798: Published works JENNER on vaccination after testing on 9 year old Phipps + his 10 month old son (smallpox)

EVERYONE SUCCE

7&8) Test your learning multiple times, spaced out - Successive relearning

- Flashcards are simple to create and quick and convenient for testing yourself. You can
 only realise the power of flashcards if you give yourself enough time to review them
 multiple times.
- But testing yourself with each flashcard ten times could be a waste of your precious revision time. There will be some concepts you struggle to learn and remember, but others you might become confident with quickly. This is where spaced repetition comes in: a technique to help you revise what you need to, when you need to.
- Spaced repetition is the technique of testing yourself multiple times, at intervals dependent on how well you know the concept. The concepts you should retest most often are those you're struggling to learn and commit to memory. The time between these retests should be low. Therefore, the concepts you feel confident you understand and remember should be retested less frequently. Once confident, you should retest these flashcards just enough to not forget them.

A simple way of implementing this tip is to sort your flashcards as you revise with them.

After you answer a flashcard, put it into one of three piles:

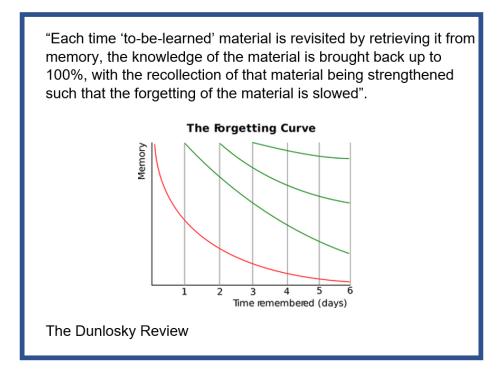
- I have no clue about this
- I'm not too sure about this
- I really know this

The 'no clue' pile should be tested soonest. As you retest your knowledge, your flashcards should change piles until (hopefully) all of them are in the 'I really know this' pile.

Push beyond "One and Done"

"While the brain is not a muscle that gets stronger with exercise, the neural pathways that make up a body of learning do get stronger, when the memory is retrieved and the learning is practised. Periodic practice arrests forgetting, strengthens retrieval routes, and is essential for hanging onto the knowledge you want to gain."

Brown et al., Make It Stick, p.3.



Students therefore need to start revision early so that they have time to revisit and consolidate their learning!

- •as soon as you learn something, you begin forgetting it almost immediately.
- •the rate of forgetting is often shockingly high; a few hours after learning something, people routinely remember only a small fraction of it.
- •each time you practice recalling what you know, the rate and amount of forgetting is reduced somewhat.
- •retrieving something back into working memory slows the rate of forgetting, but how and when the retrieval happens is important.

 EVERYONE SUCCEEDS

What really works...

Desirable difficulties – It's supposed to be hard!! For learning to stick, the brain must work hard! If you get something wrong or find it hard your brain is more likely to remember it for next time...

The importance of forgetting – Forgetting something is not always a bad thing. As we have discussed, actively forgetting is a positive opportunity for learning and progress!

Successive relearning - We need to revisit topics frequently so that we retrieve information from memory. This strengthens our ability to retrieve what we need back into working memory and slows the rate of forgetting!

Space it out -Leave time between sessions to give yourself time to forget! Studies suggest that you have to learn something 3-6 times before it is moved to your long term memory. Repeating the same activities at spaced intervals will help you to learn better.

EVERYONE SUCCEEDS

Self-quizzing

- Look, read, cover, write, check
- Use flashcards to create quizzes
- Create quizzes for yourself / your friends

All self explanatory – just other ideas for students to use

Self-quizzing







Look, read, cover, write, check

- Turn over / cover the section of the knowledge organiser you are studying and write as much as you can down from memory as accurately as you can.
- Then flip over / uncover the knowledge organiser and check the accuracy of what you have written down.
- Use a different coloured pen to correct any errors and fill in any gaps.
- Read over the information again.
- Clean your whiteboard (or use a new sheet of paper at home)
 and see if you can remember more information this time.
- Revisit the topic again in another session

Use flashcards to create quizzes

key themes in

An Inspector Calls

(4)

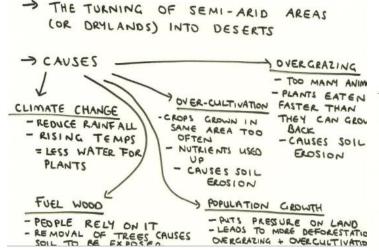
DESERTIFICATION
- WHAT IS IT?
- CAUSES? (5)

<u>Responsibility</u> - individual or collective within society; Priestley believed social responsibility - work together not against each other.

Gender - start of play presents stereotypical view that women are the weaker sex; power struggle between genders.

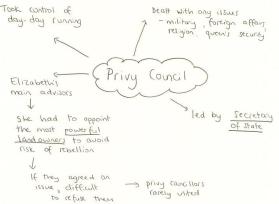
class | Power | Wealth | Status - early 20th century class divide. Priestley wanted to bridge the gap between upper and lower classes; upper owned most of the land and had most more Priestley wanted fairer social world rather than capatilist, selfish; Wanted to expose immorall of the elite.

Generations - older are set in ways progressive younger generation are able to change:



Privy Council

(1) What did they control?
(2) What issues did they deal with?
(3) Who did she reed to appoint & why?
(4) Who led the council?



Create quizzes for yourself (or your friends!)

Physical landscapes in the UK

- 1.. How are destructive and constructive waves different?
- 2. What are the 3 types of chemical weathering that shape coasts?
- 3. How does long shore drift move material move along the coastline?
- 4. How are caves/arches/stacks/stumps formed?
- 5. What are the advantages and disadvantages of using sea walls to protect the coast?
- 6. What are the four processes of erosion that shape rivers?
- 7. How do rivers transport material?
- 8. How do waterfalls form?
- 9. What is lag time on a hydrograph?
- 10. How do flood relief channels reduce the risk of flooding?

Memory:

What is ROM?

What is RAM?

What is the difference between ROM and RAM?

Describe what is meant by virtual memory and state why it is needed?

How would increasing the amount of RAM improve the performance of your computer? A Sat Nav would store the boot up sequence, store the maps and any previously made trips, which would be stored on the ROM and which on the RAM and why?

Storage:

Describe what is meant by secondary storage?

State four characteristics you should consider when choosing a device?

List the 3 different types of storage devices?

State which storage technology would be most appropriate for a magazine distributing content?

List the advantages and disadvantages of magnetic storage?

List the advantages and disadvantages of solid state storage?

America 1920-1973

- 1.. Why was there an economic boom?
- 2. What groups of society didn't benefit? Why?
- 3. What was prohibition?
- 4. Why did prohibition fail??
- 5. Al Capone Hero or Villain??
- 6. How did life change for women in the 1920's?
- 7. What were expectations of African Americans in 20s?
- 8. What was the red scare?
- 9. Why did Wall Street crash?

Christian beliefs

- 1.. Explain 2 Christian teachings on Salvation.
- 2. What is cohabitation?
- 3. Give 2 reasons why Christians take part in Eucharist
- 4. Explain 2 reasons for Christians visiting a place of pilgrimage
- 5. Explain 2 ways that belief in resurrection influences Christians today
- 6. Explain the meaning of Omnipotence
- 7. What are the three parts of the trinity
- 8. Explain 2 responsibilities of street pastors

EVERYONE SUCCEEDS

What really works...

Desirable difficulties – It's supposed to be hard!! For learning to stick, the brain must work hard! If you get something wrong or find it hard your brain is more likely to remember it for next time...

The importance of forgetting – Forgetting something is not always a bad thing. As we have discussed, actively forgetting is a positive opportunity for learning and progress!

Successive relearning - We need to revisit topics frequently so that we retrieve information from memory. This strengthens our ability to retrieve what we need back into working memory and slows the rate of forgetting!

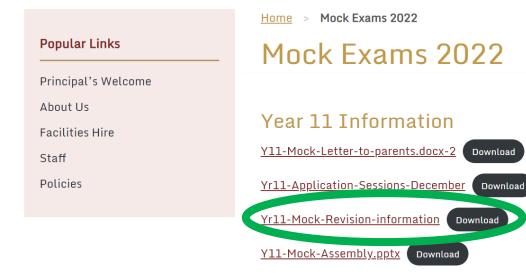
Space it out -Leave time between sessions to give yourself time to forget! Studies suggest that you have to learn something 3-6 times before it is moved to your long term memory. Repeating the same activities at spaced intervals will help you to learn better.

EVERYONE SUCCEEDS

What?



Y11-Mock-Timetable Download



Subjec		hich paper wil t for the mock		long is the exam?	What do I need to revise?	Where can this inform		What are revision tip this pap Use the values on so	ps for er? ideo	
Math	Comp	outing P	aper 1	1.5 Hrs	Purpose of CPU, FDE, Component functions, registers Factors that affect performance, E systems ROM, Ram VM - purpose and user Types, Uses and suitability Unit of data, Binary, Hex, Addition Characters, Sound, Images, Comp Network Types, Hardware, Topolo Internet (MAC IP), DNS, Protocols, Switching, Layers Forms of attack, Preventing attack Purpose and uses of Operating systems Purpose and uses of utilities Impacts of technology on wider so Legislation relevant to computers	imbedded s a and Shifts ression gies , Packet c stems	Crai Vide • CGi • Goo	ch Cards, ig and Dave eo's P Books ogle sroom	Flashcards	ion ion i), ck ion
	BTEC	Media P	aper 2	1.5 Hrs	 Abstraction Decomposition Algorithinking Flow charts, pseudocode, trace ta Binary search, Linear Search, Bubl Merge Sort. Insertion Sort Variables, Constants, Operators, sselection, iteration Pseudocode and Trace Tables File Handling, SQL, Arrays, Sub Processor Random numbers Validation, Authentication, Maintail Iterative, Final, Errors, Test data Pseudocode and Trace Tables AND/OR/NOT, Truth tables High and low level language. Trans Characteristics of an IDE Pseudocode and Trace Tables 	bles ble sort, equence, ograms.	Crai Vide • CGi • Goo	ch Cards, ig and Dave eo's P Books ogle sroom	Algorithms on google classroom	ta e n :



Student Learning Checklist: Key Stage 4

Subject: Biology Y10 Unit Title: Bioenergetics

	·									
Section 1	Knowledge & Understanding – 'W	hat you	need to kno	w and understand'						
	Represent photosynthesis using an equation and state uses for the products									
	Describe and explain how factors may affect the rate factors'	Describe and explain how factors may affect the rate of photosynthesis and explain the idea of 'limiting factors'								
	Represent aerobic and anaerobic respiration using ea and waste products	quations	and compar	re them in terms of energy release						
	Describe and explain changes in the body during exe	rcise								
	Define metabolism and give examples of the reaction	ns this in	cludes							
	Interpret graphs showing rates of photosynthesis and	d sugges	t how the ra	te may be increased						
	Explain factors that farmers would take into account	before r	manipulating	conditions.						
Section 2	Skills – 'What you will need to show to be s	uccessfu	l in your pat	hway/meeting your targets'						
	Solve simple algebraic equations									
	Carry out an experiment appropriately and safely, rec	ord accu	rately and a	nalyse data.						
	Plot and draw appropriate graphs									
	Use the inverse square law		3,15							
Section 3	Tasks to Complete – 'What	2	37							
	Required Practical activity 6- Investigating the effe		5							
	Complete your Tassomai and Knowledge Atlas revie	DAI	NFOR	D						
Section 4	Assessments – 'How work o	KAI	HIGH							
	End of topic assessment		Sub	ject: History						
	Exam questions practice	1		,,						
	Knowledge Atlas recall quizzes		Section 1	Knowledge & Un						
Section 5										
				The structure of the exam paper						
Things I did	d well that improved my knowledge, understanding			Question format: marks available, t						



Student Learning Checklist

Key Stage 4

More Help

Need

Subject: History Unit Title: America 1920-73

Confident

Need to

Section 1	Knowledge & Understanding – 'What you need to know and understand'	Confident	Need to Fractise	Need More Help
	The structure of the exam paper			
	Question format: marks available, timings, focus, response required – length and quality			
	How to plan my responses			
	The chronology of the period 1920-73			
Section 2	Skills – 'What you will need to show to be successful in your pathway/meeting your targets'	Confident	Meed to Practice	Need More Help
	Use the content of the interpretations to assess their meaning			
	Use the provenance of the interpretations to compare why the authors say what they do			
	Link knowledge to the interpretations to assess which is most convincing			
	Link factors back to the question being asked			
	Explain how different groups in society were affected by changes over time			
	Compare two factors and reach a conclusion			
	Include relevant and specific evidence in all answers			
Section 3	Tasks to Complete – 'What you will do in lessons/homework'	Complete	Partially Complete	Significan Gaps
	Investigate the reasons for the economic boom			
	Explain the role of Henry Ford and mass production in the boom			
	Investigate changes to popular culture – cinema, music, sports			
	Describe the benefits and negatives of the stock market			
	Assess the changes and continuity for women in the 1920s			
	Explore the immigrant experience with focus on Sacco and Vanzetti			
	Explain why there was a 'Red Scare' in the 1920s			
	Explore the position of African-Americans in the 1920s linked to the Ku Klux Klan			
	Explain why the Wall Street Crash happened			
	Investigate the impact of the Great Depression			
	Explain why Rodeleve Mea All Gover in the 1912 election			\sqcap

- Revision information is available on school website, 'Mock exams 2022' tab. This included topics that will be tested in the mock exams as well as useful revision tips and links to resources.
- Student learning checklists in books and on google classroom
- Check show my homework for additional reading lists and support
- All lesson resources from Yr10 & 11 are available on Google classroom

 If you have any doubts or concerns please go and speak to your subject teachers! They are the best sources of support and wisdom and can direct you accordingly.

How can I prioritise what I need to revise?

RAG rate subjects and create a revision plan

- You can use the data from your last report as a starting point to rank the subjects according to where you need to prioritise revision.
- Are you confident that you can perform well in the mock exams?
- Are you confident that you have understood and remembered the subject knowledge you have studied?
- Do you feel confident that you have the skills required to answer exam questions with confidence?

Subject	Mock grade	RED	AMBER	GREEN
Maths				
English				
Science				
Option 1				
Option 2				
Option 3				
Option 4				

RED – The subjects that they find most challenging and will require the most work and support to reach their OPT

AMBER- The subjects where they underperformed in the mocks but they have a clear understanding of next steps and are confident in taking them

GREEN- The subjects that they find least challenging and are 'on track' to achieve their OPT or higher

- Don't prioritise the subjects you find easiest or the subjects you like the most
- Make a clear plan for the subjects you need to study first –

When?

Revision: Timetables and planning - BBC Bitesize

BBC



TIMES	8.00am - - 4.00pm	4.00pm - - 6.00pm	6.00 - - 6.45pm	6.45pm - -7.45pm	7.45pm - -8.00pm	8.00pm - -9.00pm
MONDAY	School time!	Drama Club	Dinner	Homework	Social Media	Homework/ revision
TUESDAY	School time!	Revision	Dinner	Homework	Social Media	Homework/ revision
WEDNESDAY	School time!	Netball	Dinner	Homework	Social Media	Homework/ revision
THURSDAY	School time!	Revision	Dinner	Homework	Social Media	Homework/ revision
FRIDAY	School time!	Chill out!	Dinner	Homework	Social Media	Homework/ revision
TIMES	9.00am - -10.00am	10.00am - -11.00am	11.00am - -1.00pm	1.00pm - - 3.00pm	3.00pm - -5.00pm	5.00pm - - 6.00pm
SATURDAY	breakfast/ shower etc.	Hour of power revision!	See friends / Lunch	Revision	watching/ playing sport/ gaming	Revision
SUNDAY	breakfast/ shower etc.	Revision	Sport/ Lunch	Flash card review	Out with family	Get someone to test me/ Dinner

EVERYONE SUCCEEDS

revision

* = revise if possible

								SHEW
THME	MOM	TUES	WED	THURS	PR+	SAT	SUN	
8:30-4:30	//school//	//school//	1/school	//scho-0///	1/8choo//	*	*	
4:30-5:00	redia	chemistry	media	maths	english	maths*		1
5:00-5:30	//english/	(heristry)	media	maths	english	maths*		
5:30-6:00			maths	english	media			
6:00-6:30	english	english						
6:30-7:00	maths	english			cheviolog			
7:00-7:30			english/	chemistry		*	(biology)	
7:30-8:00			physics /	the winting)		*	media	1
8:00-8:30	maths	biology			chemistry	english/		
8:30-9:00	maths	maths	maths	biology	physics /	lenglish		
9:00:9:30								1
9:30 - 10:00	biology/	maths	biology	brology	phys*/			1
10:00-10:30	media	physics /	biology	media	Shys*/			1
10 00	111111111111	////////	// PARTONO	SUCCEEDS		200000	14611	1

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Before school							
After school session							
4-5pm							
5-6pm							
6-7pm							
7-8pm							
8-9pm							
9-10pm							

December 2022

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				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

January 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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				

 Get organised – you should have a clear plan for what you need to study, when you are going to study and when your exams are.

 Blank versions of the timetables shown are available on SMH. You can create your own and personalise – don't spend too long doing this, they don't need to be works of art!!

• If you need support planning your time, please discuss with your form tutor.

What really works...

Desirable difficulties – It's supposed to be hard!! For learning to stick, the brain must work hard! If you get something wrong or find it hard your brain is more likely to remember it for next time...

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Space it out -Leave time between sessions to give yourself time to forget! Studies suggest that you have to learn something 3-6 times before it is moved to your long term memory. Repeating the same activities at spaced intervals will help you to learn better.