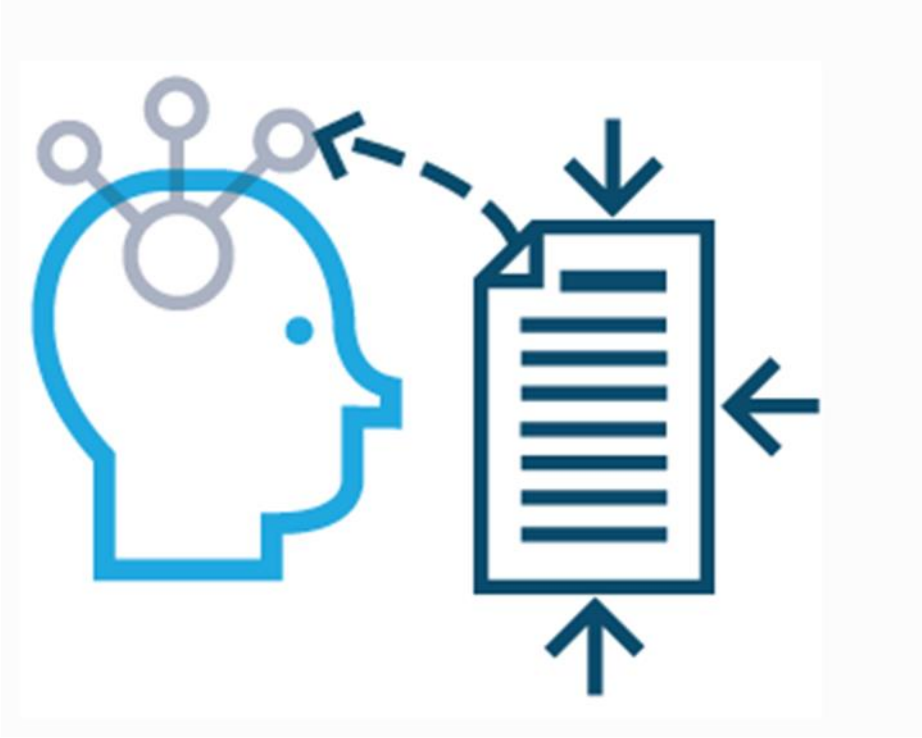
Ready to Revise Programme

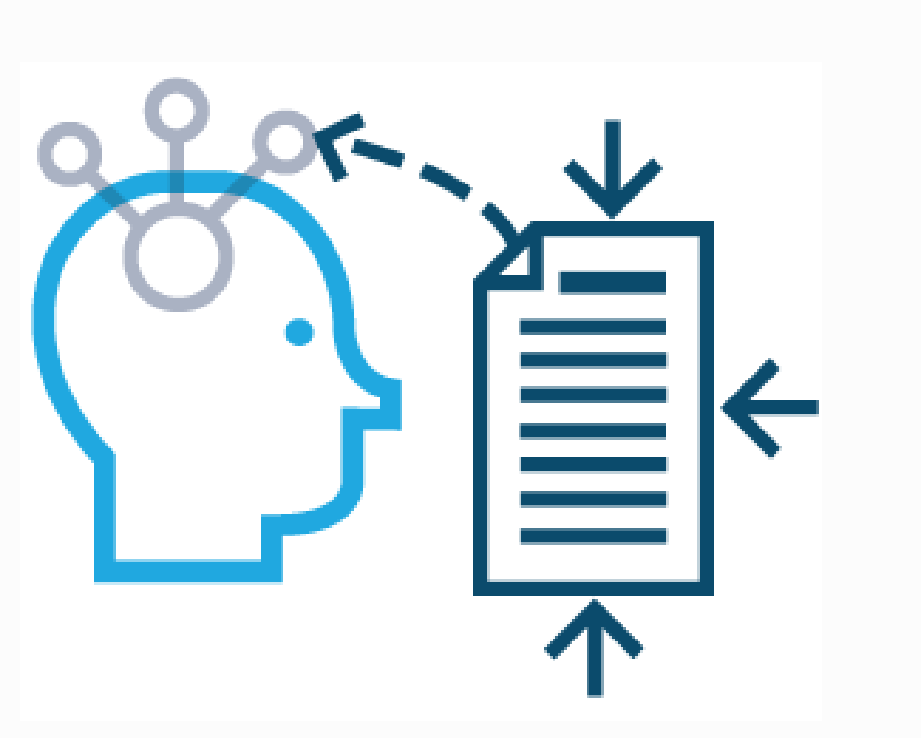


Let your light shine

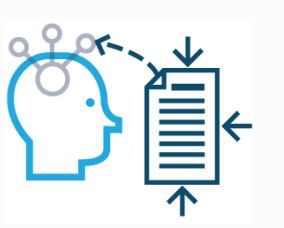
Ready to Revise How do we learn? Memory, retention, and recall.

- In this 7 week programme you will learn

1. Why it is important to revise.
2. How to revise effectively.



Ready to Revise How do we learn? Memory, retention, and recall.



Year 11 Ready to Revise Programme 2021-22-Mock Exam Schedule

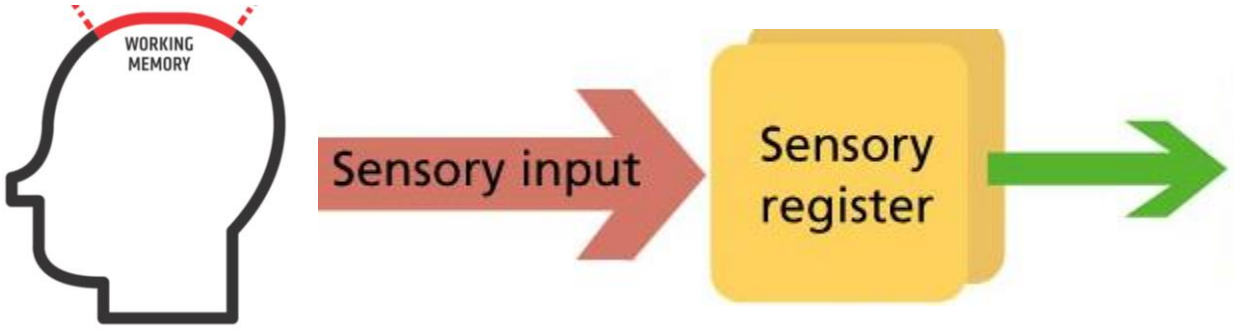
Week beginning	Key question:
4.10.21	**How do we learn?** Memory, recall and retention.
11.10.21	Self-Testing: How can I use **flash cards** and **self- quizzing** effectively?
18.10.21	What are **spaced practice and interleaving** and how can they help me revise effectively?
25.10.21	February Half-Term
01.11.21	What is **dual coding** and how can I use it to revise effectively?
08.11.21	How to plan a **revision schedule** and making sure time is used well.
15.11.21	What is the best way to revise for each **different subjects**?
22.11.21	Managing **Exam Worries**

Ready to Revise: How do we learn? Memory, retention, and recall.

- **To understand why we forget new information and how we can stop this in order to learn, we need to understand how our brain works.**
- **People who study the brain are called Cognitive Scientists.**
- **If you are interested in their work check out: www.learningscientists.org.**

Ready to Revise: How do we learn? Memory, retention, and recall.

How does our memory work? Your memory has three parts.



Firstly, you need something to remember. This means what you can see, hear, touch, taste, smell.

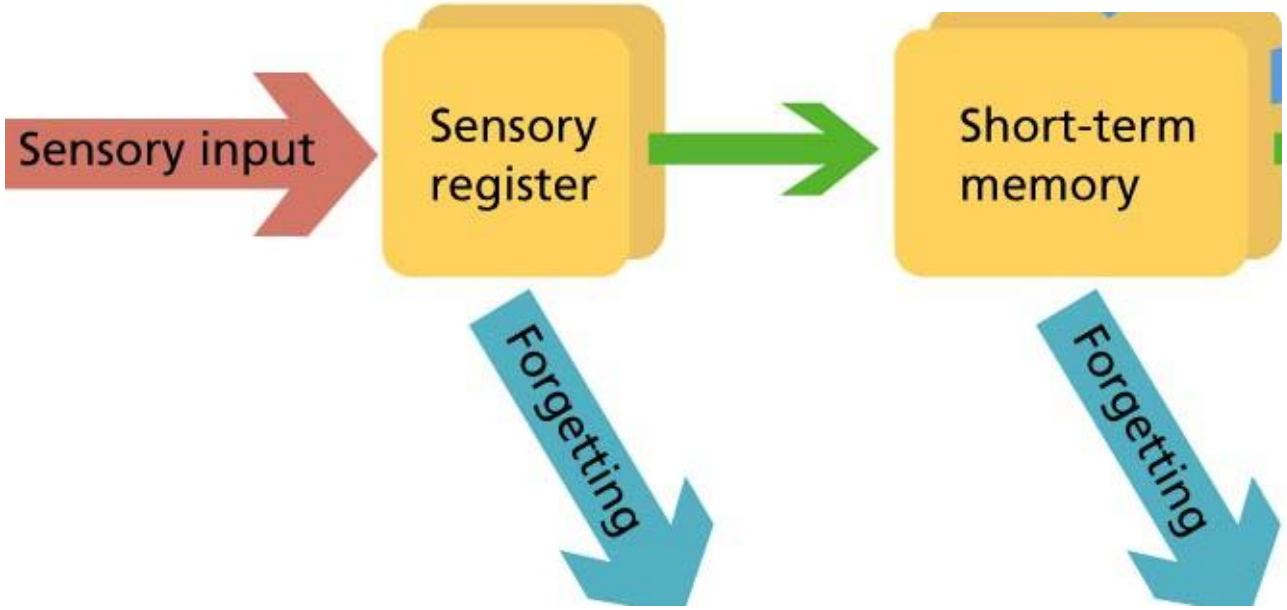
It is forgotten in 0.5 to 3 seconds.

Ready to Revise: How do we learn? Memory, retention, and recall.

3.14159265358979323846264338327950288419716939937510582097

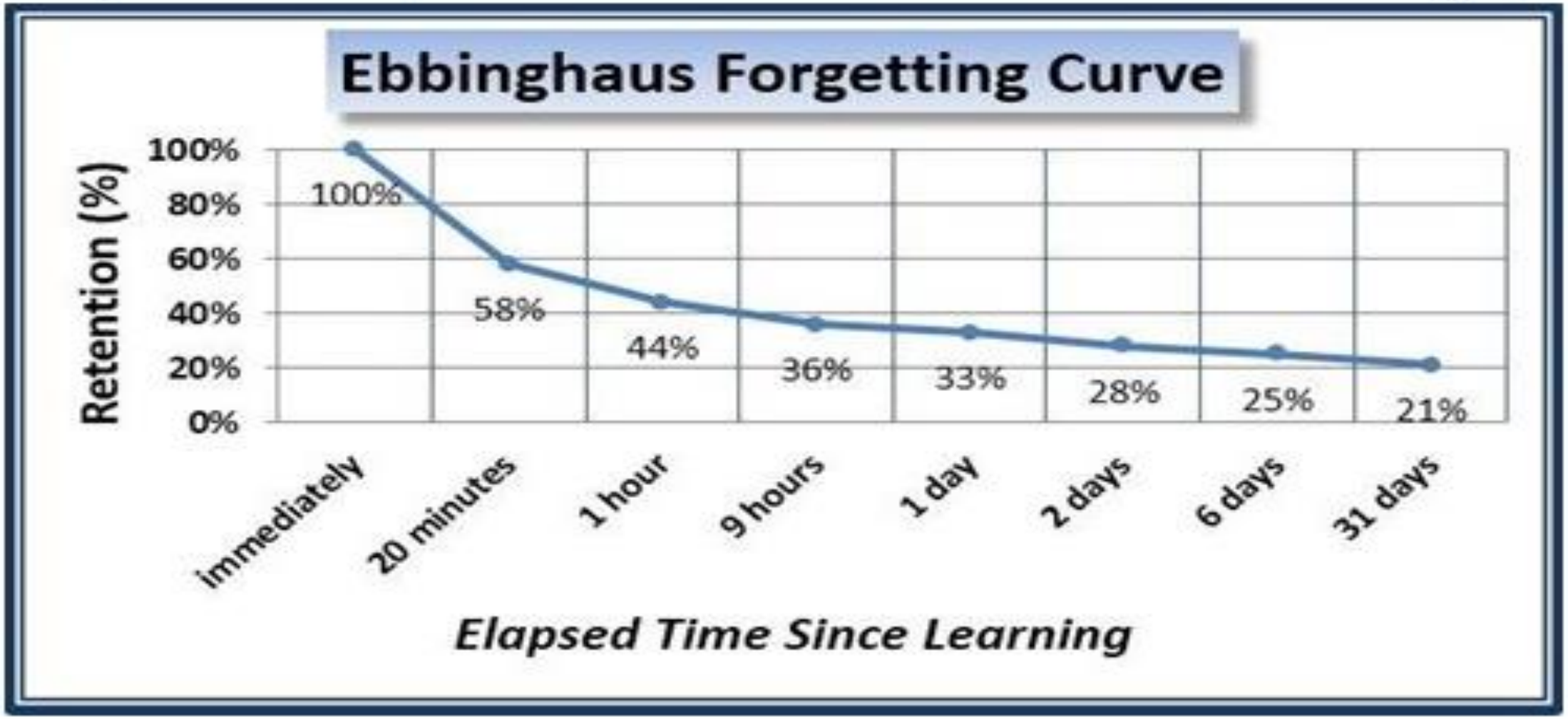
How good is your short term (working) memory? You have 1 minute to memorise as many digits of pi as you can. How did you do?

Ready to Revise: How do we learn? Memory, retention, and recall.

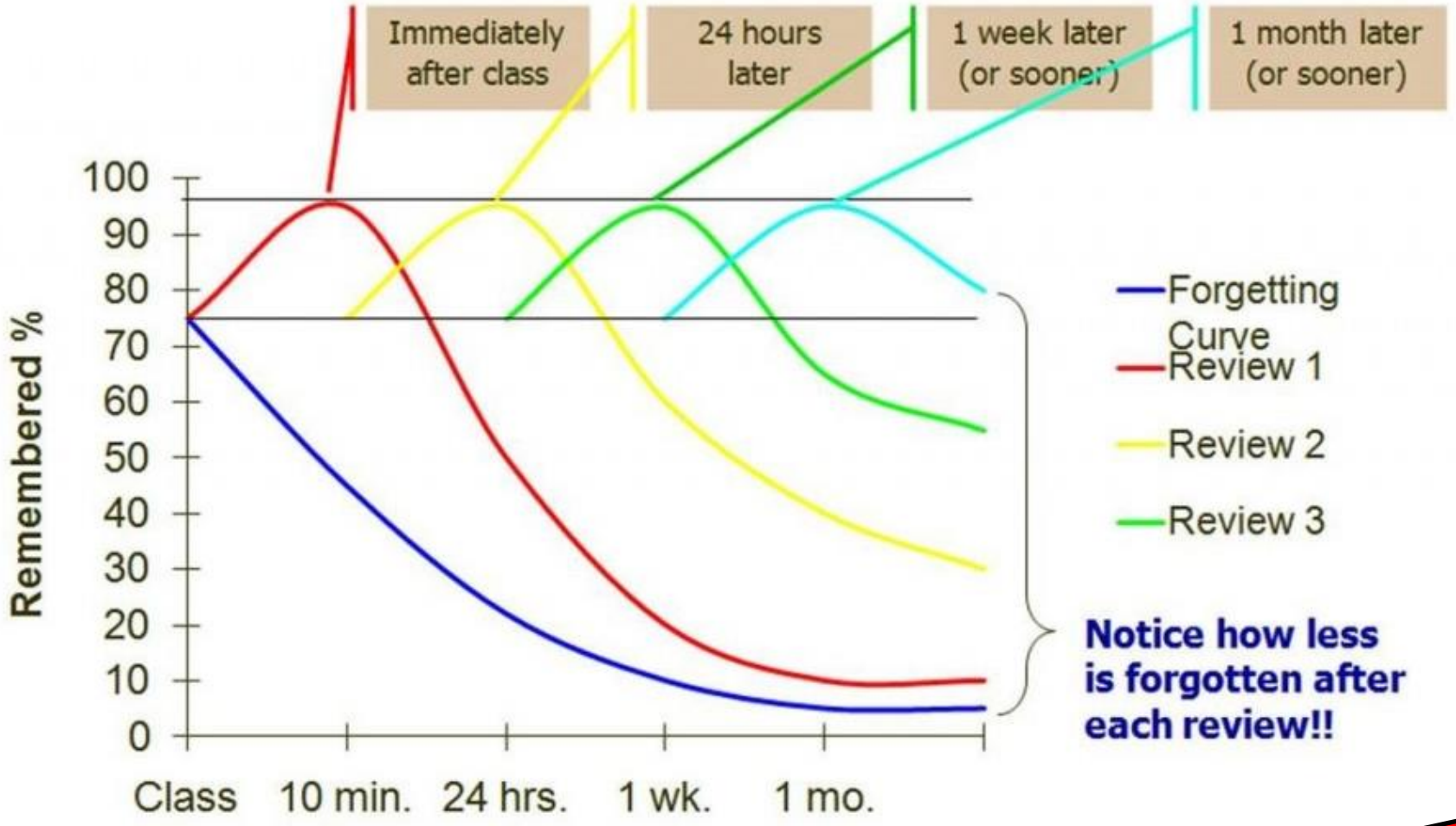


The final part of your memory is long-term memory. Only when information has been transferred from short term to long term memory has it been learned!

Ready to Revise: How do we learn? Memory, retention, and recall.



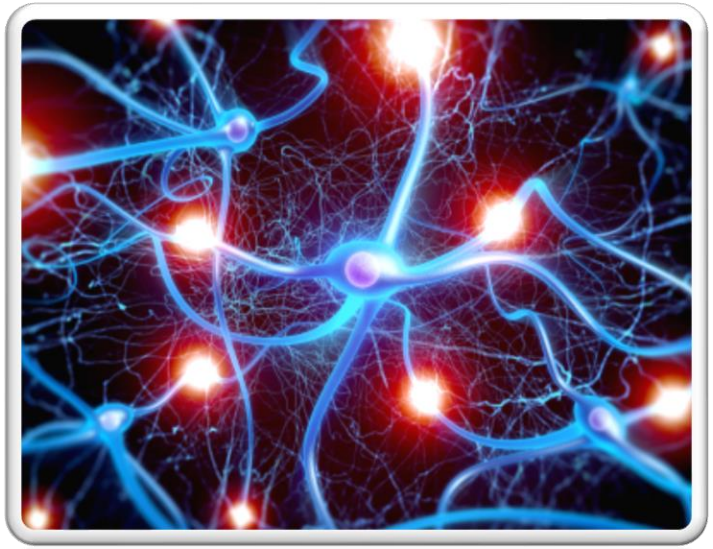
Ready to Revise: How do we learn? Memory, retention, and recall.



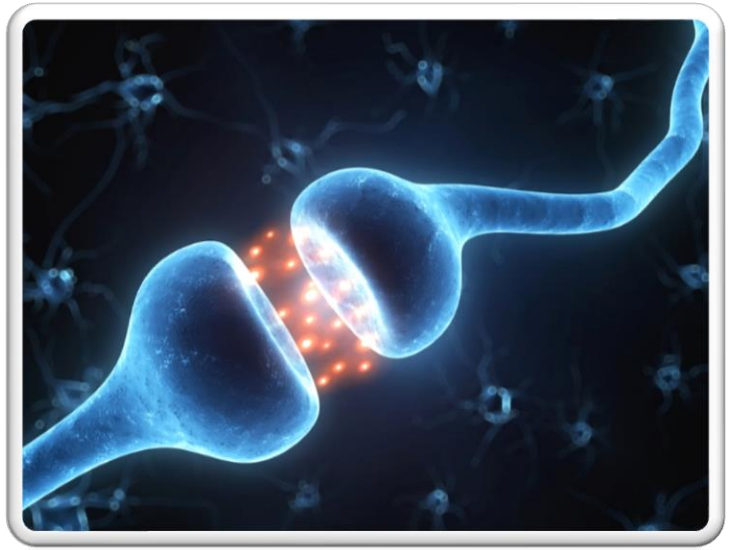
Ebbinghaus, Hermann

Psychologist, Hermann Ebbinghaus found that repeating information helps us remember more of it.

Ready to Revise: How do we learn? Memory, retention, and recall.



Long term memory happens when **links between synapses** in the brain are strengthened.



This happens through **repetition** which is why revision is required to learn.

Ready to Revise: How do we learn? Memory, retention, and recall.

Cognitive Science also shows that **repetition** and **revision** of information works best when…

…you fully understand the information and can explain/ describe it.

…you can give examples.

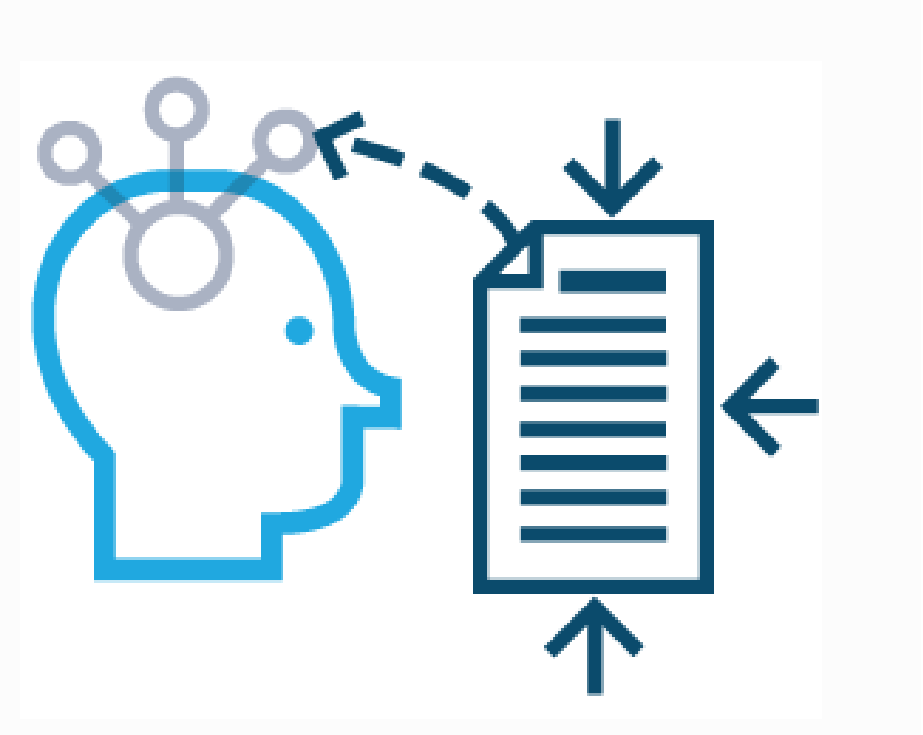
…you test yourself regularly over time (the 2 years of your GCSE not just before tests).

…you test your self; you should switch topics regularly (interleaving).

Ready to Revise: How do we learn? Memory, retention, and recall.

- Copy this into the Ready to Revise page (22) of your planner:
- Title: How do we learn?

1. On average you can **hold 7 items in your working memory** at a time. **It is forgotten in seconds or minutes.**
2. Our working memory is strengthened through **repetition** which is why **revision** is required to learn.
3. Cognitive Science also shows that **repetition** and revision of information works best when you **regularly test yourself.**



Lesson 2

Ready to Revise: How can I use flashcards and self-quizzing effectively?

Aims:

- **To know what is meant by 'self-quizzing' and why it helps you recall and retain information.**
- **To understand how (and how not!) to self-quiz.**

Ready to Revise: How can I use flashcards and self-quizzing effectively?

Starter Quiz

1. Which type of **scientists** study the way the brain works?

Cognitive scientists study the brain.

2. What is the other name for your **short term memory**?

It is also called '**working memory**'.

3. After a day, approximately how much information will you **remember**?

You will only remember **10-30%**.

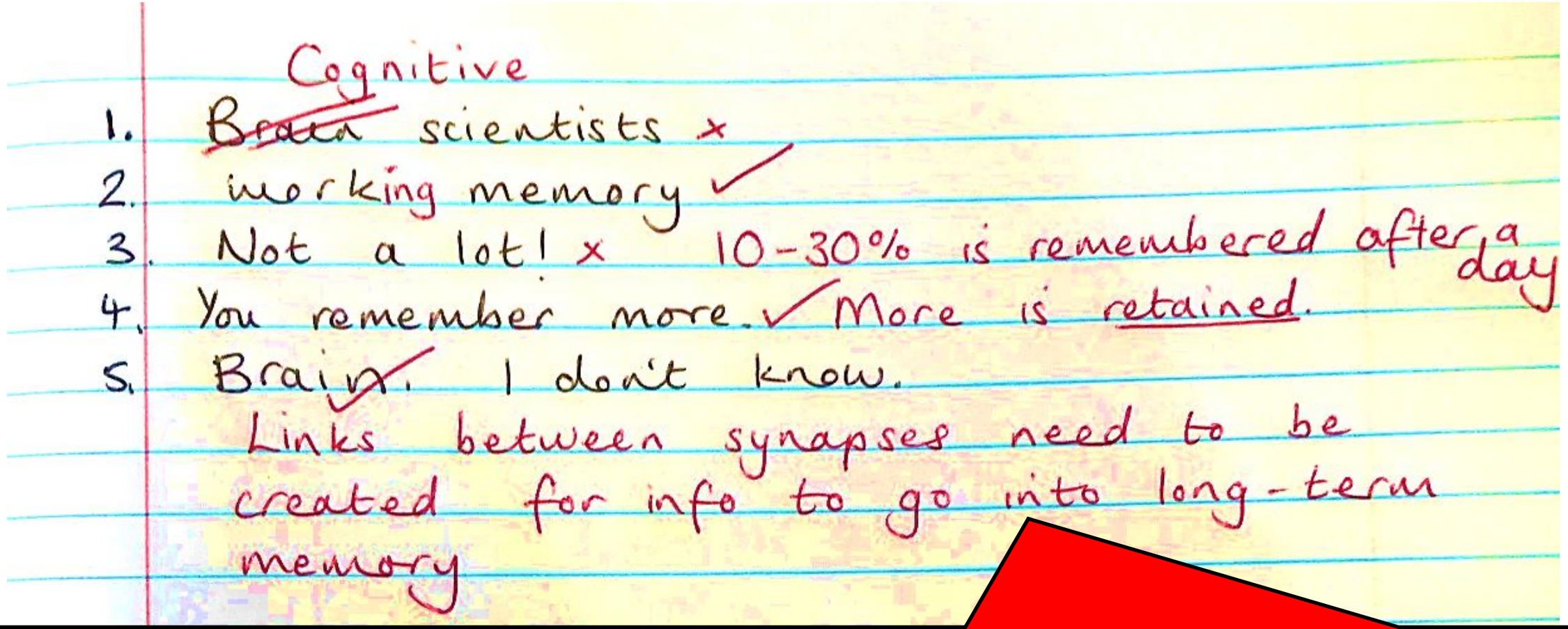
4. What did **Ebbinghaus** find happened when information was repeated?

Every time information is repeated more is **retained** (remembered).

5. Where are your **synapses** and what do they have to do with learning?

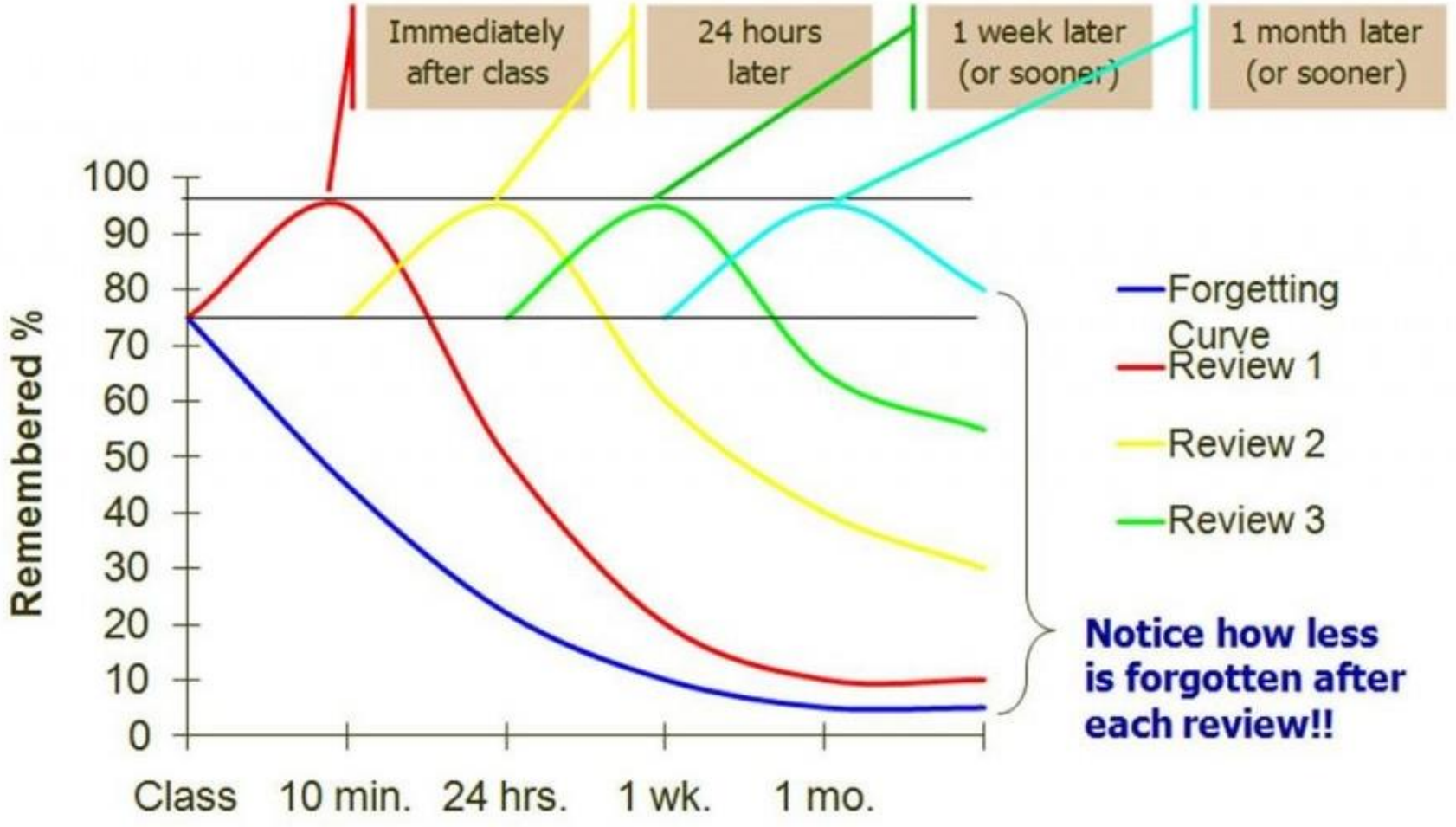
Synapses are in the **brain. Links between them** must be created for information to become **stored** in the **long term memory.**

Ready to Revise: How can I use flashcards and self-quizzing effectively?



Self-quizzing is a way of testing yourself on information you need to learn via questions. It helps you find out if you really know it.

Ready to Revise: How can I use flashcards and self-quizzing effectively?



Ebbinghaus, Hermann

Self-quizzing makes us review information so that we **forget less** and **retain more**.

Ready to Revise: How can I use flashcards and self-quizzing effectively?

What is alliteration?

Alliteration is when a sound is repeated over two or more words.

e.g. Donate to deserving causes.

1 of 30

La Belle Dame Sans Merci 1819 (1)

Author: John Keats

Story: 2 first person speakers. A knight narrates his encounter with a femme fatale character and how this lead to his love sickness/death.

Themes: Love

Tone: Super N

- Form +

2 of 30

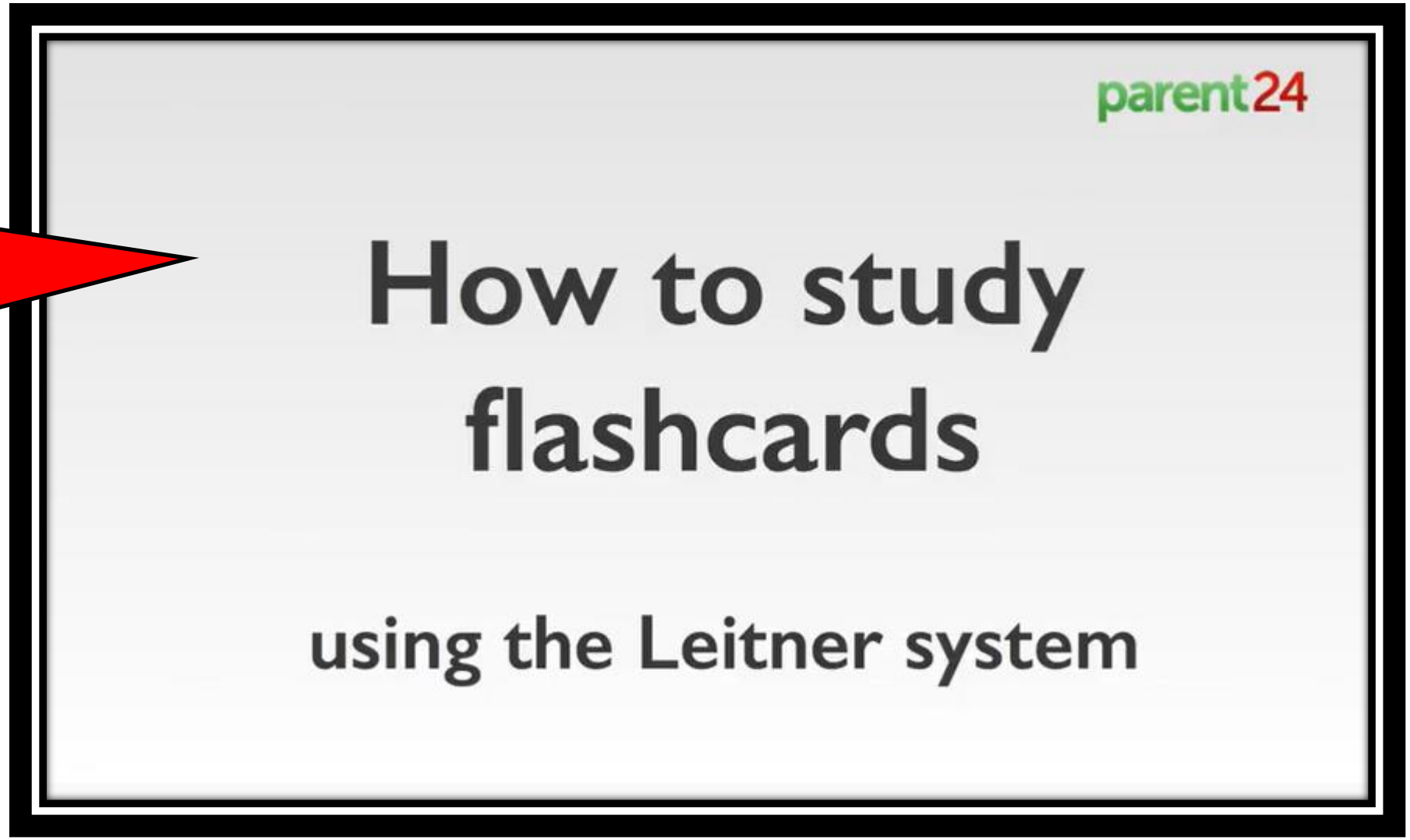
La Belle Dame Sans Merci 1819 (2)

- Language:
  - Archaic Language - Helps with medieval setting "ail thee" "steed" "thy"
  - Repetition of pale - Knight is dying "palely loitering" "pale" "death pale"
  - Metaphors of death - Knight is dying "I see a lily on thy brow" "fading rose"
  - Pathetic fallacy - Foreshadows knights death "The sedge has withered from the lake" "no birds sing"
- Context
  - Keats knew he was dying of TB in his 20s while writing this poem, his brother had also died of TB 2 years before
  - "A faery's song" could depict the woman as a siren from Greek mythology. Sirens would seduce sailors with songs and they then died in the water trying to swim to them

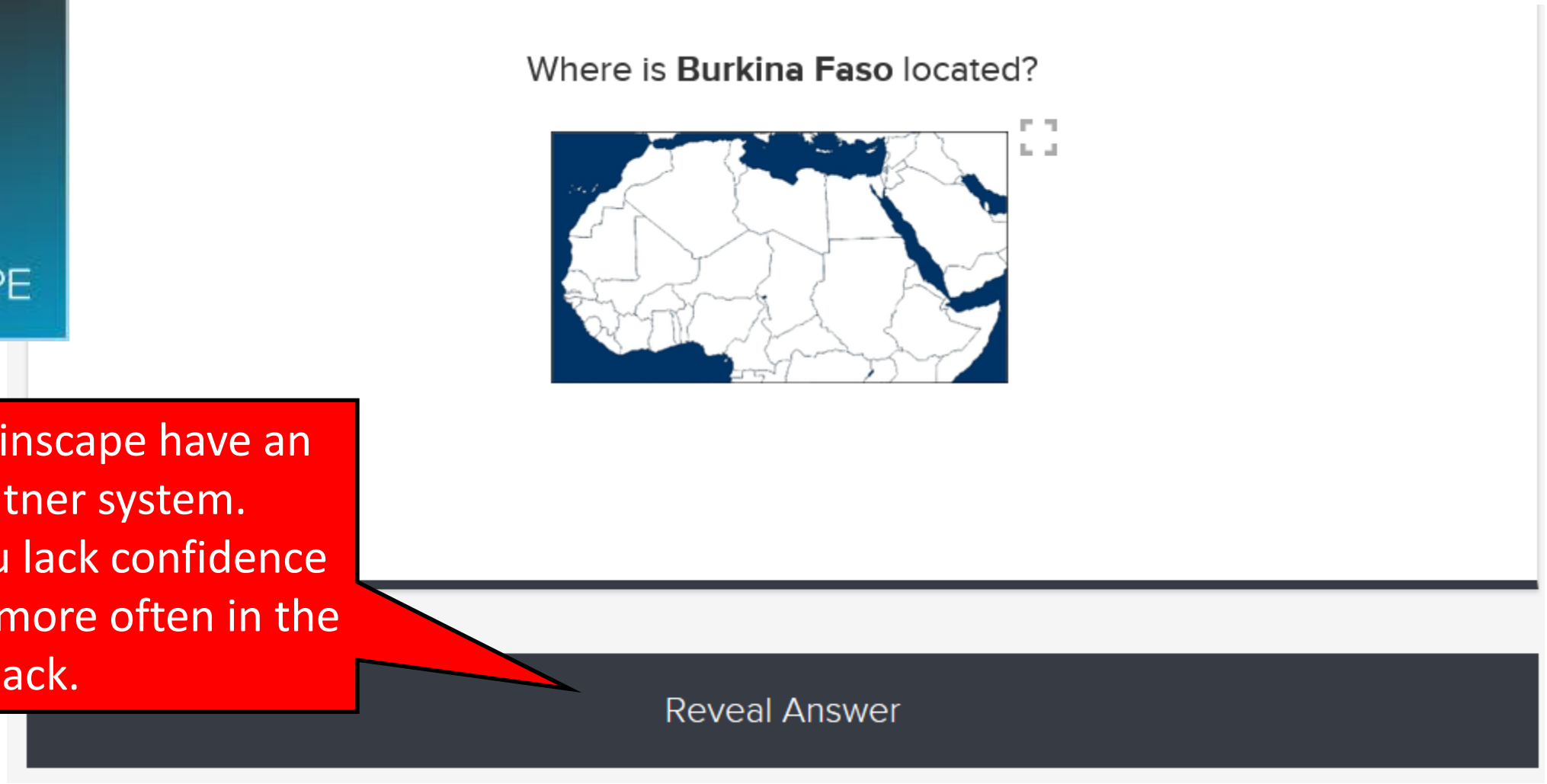
Stick to the <u>one card, one question rule</u>. The blue set are flashcards, the yellow set are <u>not</u>.

Ready to Revise: How can I use flashcards and self-quizzing effectively?

You need to review the flash cards you get wrong **more often**!



Ready to Revise: How can I use flashcards and self-quizzing effectively?

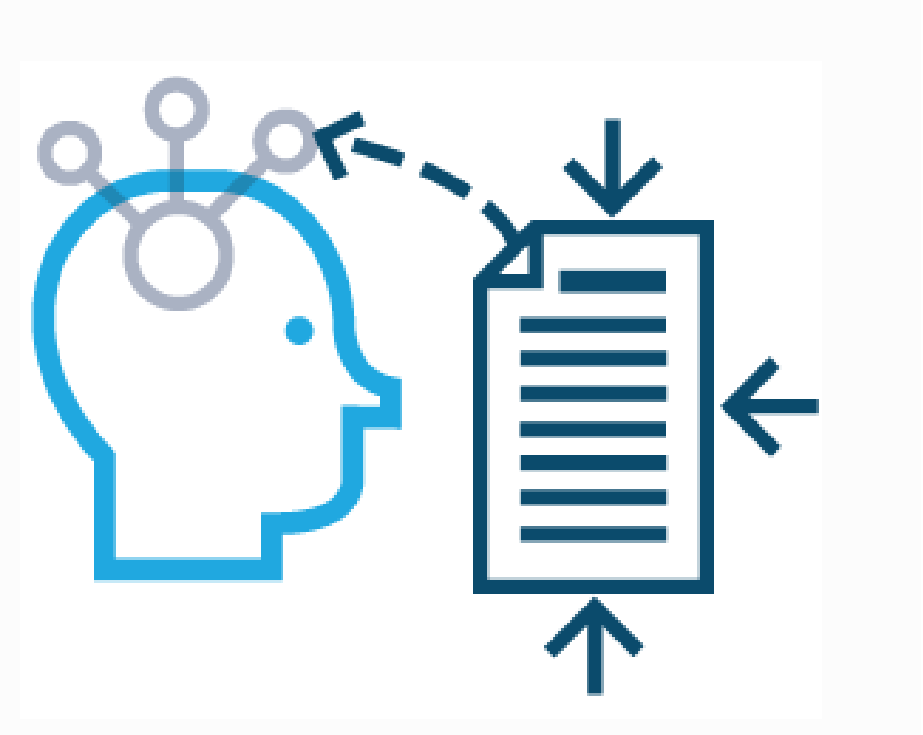


Apps like Brainscape have an inbuilt Leitner system. Questions you lack confidence in will appear more often in the pack.

Ready to Revise:

- Copy this into the notes page (22,23,24) of your planner:
- Title: How should I self-quiz?

1. Follow the **one question, one card rule** so that your brain does not mistake **recognition** for **recall**.
2. Use the **Leitner system** or an app like **Brainscape** to revisit questions you got wrong.
3. Self-quiz regularly. **Repetition** will transfer the knowledge into your **working memory**.

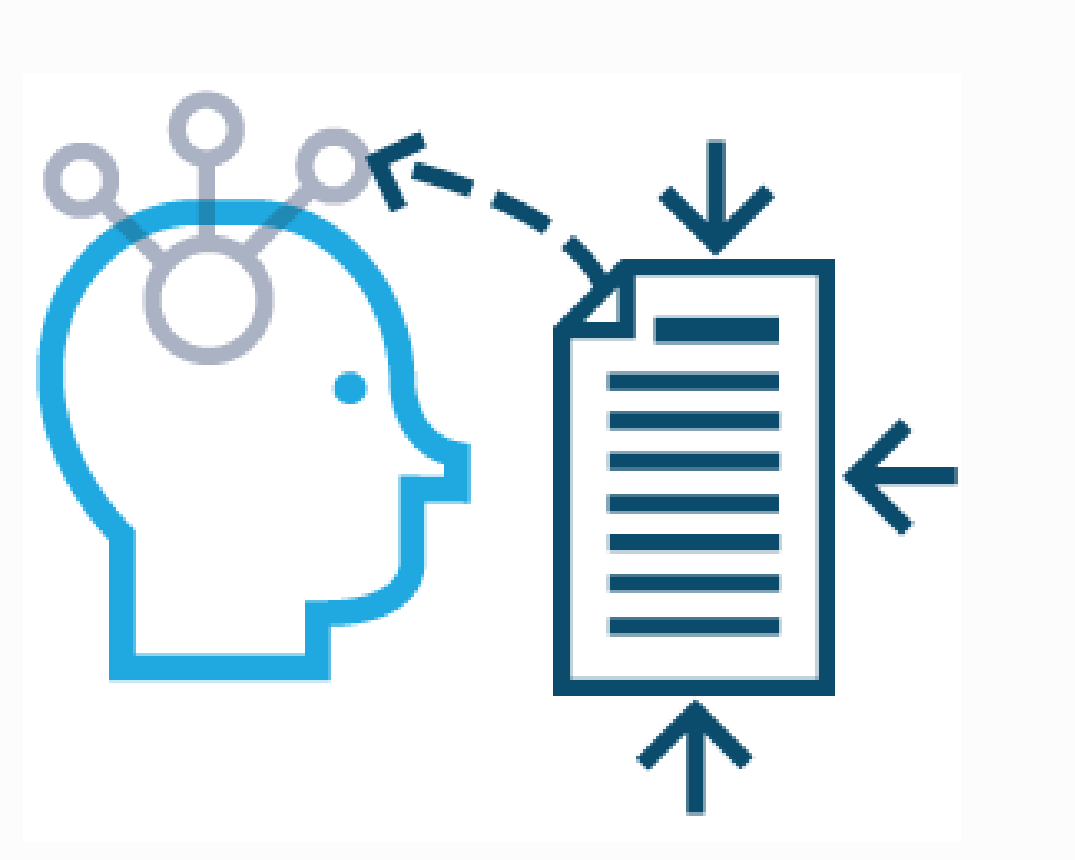


Lesson 3

Ready to Revise: Interleaved Learning

- Are you familiar with this term already? Define this in pairs

- Can anyone think of an example from a subject you study where interleaved learning has been used?



Ready to Revise: Interleaved Learning

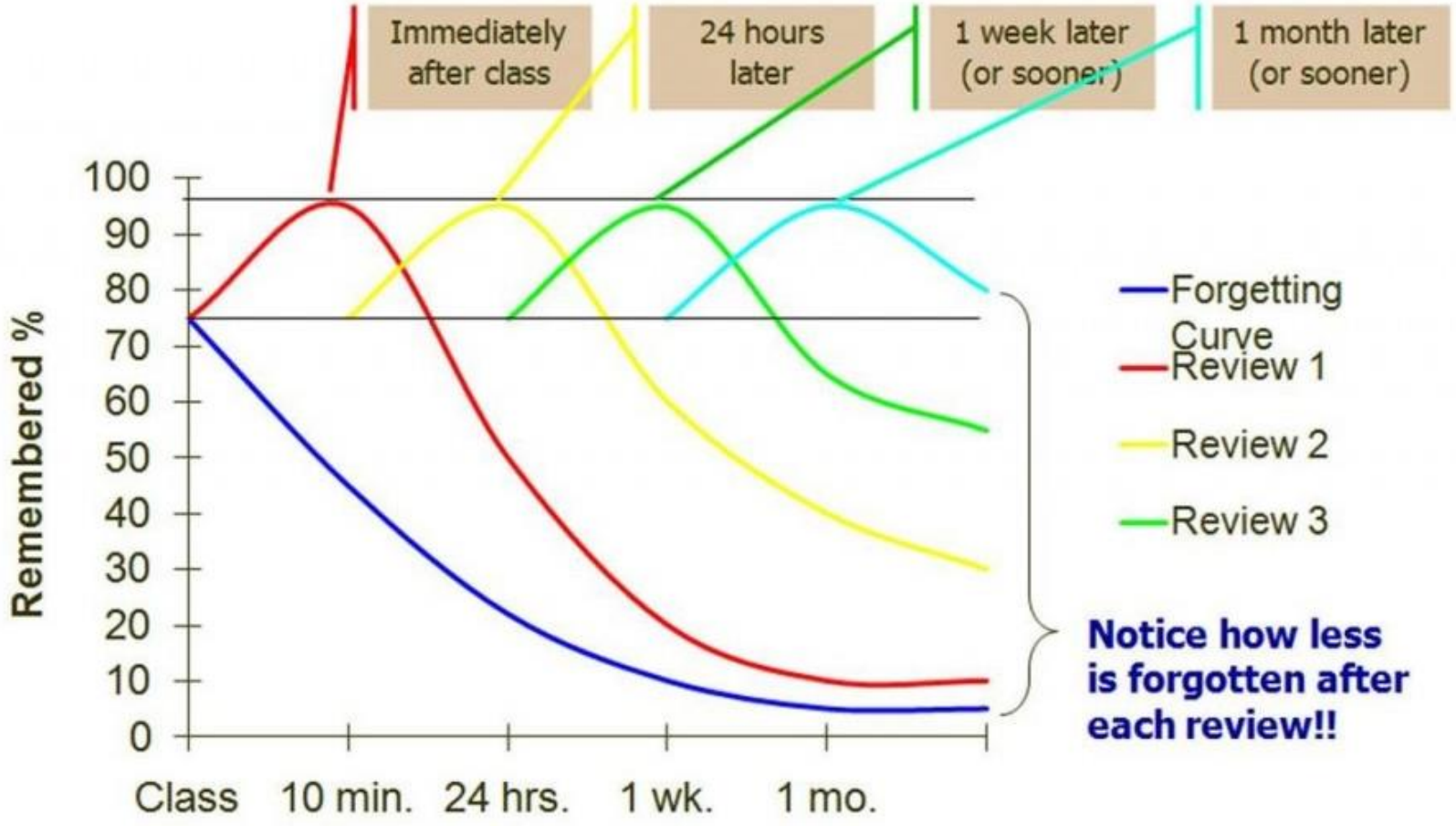
What is the definition of this?

Interleaving is a process where students mix, or interleave, multiple subjects or topics while they study in order to improve their learning.

When planning a revision timetable, students should be conscious of mixing subjects and topics up so that they are covering a breadth of study. It is tempting to just cover those subjects we love in blocks, but this will not make us successful across the board.

Ready to Revise: Interleaved Learning

Linked back to memory



This shows us the merits of interleaved learning:
It's no good 'block' learning in chunks, the way forward is to break this down and keep some variety.
This way you are much more likely to cover a breadth of subjects.

Psychologist, Hermann Ebbinghaus found that repeating information helps us remember more of it.

Ready to Revise: Interleaved Learning

An example from English

Y10 LTP 2018- 2019

Week	Date	X1 hour	X1 hour	X1 hour	X1 hour	Assessment
11	19/11/18	A Christmas Carol	A Christmas Carol	Poetry Comparison	Poetry Comparison	
12	26/11/18	A Christmas Carol	A Christmas Carol	Poetry Comparison	Poetry Comparison	
13	3/12/18	A Christmas Carol	A Christmas Carol	A Christmas Carol	A Christmas Carol	

The English Department plans the series of lessons so that you are always covering two topics. At the moment you are studying A Christmas Carol alongside the poetry. In Y11, you study Language alongside Literature. This means interleaved learning is at the heart of everything we do

Psychologist, Hermann Ebbinghaus found that repeating information helps us remember more of it.

Ready to Revise: Interleaved Learning

An example from Maths

For $f(x) = 5x - 2$ **Find:** **a) $f(3)$** **b) $f^{-1}(x)$**	**What is the gradient of a line** **a) Parallel** **b) Perpendicular** **to $y = 6x - 4$?**
Find the exterior angle of a regular octagon	Find the interior angle of a regular octagon

Maths frequently use revision grid starters to recap key work. They regularly use these with all year groups, most lessons with KS4. Some of the content of these is often informed by recent assessments, so teachers can target gaps in knowledge. In addition, homework is almost always consolidate work.

Psychologist, Hermann Ebbinghaus found that repeating information helps us remember more of it.

Ready to Revise: Interleaved Learning

An example from History

Quick Quiz 1

1. Name two pressures on the Plains Indians after 1862.
2. Name two examples of the 'Indian Wars'.
3. Who began ranching on the Plains in 1861?
4. What laws restricted Jewish citizenship?
5. What year did persecution of the Jews begin?
6. What law was introduced in 1933 that made it compulsory for people to be sterilised if they were mentally ill, alcoholic, deformed, epileptic, deaf or blind?

History:

'One of the key interleaving techniques we use a 'Quick Quiz'. These can be exclusively on a previous topic at the start of a lesson or as part of a quiz on the topic being studied. We think it is essential that we portion up the topics and keep returning to these so that the working memory is extended'.

Psychologist, Hermann Ebbinghaus found that repeating information helps us remember more of it.

Ready to Revise: Interleaved Learning

Over to you

Imagine you were tasked to map out your revision for the subjects in the columns on the right. Block A might be a lunchtime or straight after school and Block B each day might be when you get home or later in the evening. How would you map this out? Discuss in pairs:

	Monday	Tuesday	Wednesday	Thursday	Friday
Block A					
Block B					

English

Geography

Chemistry

Maths

Food Tech

Psychologist, Hermann Ebbinghaus found that repeating information helps us remember more of it.

Ready to Revise: Interleaved Learning

Over to you

Did it look like this?

	Monday	Tuesday	Wednesday	Thursday	Friday
Block A	Geog	Maths	Chem	Food Tech	English
Block B	Food Tech	English	Geog	Maths	

English

Geography

Chemistry

Maths

Food Tech

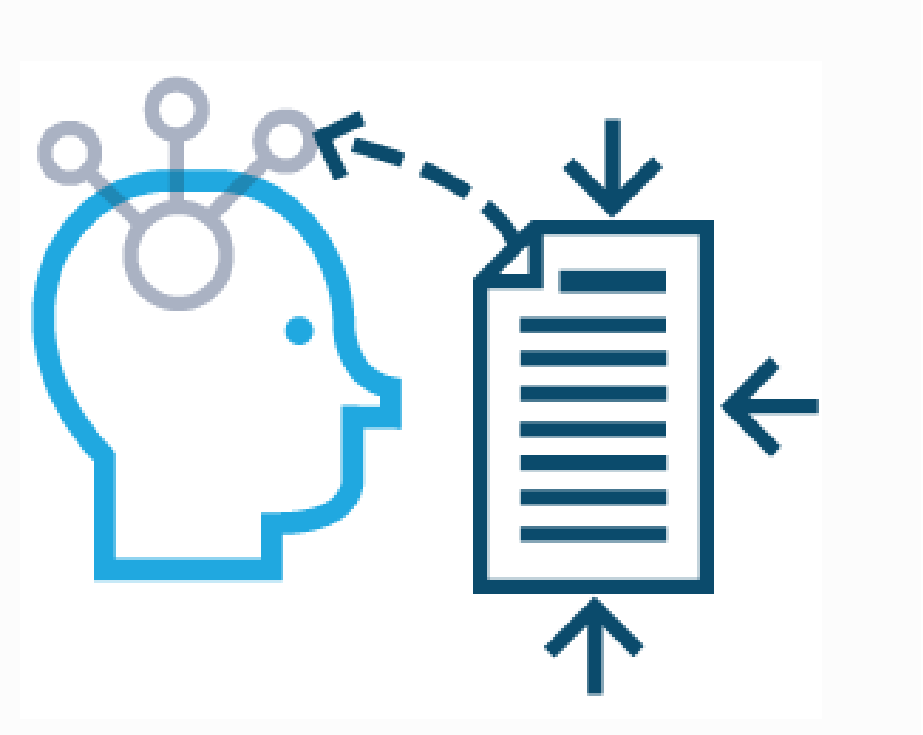
Remember, with revision it's also important to take breaks, to eat well, to ensure you're getting enough sleep and to minimise distractions by moving your phones away from you!

Psychologist, Hermann Ebbinghaus found that repeating information helps us remember more of it.

Ready to Revise: How do we learn? Memory, retention, and recall.

- Copy this into the notes page (22,23,24) of your planner:
- Title: How do we learn?

1. Interleaved learning is the process in which we mix subjects and topics in a revision schedule
2. Mapping out a revision timetable to cover a breadth of topics is essential
3. Interleaved learning is key to long-term memory



Lesson 4

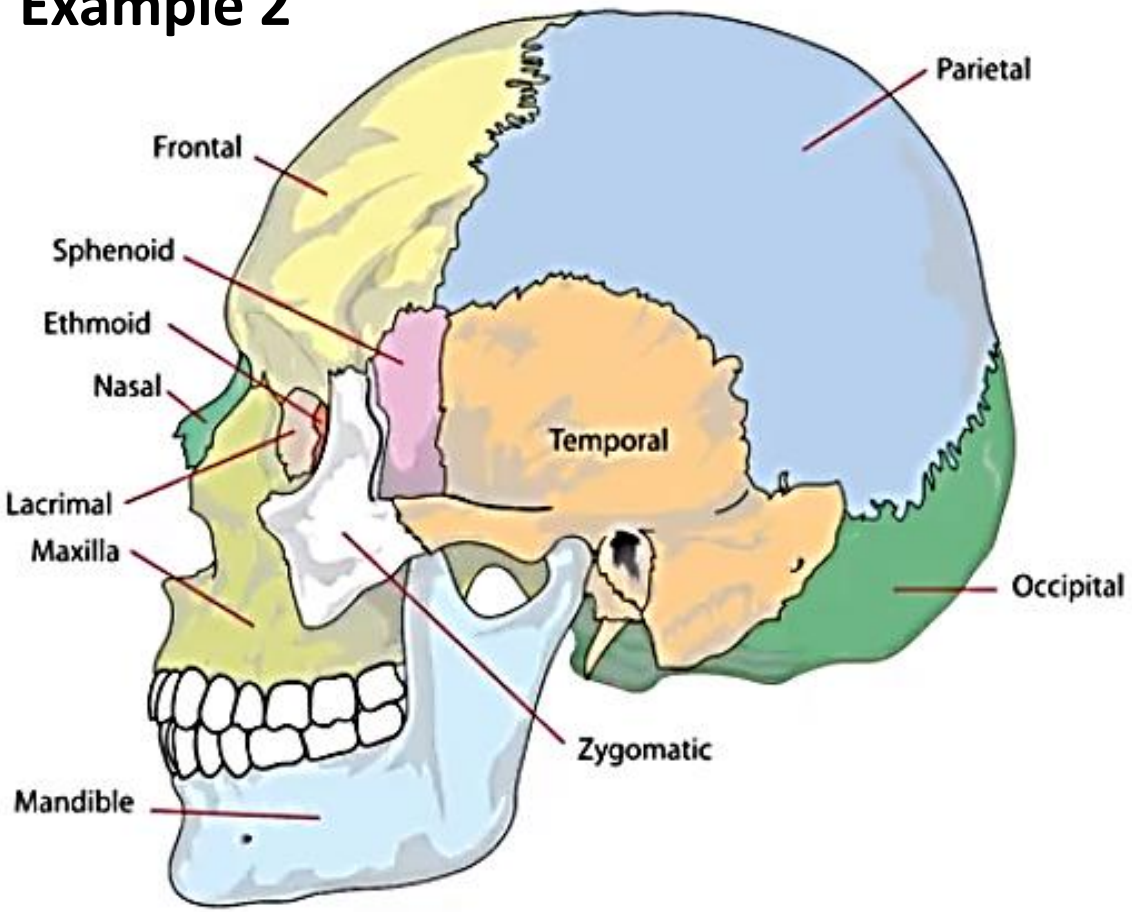
Ready to Revise: How can I use **dual coding** to improve my recall and retention of information?

Cognitive scientists have found that **connecting pictures and words** can help you remember information more effectively than just using one or the other. This is called **dual coding.**

Ready to Revise: How can I use **dual coding** to improve my recall and retention of information?

Example 1: The skull is made up of a number of different areas that include the parietal (the top of the head), occipital (at the base of the skull near the neck), the frontal (near the forehead), and the temporal (near the temples). The facial bones are part of the skull. The mandible is known more commonly as the jaw with the maxilla being the upper jaw. The eye sockets are called the lacrimal.

Example 2



Which example would help you learn the parts of the skull **most effectively**? *Why?*

Ready to Revise: How can I use **dual coding** to improve my recall and retention of information?

Watch the explanation of Dual Coding from the Learning Scientists

Ready to Revise: How can I use **dual coding** to improve my recall and retention of information?

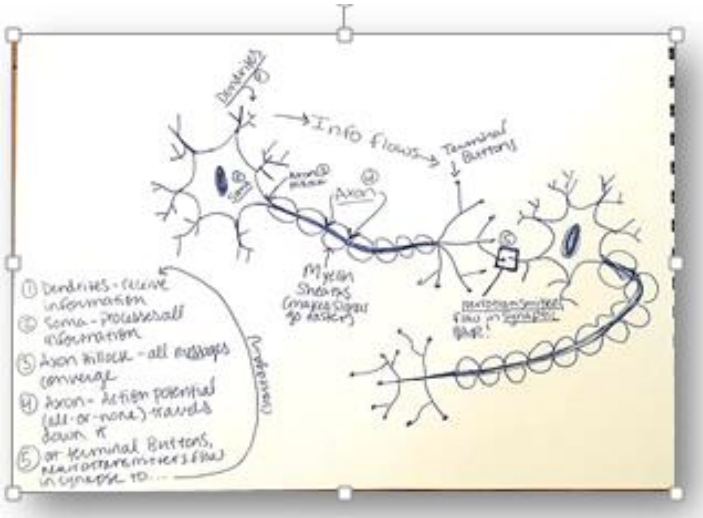
Dual coding:

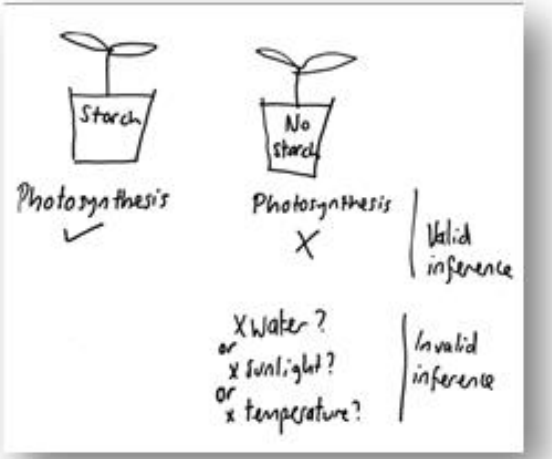
X Is not about drawing pretty pictures or being good at Art

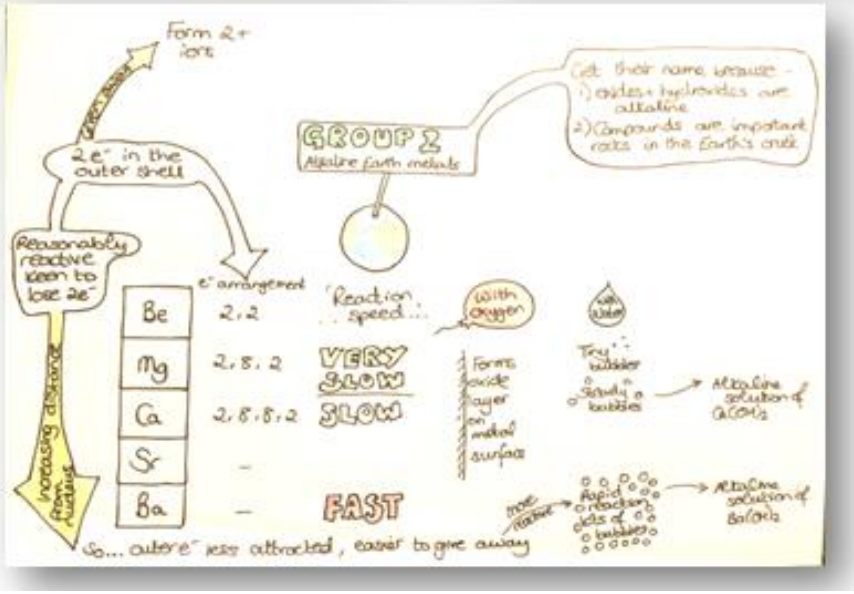
X Is not about using different coloured pen

✓ **Is** about revision using diagrams

✓ **Is** about using rough sketches to help you remember



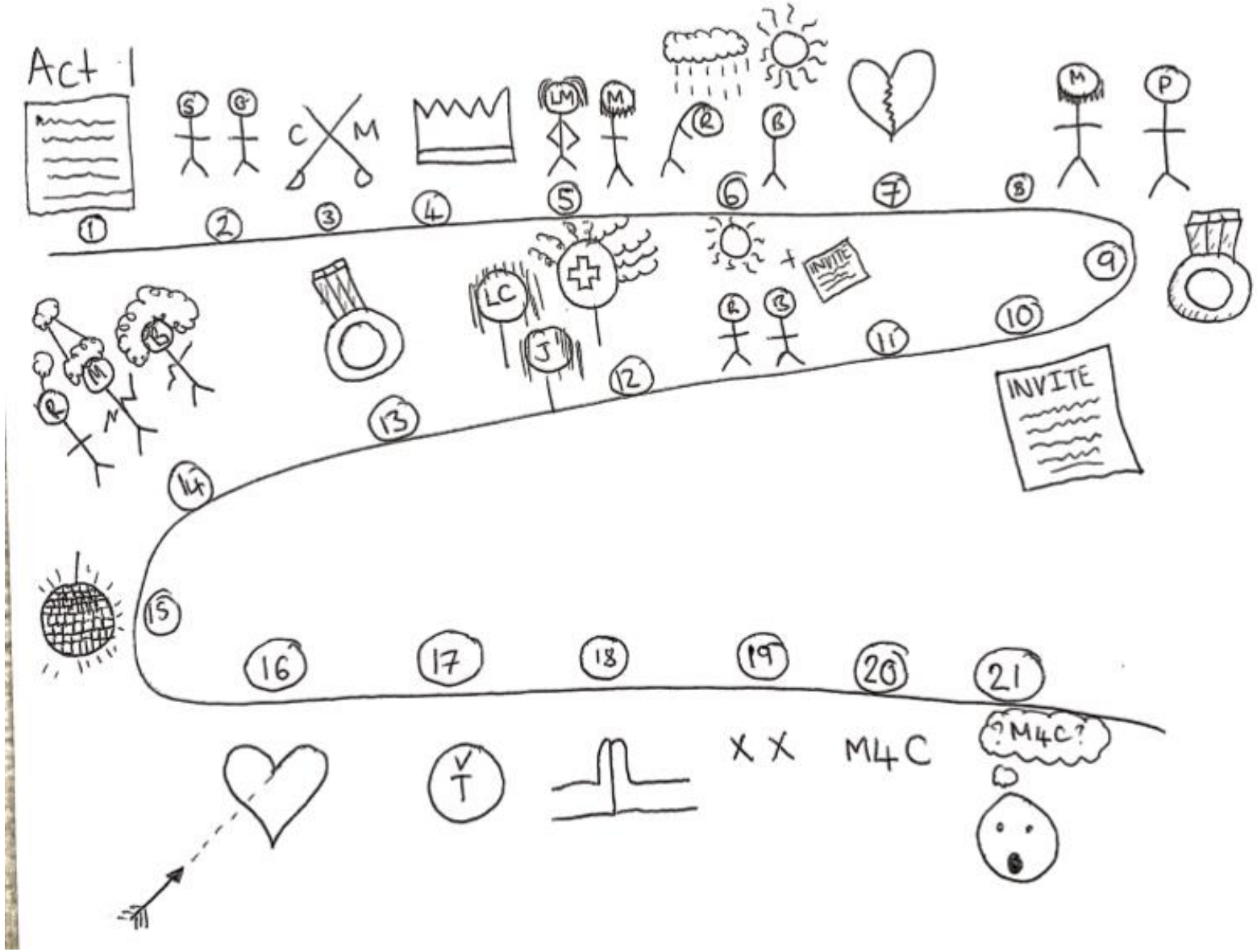




Ready to Revise: How can I use **dual coding** to improve my recall and retention of information?

Which of the GCSE English Literature texts has this student used dual coding to revise?

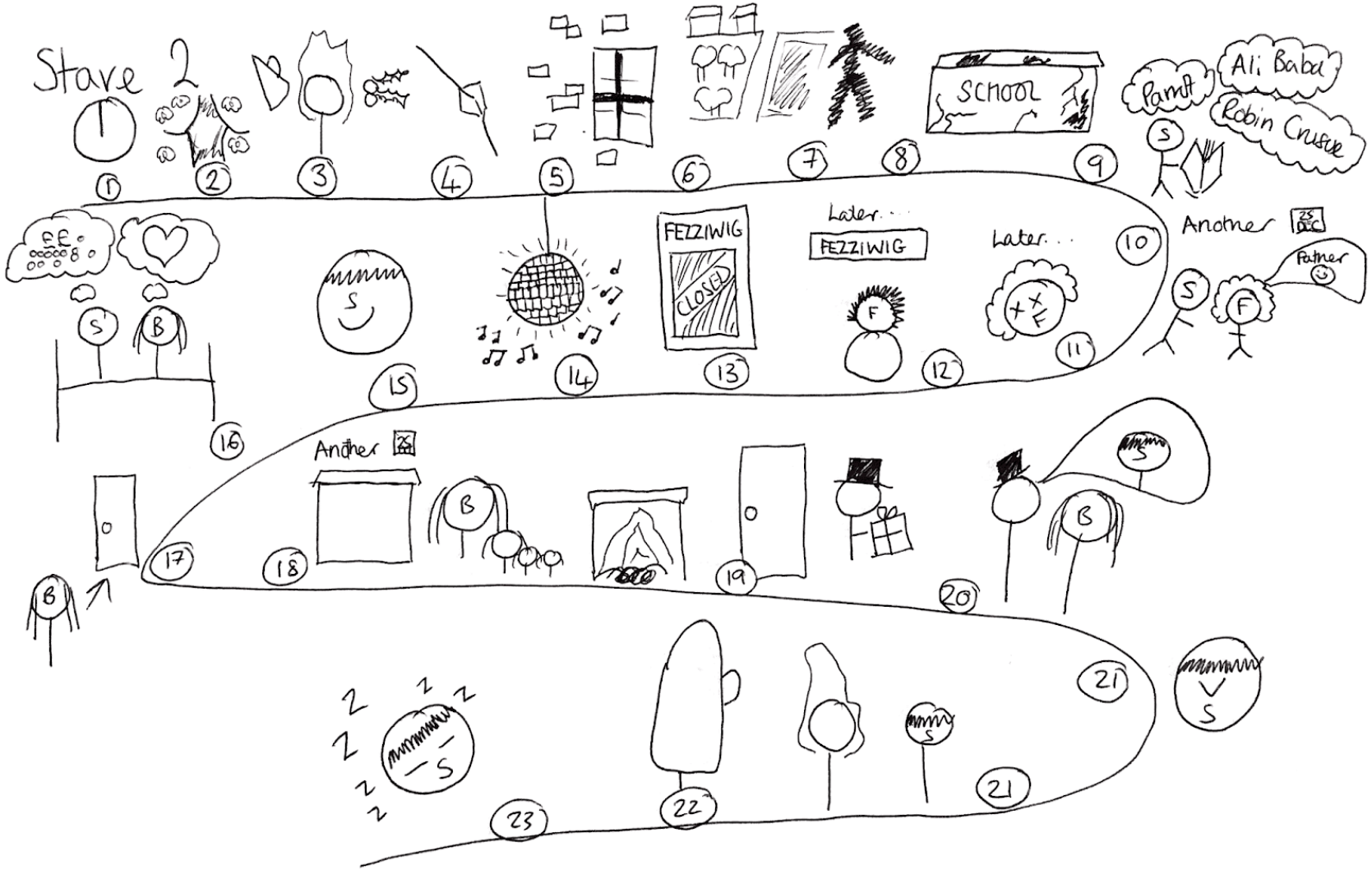
Can you use the example to explain the plot?



Ready to Revise: How can I use **dual coding** to improve my recall and retention of information?

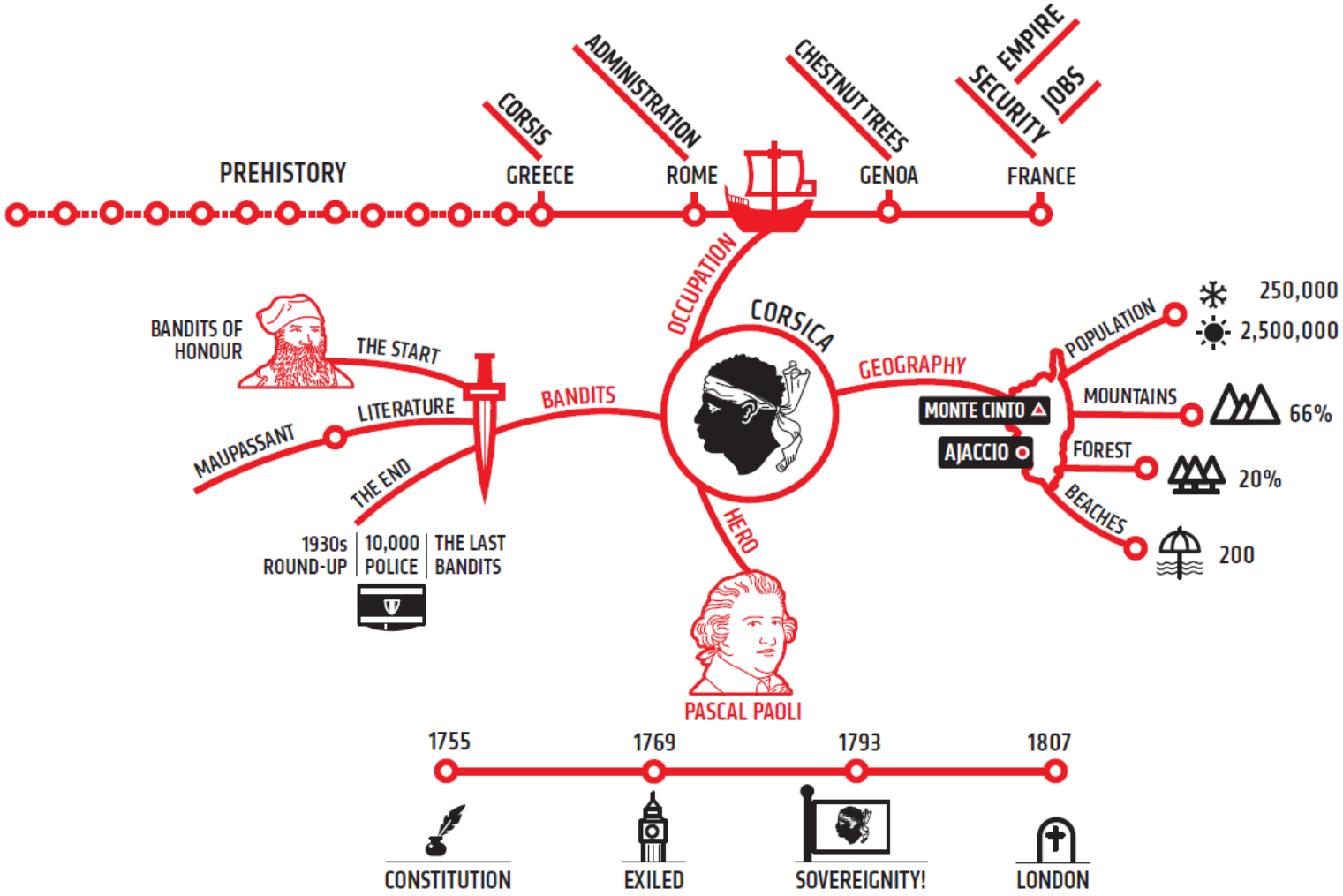
How about this one?

Now create your own dual coding guide to 'An Inspector Calls'.



Ready to Revise: How can I use **dual coding** to improve my recall and retention of information?

There are lots of ways to combine words and images. A common method is a mind-map. However there are many more.

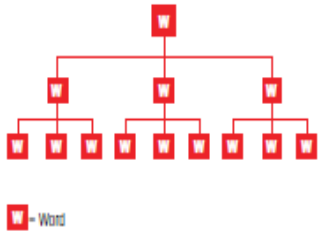


Ready to Revise: How can I use **dual coding** to improve my recall and retention of information?

CHUNK

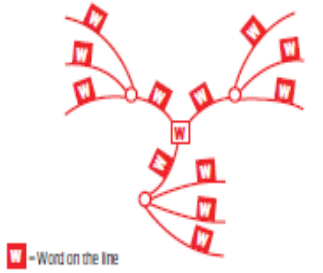
Tree Diagram

The quintessential hiearchical structure, used for everything from management to animal taxonomies. Their only problem is the space it needs at its base as it broadens.



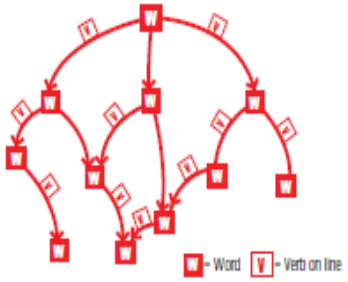
Mind Map

Once the hippies' map of choice, its organic aesthetic disguises the fact that it is merely a tree diagram radiantly emanating from a central point. This solves the space issue.



Concept Map

Hierarchical, connected mini-sentences, of subject-verb-object structure, form the basis of concept maps. They are very precise and, therefore, quite difficult to create.



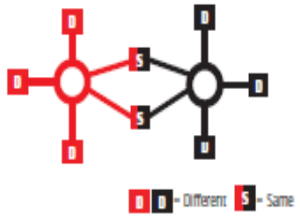
COMPARE

Venn Diagram

The visual depiction of set theory. Agreed attributes determine inclusion in a set. An overlap of circles highlights the similarities.

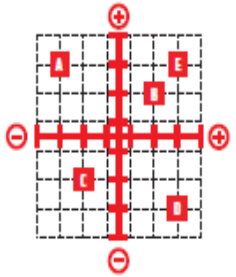
Double Spray

Like a Venn diagram, the double spray shows which attributes are different and which are shared. The central, linked features highlight the similarities.



Crossed Continua

Used to compare two or more topics against two sets of criteria each on a continuum. Placing the topics against these two continua immediately reveals differences.



SEQUENCE

Flow Chart

The simplest way to show the flow of a process by a series of factors or events joined by arrows. Too many such nodes makes understanding more difficult.

Cycle

The same as a flow chart but instead of a one-way direction, a cycle is established.

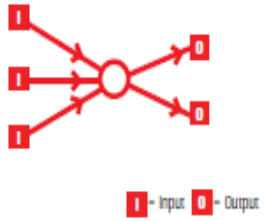
Flow Spray

Too many nodes make flow charts overly complex. Breaking it down to its main events and showing the attached subsidiary ones retains clarity.

CAUSE & EFFECT

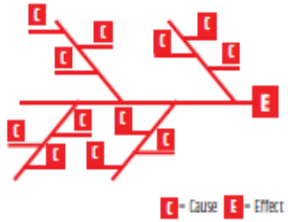
Input-Output Diagram

Multiple factors are involved in a cause and effect dynamic. This diagram allows you to show them centred around a catalyst.



Fishbone Diagram

Situations are rarely explained by a simple line of causes. In such cases, causes are chunked into similar themes to indicate a more subtle sphere of influence.



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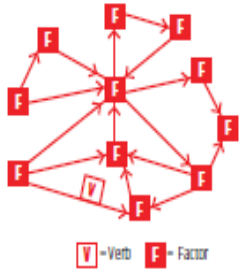
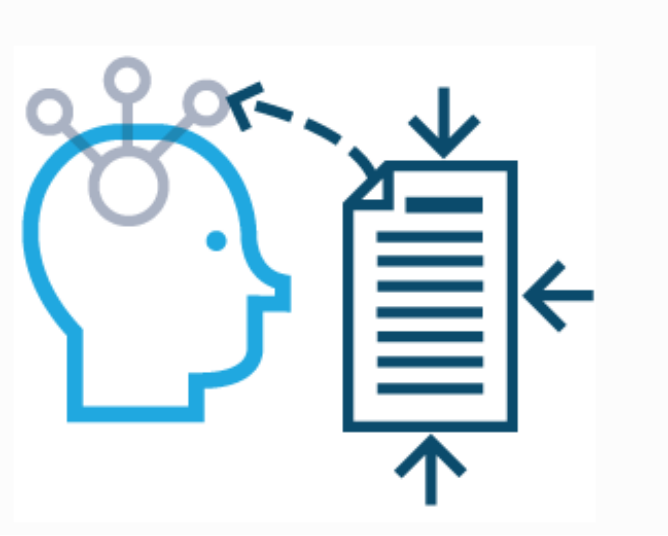


Ready to Revise Review: How can I use **dual coding** to improve my recall and retention of information?

- Copy this into the Ready to revise notes page (22,23,24) of your planner:

Write the Title: Dual Coding.



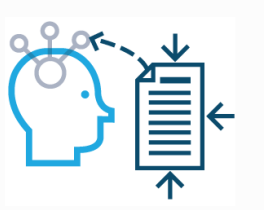
1. Cognitive scientists have found that connecting pictures and words can help you remember information more effectively than just using one or the other. This is called dual coding.

2. Dual coding it not about drawing pretty pictures or being good at Art.

3. Is about revision using diagrams and words. It is about using rough sketches and words to help you remember.

Lesson 5

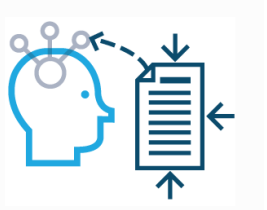
Ready to Revise: How do I plan a revision schedule and make sure I use my time well?



So far we have looked at <u>why</u> revision is important and <u>how</u> to revise. Now it is time to think about:

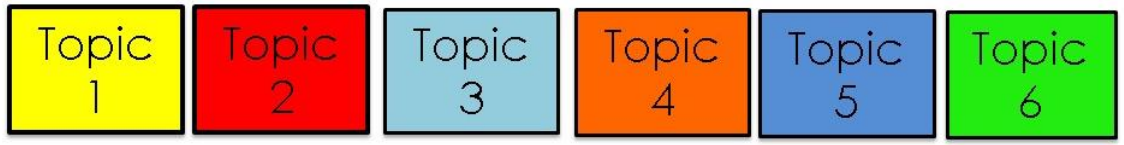
- What to revise?
- When to revise?
- Where to revise?

Ready to Revise: How do I plan a revision schedule and make sure I use my time well?

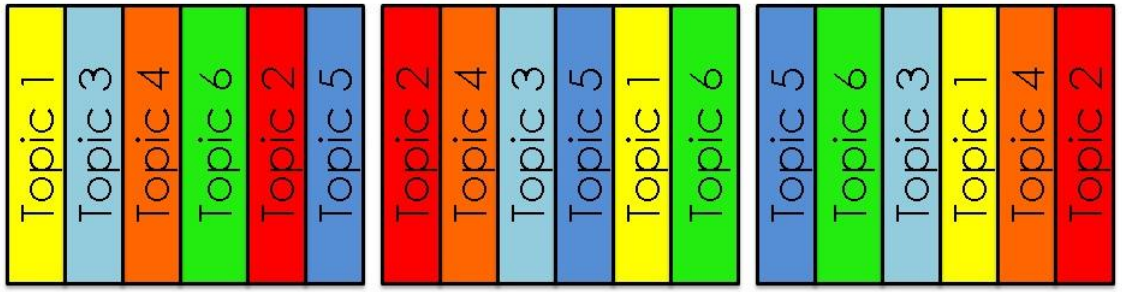


When planning **<u>what</u>** to revise, its best to switch between topics often. **Interleaving** will help you make connections between topics and transfer information to your long-term memory.

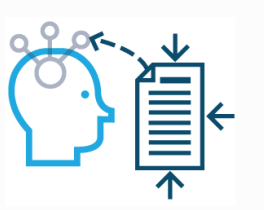
DON'T



DO



Ready to Revise: How do I plan a revision schedule and make sure I use my time well?



When should you revise and for how long?

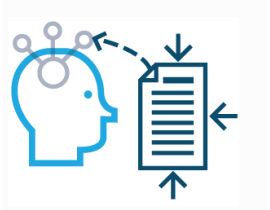
Research by cognitive scientists suggests that revision works best when it is **'little and often'**.

Aim to revise **every day** but for **short periods** with **set breaks**. This will ensure that your brain does not get too tired and help transfer information to your long-term memory.

Some people can concentrate for much longer than others so try this:

- Start a revision session with a timer.
- Stop the timer when your brain starts to wander – this is likely to be somewhere between 15 and 30 minutes.
- Record the length of your study session.
- Test yourself at different times of the day – you might be a morning person or early evening might suit you better!

Ready to Revise: How do I plan a revision schedule and make sure I use my time well?



Choosing **where** to revise is also important. Your surroundings can both help and hinder your learning.

Turn and talk: where do you revise and why?

Tip: Put information you are struggling to remember **somewhere you will see it every day.** This could be your bedroom wall, on your mirror, or even the back of the toilet door!

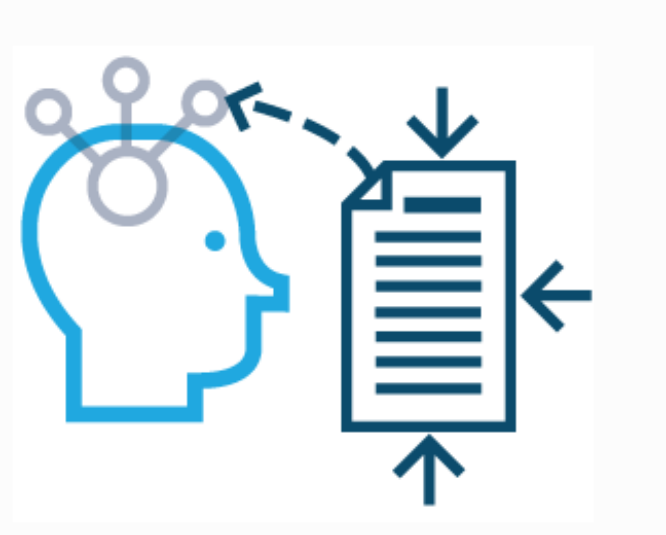
FREETIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
-Watch French TV shows -Listen to french radio/ music -Clean room	Revise all topics in P1a Revise english language techniques Revise all C1a topics Make ICT revision Posters Theme 1 Revision Religion and science Mass media French vocab	Medical Ethics Mass Media Revise all C1b topics Theme 1 flash cards Revise all topics in P1b Re-read of Mice and Men. Maths any topic French vocab	Medical Ethics Create mind maps on themes in OMAM Revise all C2a topics Make ICT revision Posters Theme 2 Revision Revise all topics in P2a Studying Society	Revise all topics in P2b Revise all C2b topics Theme 2 flash cards Studying society Religion and war Maths any topic Revise Poems and language techniques.	Make flash cards for ICT Education Maths any topic French vocab Revise all topics in P3a Revise over poems. Revise all C3a topics Theme 3 revision	Education Tutor Session Revise all C3b topics Make ICT flash cards Theme 3 flash cards French vocab Revise all topics in P3b Create mind-maps on characters in OMAM.	Cover again any topics you struggled with. Maths Past paper French Past papers. Cover again any topics you struggled with. Make ICT Posters.

Key:
Sociology Geography
Chemistry Maths
Physics
French
ICT
English
RS

COMPETITION: Create a revision schedule in preparation for your Year 10 Mock Exams and give a copy to Mr Clark, Mrs Horrocks or Mr Brettell. The best one will receive a £10 Amazon gift card. **Deadline – Friday 28th February.**

Ready to Revise: How do I plan a revision schedule and make sure I use my time well?

Copy this into the Ready to Revise notes page (22,23,24) of your planner:



Write the title: **Revision Planning**.

1. Plan to revise every day for 20-30 minutes at a time. Plan your breaks too.
2. Schedule specific topics e.g. ‘vectors’ rather than ‘Maths’ and interleave topics (mix them up).
3. Plan where to revise; organise your space and resources to maximise your time and minimise distractions

Lesson 6

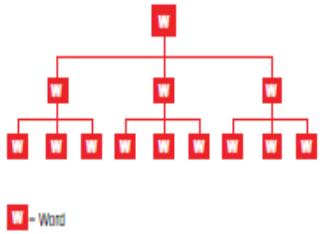
Ready to Revise:

A reminder before the top tips: how could **dual coding** look in your notes?

CHUNK

Tree Diagram

The quintessential hiearchical structure, used for everything from management to animal taxonomies. Their only problem is the space it needs at its base as it broadens.

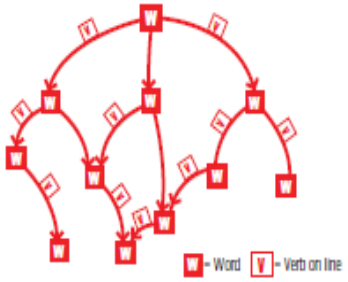


Mind Map

Once the hippies' map of choice, its organic aesthetic disguises the fact that it is merely a tree diagram radiantly emanating from a central point. This solves the space issue.

Concept Map

Hierarchical, connected mini-sentences, of subject-verb-object structure, form the basis of concept maps. They are very precise and, therefore, quite difficult to create.



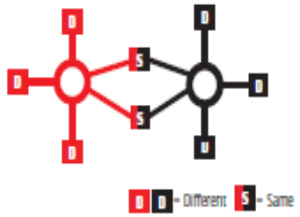
COMPARE

Venn Diagram

The visual depiction of set theory. Agreed attributes determine inclusion in a set. An overlap of circles highlights the similarities.

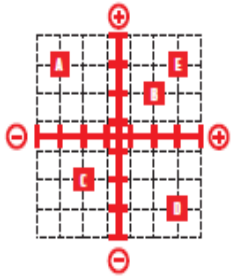
Double Spray

Like a Venn diagram, the double spray shows which attributes are different and which are shared. The central, linked features highlight the similarities.



Crossed Continua

Used to compare two or more topics against two sets of criteria each on a continuum. Placing the topics against these two continua immediately reveals differences.



SEQUENCE

Flow Chart

The simplest way to show the flow of a process by a series of factors or events joined by arrows. Too many such nodes makes understanding more difficult.

Cycle

The same as a flow chart but instead of a one-way direction, a cycle is established.

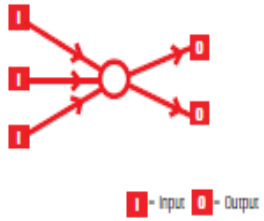
Flow Spray

Too many nodes make flow charts overly complex. Breaking it down to its main events and showing the attached subsidiary ones retains clarity.

CAUSE & EFFECT

Input-Output Diagram

Multiple factors are involved in a cause and effect dynamic. This diagram allows you to show them centred around a catalyst.



Fishbone Diagram

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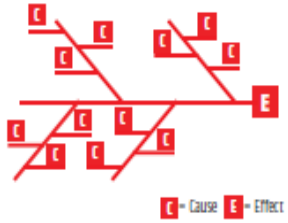

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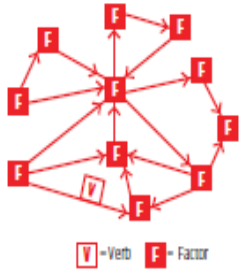
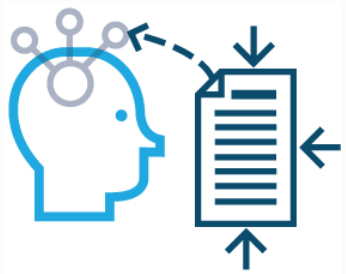


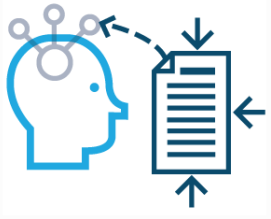
Ready to Revise: Department top tips



Subjects require very different types of recall and application but some of our Heads of Department have put together some top tips to help you to maximise your potential in those subjects you all do.

Don’t worry about writing everything down on the next few slides – we have summarised this for you to note down from the final slide.

Ready to Revise: Department top tips



English: learning quotes from the openings and closings of texts is key. Pin-pointing where and how a text changes (and having quotes alongside) will help you to range around the narrative.

Maths: Re-visit key topics you struggled with from the recent assessment using Hegarty Maths: Watch the video and complete a task every other day.
Use the '5 a day' section of corbettmaths.com.

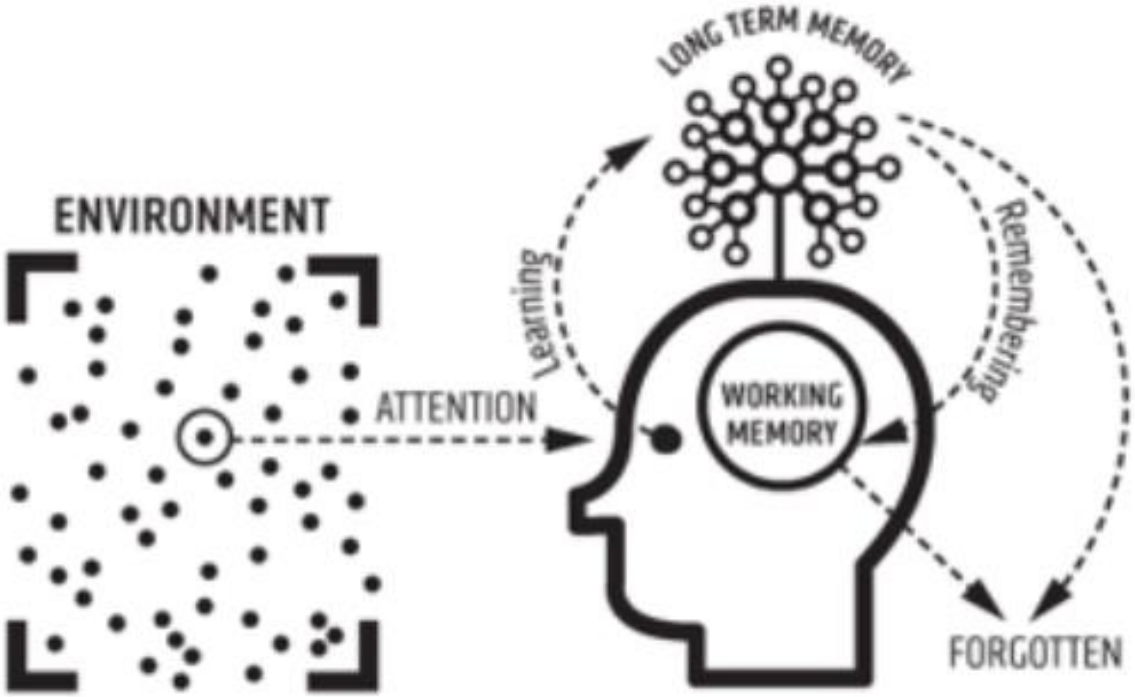
Remember to interleave your learning and not simply focus on the subjects you enjoy or find easy to revise. Real balance is needed here between time and the type of recall you are focused on

Ready to Revise: Department top tips

Science:

Use the topic tick lists to identity the areas you find more difficult and use GCSE Pod to improve your understanding of these areas. Complete the pod's accompanying questions to be extra sure!

Focus on scientific math skills. You should be able to recall and rearrange equations, sketch graphs, find means and percentages and convert prefixes. Revision techniques like flash cards and testing yourself will really help with this.



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Ready to Revise: Department top tips

Languages: Memorisation of vocabulary is essential. Use the free app Quizlet which generates activities to help you learn new vocabulary off by heart. Try to use Quizlet for 15 minutes every day, if possible, to learn new words as well as revise old ones.

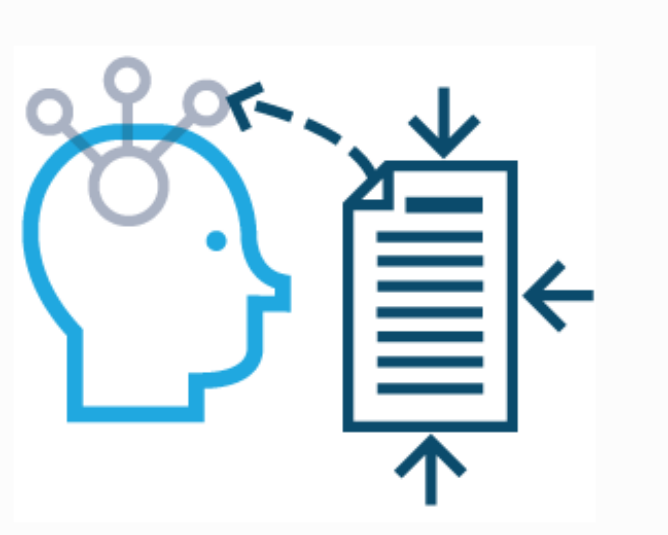
RE: Self-Testing: Use flash cards to cover past topics. Find at brainscape.com
2. GCSE Pod: This is a good resource to help build on the work you do in class. There are Pods linked to most of the content of each paper.
3. Seneca Learning: An excellent resource that covers the content of the course. Sign up at senecalearning.com

Remember to interleave your learning and not simply focus on the subjects you enjoy or find easy to revise. Real balance is needed here between time and the type of recall you are focused on

Ready to Revise Review: top revision tips

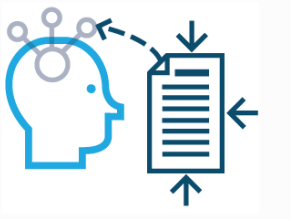
- Copy this into the Ready to Revise notes page (22,23,24 onwards) of your planner:

Write the Title: Department top tips for revision



1. English: have quotes on the openings/closings of texts. Pin-point where texts change and why
2. Maths: Hegarty maths and corbettmaths.com are great to use.
3. Science: Use topic lists alongside GCSE Pod and also focus on your scientific math skills
4. Languages: Quizlet for 15 minutes per day is very useful for vocabulary
5. RE: Brainscape, GCSE Pod and Seneca learning provide excellent resources.

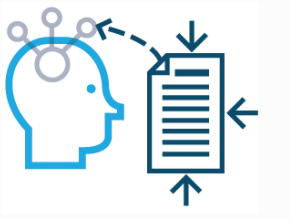
Ready to Revise: What is the point of **anxiety** and how can we use it to our advantage?



So far we have looked at <u>why</u> revision is important and <u>how</u>, <u>where</u> and <u>when</u> you should revise.

Today we will think about how exams make us <u>feel</u> and understand the biology behind these feelings.

Ready to Revise: What is the point of **anxiety** and how can we use it to our advantage?



anxiety

Definition

A feeling of worry about something when you don't know what will happen.

Etymology

From Latin ***anxietas***

Examples (synonyms)

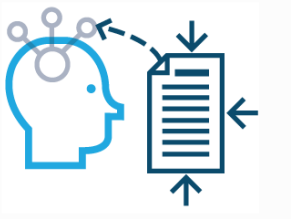
nervousness
concern
unease
fear

Non-examples (antonyms)

calmness
comfort
hope
reassurance

Why do you think the word has existed almost unchanged for thousands of years?

Ready to Revise: What is the point of **anxiety** and how can we use it to our advantage?



When you feel anxious your body releases **adrenaline**.

This has a number of **physical effects** on your body.

Extract from Nock's 2011 study in the Journal of Psychophysiology

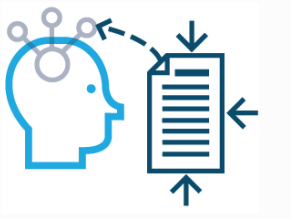
Sometimes in important situations, people notice that they have a faster heartbeat, sweaty palms, shortness of breath, butterflies in their stomach, and lots of energy running through their body. People usually think that this means that they are nervous, anxious, or worried.

However, these feelings happen for all kinds of reasons, and it does not mean that we need to feel worried or nervous. For example, we feel this same way when we are excited about a surprise, when we are getting ready for a fun sports competition, or when we fall in love.

So feeling a faster heartbeat, for example, doesn't mean you will perform badly. Having these feelings could actually help you! This is because when people care about something, such as doing well on a test, our body's nervous system tells the body to release energy and deliver more oxygen to the brain. This helps you to stay alert and pay attention to the important thing that is going on in your life.

Therefore, experiencing a faster heartbeat, heavy breathing, or sweaty palms could actually be a good thing. It is your body's way of pumping you full of energy and attention! But, it all depends on whether you choose to use this energy.

Ready to Revise: What is the point of **anxiety** and how can we use it to our advantage?



Turn and talk: what did you learn from Nock's study?

The feelings and symptoms you may be experiencing are **normal.**

It is your body's way of getting you prepared to tackle and deal with something important: **the increase in energy you are experiencing is helping you**, *so take advantage of all that extra energy and attention!*

Ready to Revise:

Copy this into the Ready to Revise notes page (22,23,24) of your planner:

Write the title: Anxiety

1. Feeling anxious about exams is **completely normal**.
2. Anxiety produces **adrenaline** in the body giving you more energy.
3. Reimagine your nerves as excitement and know that its your biology trying to help!