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# An LGS Guide:

## Independent Learning and Revision Strategies



**Helping you learn and revise more effectively**



# Introduction and Purpose



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The purpose of this booklet is to support your learning at home by providing structure and support, and ideas to help you make your revision as effective as possible. This guide will:

- Support better recall of previously learned or revised material, to help you prepare for tests and exams and feel more confident.
- Give you practical strategies to try once you have your revision notes in place and a space for reflecting on which strategies work for you.
- Help you develop your LGS learner attributes to become; more independent and resilient and take responsibility for your learning:



Aim high and take control of your learning. Try hard and never give up, even when things get hard.  
Be confident in your ability to succeed.



Make links with knowledge you already have  
and connect it with your new learning.  
Reflect on what went well and how you could improve.



Try new things, even if you might fail. Think outside the box and  
challenge ideas. Be curious and seek out new knowledge.



Be willing to work with others and listen to their ideas. Make sure  
your behaviour does not impact other learners. Get the basics  
right - be on time, meet deadlines and stay organised.

Note: This booklet is not designed to replace or replicate materials you are given in lessons, or your class notes



# Understanding how you learn

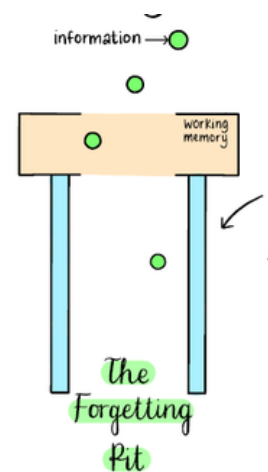


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## The first step is understanding how you learn: Your long-term memory - the forgetting pit!

You learn by paying attention to information and thinking about it. When you pay attention, information enters your working memory. However, your working memory is limited in terms of how much it can hold and information quickly moves out and into your long-term memory, or the 'forgetting pit!'

If information falls too far into the pit we can no longer recall it and it is forgotten. However, with learning strategies we can make sure information stays near the top of our long-term memory, so when we need it, it is easy to recall.



This booklet will show you some strategies to help your memory:

- **Retrieval Practice:** Actively recalling information strengthens memory traces, making it easier to remember in the future. This contrasts with passive review, where the material is only re-read or re-experienced.
- **Spaced repetition:** Revisiting information at spaced intervals is one of the most effective strategies to combat forgetting. This process reactivates the memory and strengthens the neural pathways, making information more resistant to forgetting.

### Don't overdo it! A word on cognitive load theory

This theory suggests that working memory has limited capacity, and overloading it can impact on learning.

Top tip: Reduce cognitive load by 'chunking' - breaking down information and learning into smaller, manageable chunks and spacing out your learning or revision, rather than cramming.



# What is Retrieval Practice?



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## Understanding retrieval practice, and why is it so important for learning

### RETRIEVAL PRACTICE

ONE PAGER

XpatEducator

#### Retrieval Practice

Recall learned information

Retrieval practice is the act of recalling learned information from memory (with little or no support) and every time that information is retrieved, or an answer is generated, it changes the original memory to make it stronger. RP should be effortful which is better for long term learning.

Kate Jones (2019)

#### Retrieval Process

Learning is a change in the LTM

Learning happens when there is a change in the long-term memory. If nothing changes then nothing has been learned. Retrieval practice helps to us to organise, coherent and integrated mental models that allow us to make inferences and apply our knowledge.

Paul Kirschner & Jeffrey Karpicke (2012)

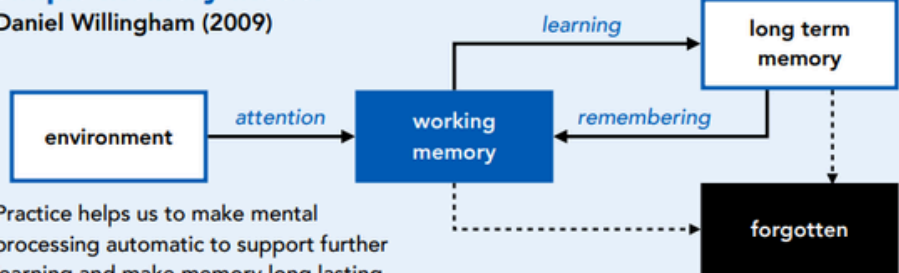
*Using your memory, shapes your memory.*



Robert Bjork

#### Simple Memory Model

Daniel Willingham (2009)



Practice helps us to make mental processing automatic to support further learning and make memory long lasting.

#### Spaced Practice

Spread retrieval practice over time

Retrieval practice is even more effective if it is done in short bursts over time, rather than in a single long session. This spacing causes students to forget some of the material, and the struggle involved in trying to recall it strengthens their long-term learning.

[Retrievalpractice.org](http://Retrievalpractice.org)

#### Key Principles

With retrieval practice try to...

- 1 Involve everyone in the process.
- 2 Make checking accurate and easy.
- 3 Specify the knowledge.
- 4 Keep it generative.
- 5 Vary the diet and mix it up.
- 6 Make it time efficient.
- 7 Make it workload efficient.

*Good techniques involve all students checking their knowledge.*



Tom Sherrington

teacherhead

Scan the QR code to find out more



Retrieval - the act of recalling information from long-term memory to make it more memorable in the future

overview

tips



# Retrieval Strategies:

Use a combination of these strategies for the best results

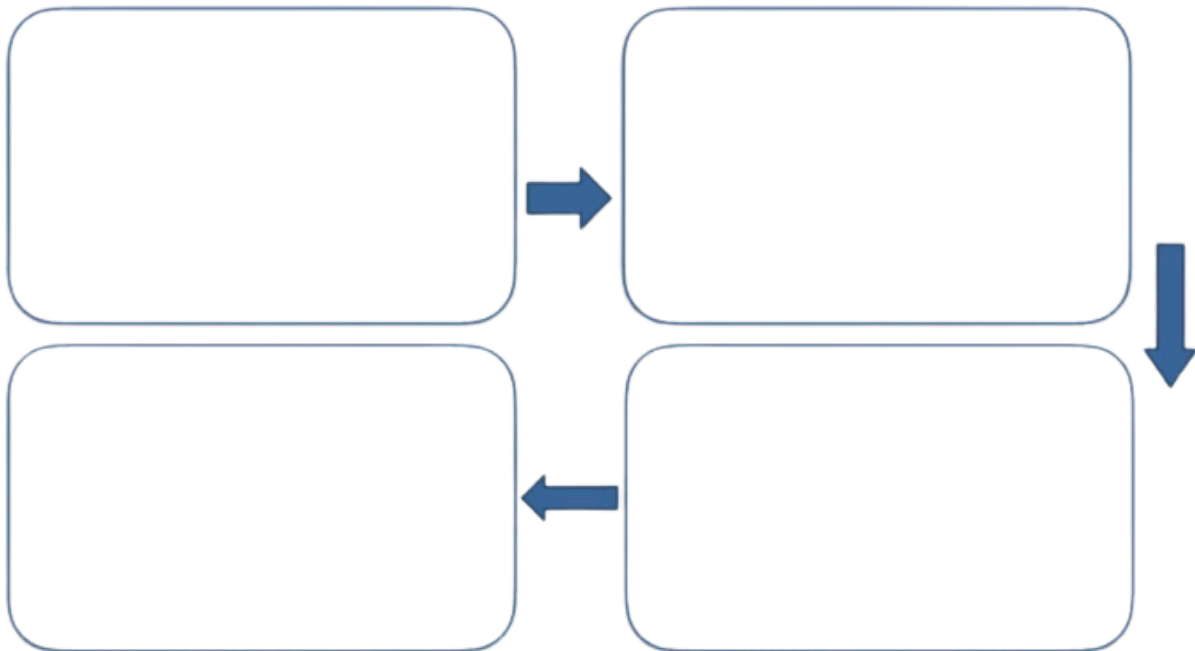


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## Strategy 1: Retrieval Relay Race

Instructions: Choose a full topic you have studied or a particular past paper question you could be asked.

Without using your notes, write as much as you can remember in the first box. Now spend 3 minutes (or suitable time frame) reading your notes before putting them away. Now add any further information to the second box. Repeat these steps for boxes 3 and 4. By box 4 you should have a fully complete answer or topic summary. Boxes 2, 3 and 4 also highlight gaps in your knowledge.



### Subject focus - History

You could use the retrieval relay race to cover an essay topic. Use box one to outline the basic factors and add any analysis and knowledge that is relevant. Then use research and recall in subsequent boxes to build up a framework for the essay. This can help to provide an overall structure for your essay.

### Subject focus - Geography

This technique could be used to revise geographical concepts. For example Year 8 students could revise the water cycle. Brain dump everything you can remember in box 1, then check notes and add information to box two. Repeat for box 3 and 4 until you have recalled everything. This can also be done as a group revision activity.



# Retrieval Strategies

## Strategy 2: Flash Cards



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**Instructions:** Flash cards are an excellent resource to consolidate your knowledge and learning on a particular topic. You can use course topic outlines or checklists to identify headings or titles for one side of the flashcard. On the other side you can write your sample answer or a summarised guide of how to structure your answer to the question. Or these can be useful to revise vocabulary and definitions.

**Self-assessment:** You can now use your flashcards as marking schemes to attempt past paper questions. For example, you might revise the flashcard and then attempt the question. Then use the flashcard to mark your answer and identify any areas you missed.

**Peer or family learning:** You could give your flashcards to a friend or family member to test your knowledge on a topic or question. Based on the flashcards you created, they will have the heading and the answer.

### Subject focus - Chemistry

Flashcards are an excellent resource - I would break all learning down into topics and have a set for each. Quizlet is a fantastic resource. Great for definitions and bullet points on topics linking to past paper questions. I would personally encourage writing them yourself to think through the answers whilst making them.



### Alastair, Year 8

I like to use flashcards. I use them to revise languages and science to learn vocabulary and key terms. I design my own flashcards on Quizlet with a key term on one side and the definition or translation on the other so I can test myself.



**Top Tip:** When you use flashcards, don't drop a card the first time you recall the answer correctly. Keep it in the study pile until you recall the correct answer at least three times—although five or six is better (Driskell et al., 1992; Kornell & Bjork, 2008a)



# Retrieval Strategies

## Strategy 3: Flashback Friday



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Instructions. At the end of the week create a series of ten questions based on what you've revised that week for that subject. It might be one topic or a range of topics. You should include the answers too. Each week add ten more questions and answers but also look back and test yourself on the questions created from previous weeks. By doing this on a regular basis over the course of the year you have divided your revision into chunks and created a bank of questions which you can refer to later for revision. Make sure your questions refer to content from your course checklist and from past paper questions for your subjects.

Geog your Memory – Week 1		
1	<b>Explain</b> why the earth only receives 50% of incoming solar radiation	6
2	<b>Explain</b> the processes involved in the formation of a ribbon lake	8
3	<b>Explain</b> the social, economic and environmental issues facing residents living in shanty towns in a developing country you have studied	8
4	<b>Outline</b> , the physical and human factors that need to be considered when selecting a dam site	10
5	Which country in the world has the most number of lakes?	1

Geog your Memory – Week 2		
1	Give reasons for the differences between a Brown Earth and a Gley soil	10
2	Describe the origin and characteristics of the tropical maritime and tropical continental air masses	6
3	For a voluntary migration flow you have studied, give reasons for the flow of migration.	8
4	Account for why only using a single indicator of development is less effective than a combined indicator such as HDI	6
5	Which is the largest island in the world?	1

Geog your Memory – Week 3		
1	<b>Explain</b> the formation of a headland and bay	10
2	<b>Account for</b> the distribution of energy around the earth by the three cell model.	8
3	<b>Explain</b> the human impacts on the Hydrological cycle (deforestation, urbanisation, mining, dams/reservoirs)	8
4	<b>With the aid</b> of an annotated diagram, <b>explain</b> how a balance is maintained in the hydrological cycle	10
5	How many islands does Scotland have? (you can round your answer to the nearest hundred)	1

### Subject focus - Geography

A version in Geography is called 'Geog your memory'. For iGCSE and A Level, use past papers to create question banks with a range of difficulty and marks. Do this at the end of the topic to create a bank of questions to revise at the end. Include the answers you have found in the mark scheme.

Make sure you check and correct your answers as you test yourself.

Top tip: Don't just review what you are familiar with, remember;  
"Courage is the power to let go of the familiar." – Raymond Lindquis



# Retrieval Strategies

## Strategy 4: Dual Coding



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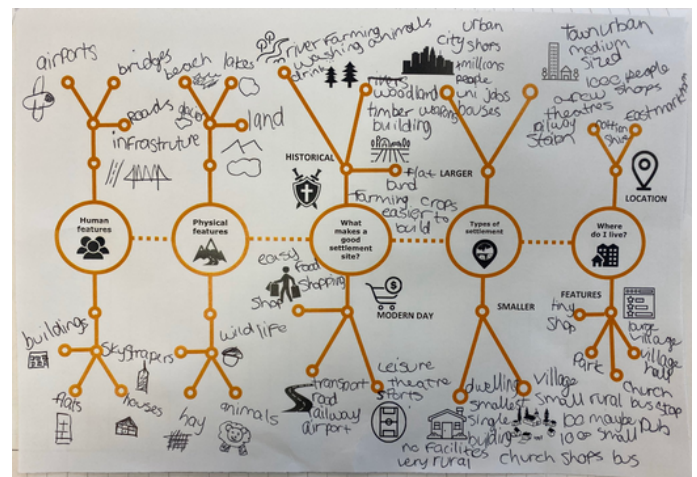
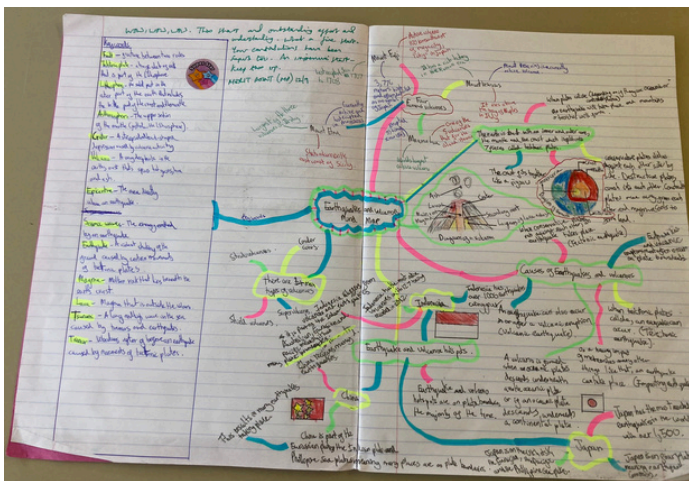
‘Research showed that students who received an explanation using both words and images remember more than the students taught the same content using just word or just images.’ (De Bruyckere 2018)

Instructions: the term ‘dual coding’ refers to the technique and process of combining written text with visuals. This might take the form of a timeline, diagram or infographic depending on the subject or what you feel is best suited to the subject or topic. These can be created by writing down information from memory with accompanying relevant images to enhance your points. You can then check your notes to identify information you have missed.

### Subject focus - Maths

In Maths, many topics benefit from visual representation. For example, when revising geometry, pairing diagrams of shapes and angles with written formulas and explanations helps you understand relationships between elements. Similarly, graphs and functions are much clearer when you can see how equations look on a graph, combined with notes on how each part of the equation affects its shape.

Dual coding is also useful for remembering steps in problem-solving. For instance, a flowchart showing the process of solving an equation, paired with brief descriptions, helps break down complex problems into manageable steps. When preparing for exams, you can sketch out visual summaries, like mind maps or annotated diagrams, that show how different topics link together.



Top tip: Because people process information through two separate channels (verbal and visual), combining words with pictures leads to better learning than from words alone.



# Retrieval Strategies

## Strategy 5: Mind Mapping from Memory



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Instructions: Choose a topic you have studied. On the paper write down the headings which cover the key content in the topic. Now revise your notes on one particular section for 10 minutes. Write down on your mind map all you can remember. Repeat for the next section until you have covered all headings. Now go back and check your first heading using your notes to see what you have missed. Cover your notes again and add any further points. Repeat until you've covered every heading.

For maximising long term learning, creating memory maps as a retrieval practice is more challenging and effective without using your notes to directly copy from.

### Subject focus - English

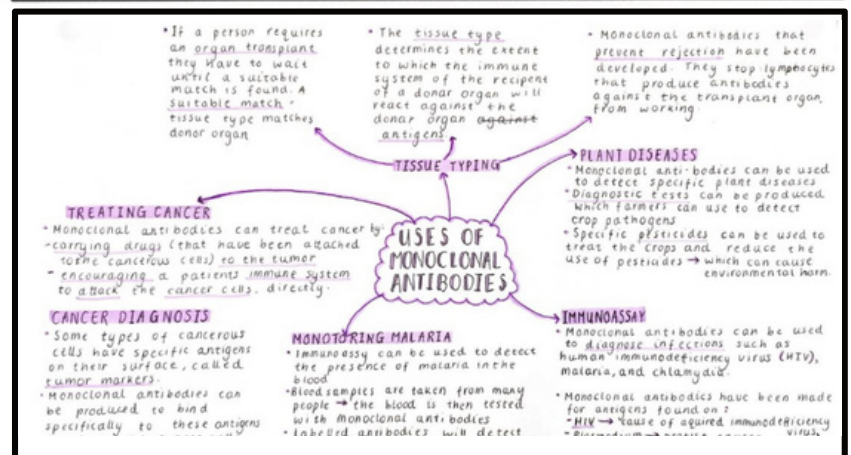
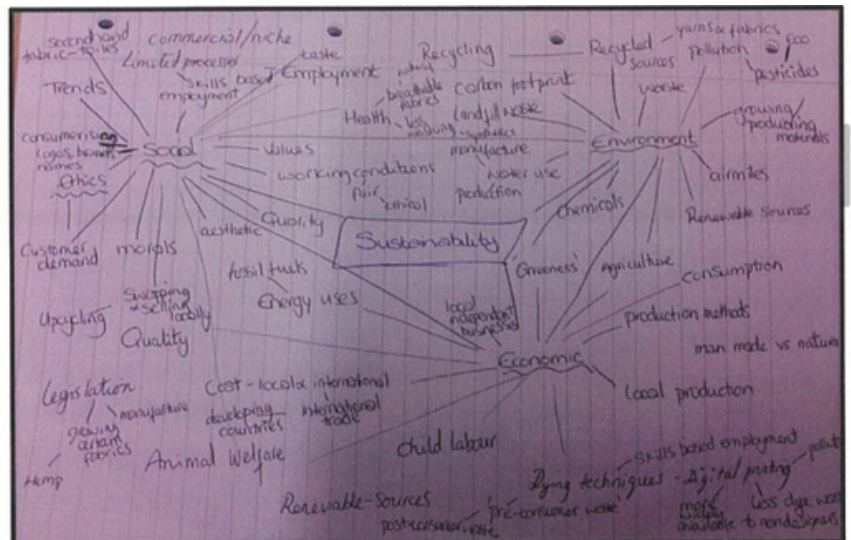
In English, a mind map can be a great revision tool to recall and revise key information whilst making links and connections between ideas.

When revising a text, mind maps are a useful way to gather information together; for example, for a character you can add key characteristics, relationships and actions - adding quotations for each. As English Literature is closed book, mind maps enable you to revisit and collate key quotations to memorise.

As well as character, mind maps work for themes, imagery and key moments in the text. Try including colour, highlights and symbols to indicate connections and links. They also work well for the poetry anthology where you can record connections between a number of poems on a similar theme.

### Subject focus - Computing

This technique can be useful for breaking down complex systems which involve interrelated concepts, like programmings, algorithms and networking. Practicing recall without your notes will strengthen memory and identify gaps in your knowledge.



Ben, Year 9

I like to use mind maps for revising subjects like Biology, where you have to make links between the information you are learning. I keep my mind map simple so I can easily learn the information.

Top tip: Increasing the time between practice sessions—called expanding retrieval review—is the most efficient approach to building long-term memory (Cull et al., 1996).



# Retrieval Strategies

## Strategy 6: Revision Clocks



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Instructions: Split your paper into 12 segments, like a clock face. Write down the different questions or sub topics that you can be asked about as part of this unit of work.

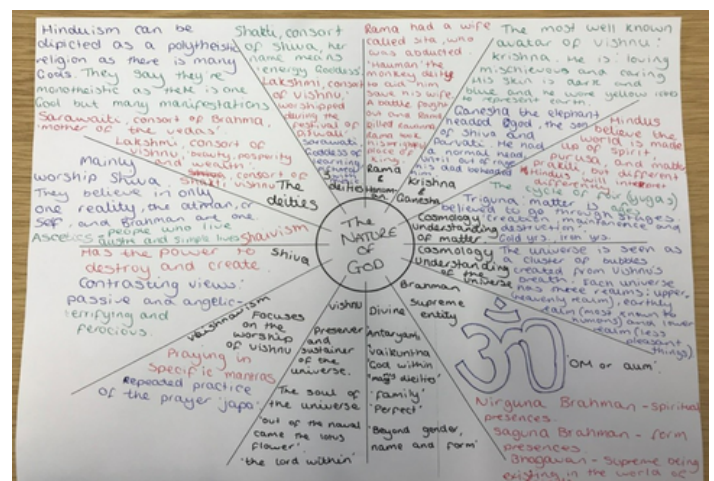
Take two colours of pens. Using your first pen, spend 5 minute completing each segment of your clock from memory. Check your notes and then take your second colour of pen. Add in any additional information you missed first time round. You could also combine this activity with images like the dual coding example.

### Subject focus - Religion and Philosophy

You can use these in a few ways; for example, select a topic or unit from the syllabus, such as "Christianity: Beliefs and Teachings".

Choose 12 subheading from the topic then spend 3-4 minutes writing up everything you can remember about that heading. In the first 3-4 minutes, you work on the subtopic "Nature of God," listing attributes like omnipotence and linking it to Bible quotes such as "Nothing is impossible with God" (Luke 1:37). After you complete a section, check it against your notes and make corrections or add missing details. Complete all 12 section, but space out your revision. You can do a few segments then leave it and come back another time.

You could cover a larger topic is less detail or do a deep dive into one aspect of a topic.



Scan QR code for revision clock template

Top tip: Quiz yourself frequently while you're studying. Put away your books and notes and then write down everything you know. Compare what you've written with your class materials to make sure you're recalling everything correctly.



# Retrieval Strategies

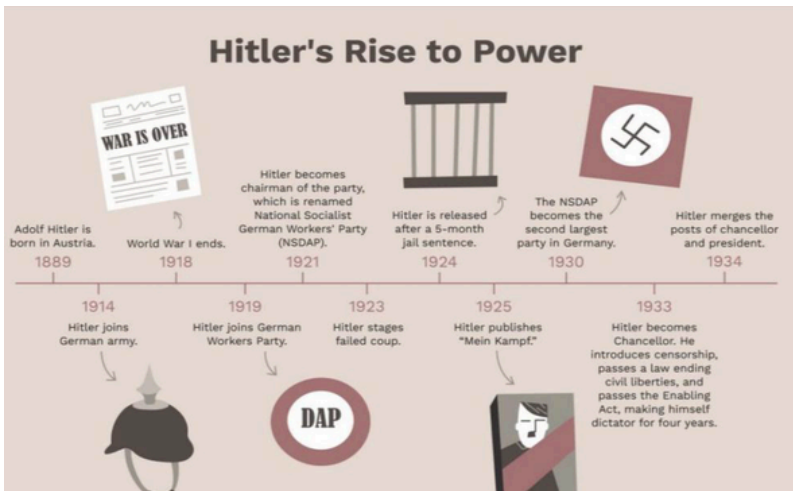
## Strategy 7: Road Maps from Memory



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Instructions: This might be useful if you need to retrieve information in a sequence, for example, the order of a play or plot in English or a timeline in History. The road map template just requires a start point and end point and you fill in the information in between.

For maximum retrieval benefit this should be completed without directly copying from your notes. This can be linked with the techniques for mind mapping from memory and diagrams could be added for dual coding.



### Subject focus - History

These are useful for anything you need to learn in chronological order, such as Hitler's rise to power which we look at in the Edexcel iGCSE.

### Chemistry

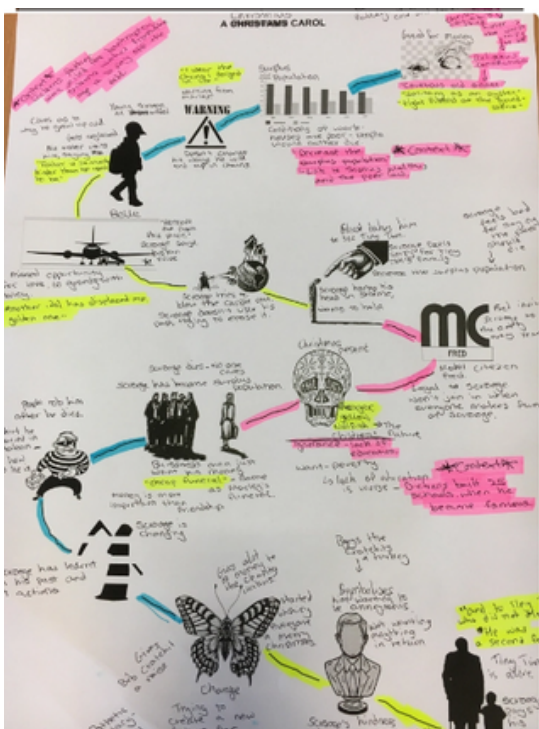
This would be useful for revising the history of the atom at GCSE.

### English

You could use these to revise the plot, for example; A Christmas Carol. You could combine this with images.

### Geography

You could adapt this strategy to revise geographical processes or sequences, such as the formation of a coastal spit, where information should be learned in a specific sequence. You could add diagrams or sketches to your notes for maximum memory impact.



Top tip: Draw pictures of the things you are learning about. They could be flow charts of processes, timelines of events, tables to compare features of two or more things, or diagrams where you label the parts.



# Retrieval Strategies

## Strategy 8: Challenge Grids



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‘If you make learning too easy, students don’t have to work hard to make sense of what they are learning, and as a result will forget it quickly’  
( Williams, D 2016)

Instructions: You will know what questions within a topic you personally find the most challenging. This strategy invites you to create your own challenge grid where you rank the difficulty of questions. Remember when writing or speaking your answer to do so without notes to see what you know. Then check your notes to identify gaps.

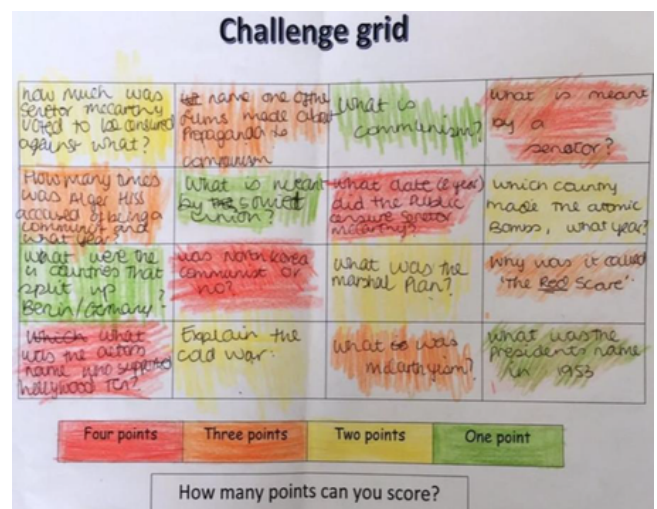
The challenge grid can also be used by friends or family to help quiz you on the topic. Make sure you create an answer sheet they can use to check your response.

You could make your easier question worth 1 point going to 4 points for harder questions. Or colour code the questions in terms of difficulty.

### Subject focus - Modern Foreign Languages

The speaking element of the course often presents the most challenge given the unpredictable nature of question order. Challenge grids offer a great way to learn tenses, vocabulary and phrases. You could write these in English and translate them or write them in the studied language and give the English.

Make sure you also have the answers recorded and you are checking your answers are accurate. Get friends and family to test you too. Assign more points for more challenging phrases!



Challenge Grid. Topic: \_\_\_\_\_


1 point	2 points	3 points	4 points
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Scan the QR code for templates



Top tip: Retrieving information through self-testing is what strengthens it in memory. Highlighting and rereading information is ineffective since no retrieval is required. (Dunlosky et al., 2013).



# Retrieval Strategies

## Strategy 9: Cops and Robbers

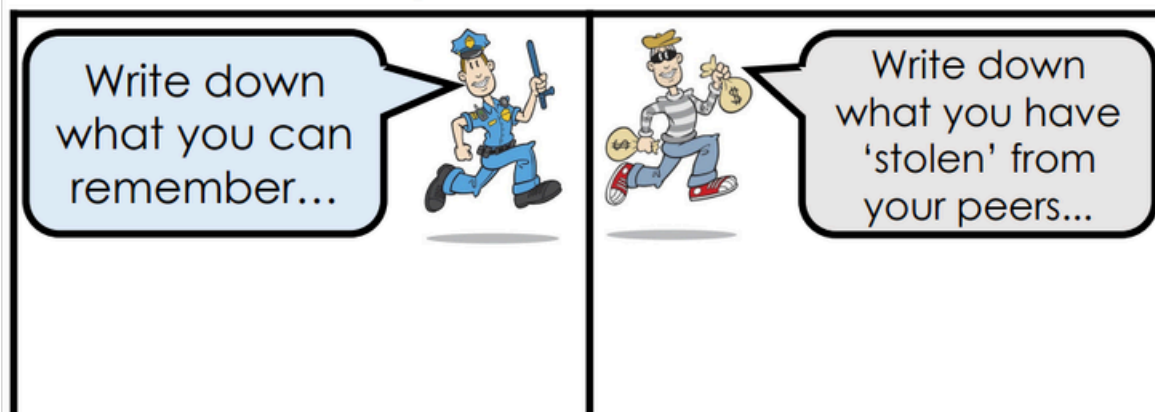


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The 'Cops and Robbers' revision strategy is highly adaptable and can be used in a range of subjects where recalling information and identifying knowledge gaps is key.

Instructions: Use the 'cops' column to write as much as you can about the question or topic selected in a set period of time, for example 5 minutes. Remember, no notes allowed at this point. Then complete the 'robbers' column adding points from your notes again in a set amount of time. The 'robbers' column helps to identify gaps in your knowledge for this topic or question. You could do this revising with a friend or group - 'rob' your friend's knowledge!

### Cops and Robbers



#### Subject focus - English Literature

This strategy works well for recalling plot details, character analysis, or themes. For example, write everything you can remember about a character from a novel in the 'cops' column, then use the 'robbers' column to fill in any missed analysis from your notes or peers.

#### Subject focus - Classics

For Classics, the 'Cops and Robbers' revision technique can be a great way to test and improve your recall of key events, themes, literary analysis, and historical context from ancient texts or history.

#### They , Year 11 Student

Learning verb/noun endings and agreements can be difficult in Latin. Using the method above can help you to remember the correct tenses and declensions (as there are a lot to learn!). At GCSE we study text such as, Catullus and Pliny's letters. These require the memorisation of large chunks of Latin texts as well as complex style points to convey the writer's message. Using the method above can be really useful to compare texts and sources on different themes for the 16 mark essay at the end of the paper.

Top tip: Summarize important ideas in your own words—they will be easier for you to recall in the future than memorized definitions and descriptions.



# Retrieval Strategies

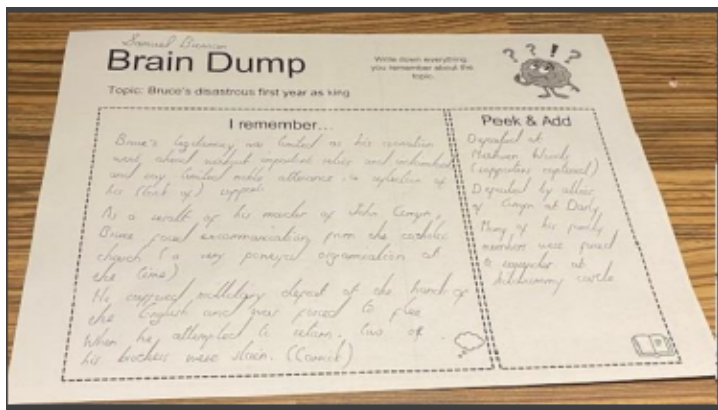
## Strategy 10: Brain Dump



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This is a powerful recall strategy which challenges you to write down everything you know about a topic. You should repeat this regularly to strengthen memory.

**Instruction:** First, select a topic or question you want to revise, for example, "Causes of the Industrial Revolution" Give yourself a specific time, like 5-10 minutes, to write down everything you can remember about the topic. No peeking at notes! Don't worry about perfect organisation; just get your ideas down on paper. This could include definitions, key terms, dates, processes, or any other details you recall. The last stage is really important, check your notes and add any important points you missed. This helps you see where the gaps are and shows you what to focus on for future revision.



I remember...

Peek and add...

### Subject focus - MFL

For vocabulary revision, choose a category like food or family and list all related words and phrases you can remember. Check your vocabulary lists afterward to fill in any forgotten words. For grammar, pick a topic like past tense and write down how to form the tense, including endings for regular and irregular verbs, as well as common irregular forms. Then review your notes for any structures you missed.

### Subject focus - Art and Design

This can be a useful strategy to revise topics which you are studying, such as the work of a single artist. Do this without looking at any notes, then check and add missed information.

**Top tip:** Distributing study time over several short sessions produces better long-term memory than a single, long study session.



# Retrieval Strategies



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## Online Resources

Scan the QR code to access the online resources

### Quizlet.com

Allows you to create and use digital flashcards to review important information and test your knowledge through various study modes, including flashcards, quizzes, and games.

You can access pre-made flashcard sets or create your own to reinforce concepts. The "Learn" and "Test" modes provide varied ways to recall information, which is great for memorization-based subjects like vocabulary or facts.

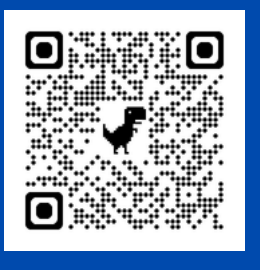
Caution: Many Quizlet flashcards are user-generated, so the content may not always be accurate or up-to-date. Write your own cards or cross-check information with reliable sources.



### senecalearning.com

Seneca provides interactive learning material across a wide range of subjects. You can access topic-specific courses, practice quizzes, and explanations to help you retain information. The platform mixes up different styles of question and problem and encourages active recall through testing.

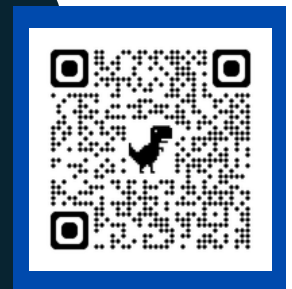
Caution: Beware passive learning. Since Seneca is highly interactive, it can feel like you're learning simply by going through the material, but true understanding requires active engagement. You should make notes, practice recall, and not just rely on clicking through quizzes.



### memrise.com

Memrise specializes in language learning but can be used for other subjects involving memorization. It uses mnemonic techniques to help you learn. Memrise can help you practice and test yourself, using interactive exercises designed to improve recall.

Caution: Not the best tool for subjects requiring deep conceptual understanding or complex problem-solving, like mathematics or physics. You should make sure you understand the concepts behind the terms you are memorising.





# Retrieval Strategies



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## Online Resources

Scan the QR code to access the online resources

### [gizmo.ai](https://gizmo.ai)

An interactive flashcard tool where information you are learning can be inputted and turned into flashcards. You can import information from a range of sources or other programs, such as Quizlet or you can take a picture of your notes or input a website, and it will turn them into flashcards. Once information is imported you can edit it. You can tailor information to a specific exam board at GCSE by importing part of the specification

Caution: Making your own cards with information you have checked is the best way to strengthen memory. Any information you import should be checked for accuracy and you should make sure what the cards are testing is useful.



### [cognitoedu.org](https://cognitoedu.org)

Cognito offers concise educational videos, notes, and exam tips, particularly focused on UK GCSE and A-Level maths and science. But it does have some other subjects and KS3 topics. It is designed to simplify complex topics. You can watch short videos to revise key concepts, view flashcards, and access exam-style questions.

Caution: While the short, concise videos are useful, they may sometimes oversimplify complex topics. You should follow up with textbooks or more detailed sources if you don't fully understand a concept.



### [chatgpt.com](https://chatgpt.com)

ChatGPT can answer questions, explain concepts, generate practice questions, and provide study tips. You could ask for summaries of complex topics, then test yourself by generating quizzes and practice problems. You can tailor these to your exam specification.

Caution: While ChatGPT can explain concepts and generate practice questions, it may sometimes provide incorrect or incomplete answers. Students should cross-check its responses with textbooks or trusted sources. ChatGPT can offer quick solutions, but relying on instant answers can prevent you from developing problem-solving skills. You should try to work through problems yourself before asking for help.



The quality of your prompts will determine the quality of the answer. For tips on prompts:



Top tip: Avoid listening to music while you are studying. The lyrics will compete with the words you are reading and make it difficult to comprehend them. The exception is instrumental music. (Dobbs et al., 2011)



# Retrieval Strategies



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## Online Resources

Scan the QR code to access the online resources



### youtube.com

YouTube hosts a vast library of educational content, including revision tutorials, walkthroughs of exam papers, and detailed topic explanations for almost every subject.

Caution: Make sure you know your GCSE or A Level exam board so you are revising the correct specification. Speak to your teachers about which exam board and channels they recommend.

Not all educational videos are accurate or well-researched, so be selective and rely on credible channels (e.g., channels run by teachers or educational institutions). It's easy to get distracted on YouTube. Avoid the temptation to click on unrelated videos.

### Subject focus - Chemistry

Subject specific youtube – Being aware of your exam board (AQA/edexcel), level (GCSE/A-level) and topic/sub topic you're struggling with. If you're revising at home and don't have teacher access, then try using a summary/explanation video – e.g Snap revise is excellent for curriculum specific A-Level Edexcel for Chemistry.



### Geography

GEO HACKS on YouTube are excellent videos to revise for the iGCSE paper 2 map skills and paper 4 Geographical skills. They take you through how to answer exam questions, so you can do these with a past paper in front of you and work along with the video. Improving exam technique and skills.



### Maths

At LGS all the boys are subscribed to an online website called "DrFrost". They are set work throughout the year by their teacher and they can also access any of the activities/games and challenges that are on the site. By doing this, their progress is continually monitored and areas of weakness are identified.

When it comes to revision, the boys have a good idea of where they need to dedicate the most time and effort. For these areas of development, the boys can then access tutorial videos, worked examples and a selection of exam style questions that they can then have a go at. Instant feedback is given so there is no waiting around for a teacher to have to mark what they have done. If pupils make the most of this online resource it can be a very powerful tool in increasing their exam performance.





# Evaluation: Reflect on your revision strategies



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I attempted strategy (name strategy) \_\_\_\_\_ when revising for (subject and assessment)

\_\_\_\_\_.

I liked this strategy because....

What I might change about this strategy is .....

I attempted strategy (name strategy) \_\_\_\_\_ when revising for (subject and assessment)

\_\_\_\_\_.

I liked this strategy because....

What I might change about this strategy is .....



# Evaluation: Reflect on your revision strategies



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I attempted strategy (name strategy) \_\_\_\_\_ when revising for (subject and assessment)

\_\_\_\_\_.

I liked this strategy because....

What I might change about this strategy is .....

I attempted strategy (name strategy) \_\_\_\_\_ when revising for (subject and assessment)

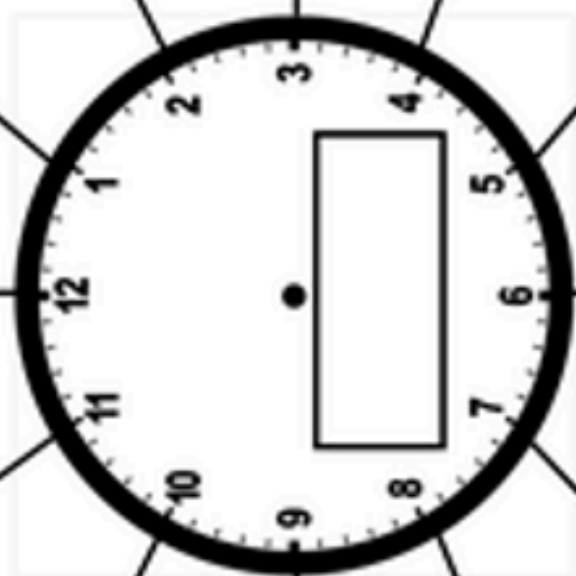
\_\_\_\_\_.

I liked this strategy because....

What I might change about this strategy is .....

**Challenge Grid. Topic:** \_\_\_\_\_


1 point	2 points	3 points	4 points
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# Acknowledgements



Loughborough  
Grammar School

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