

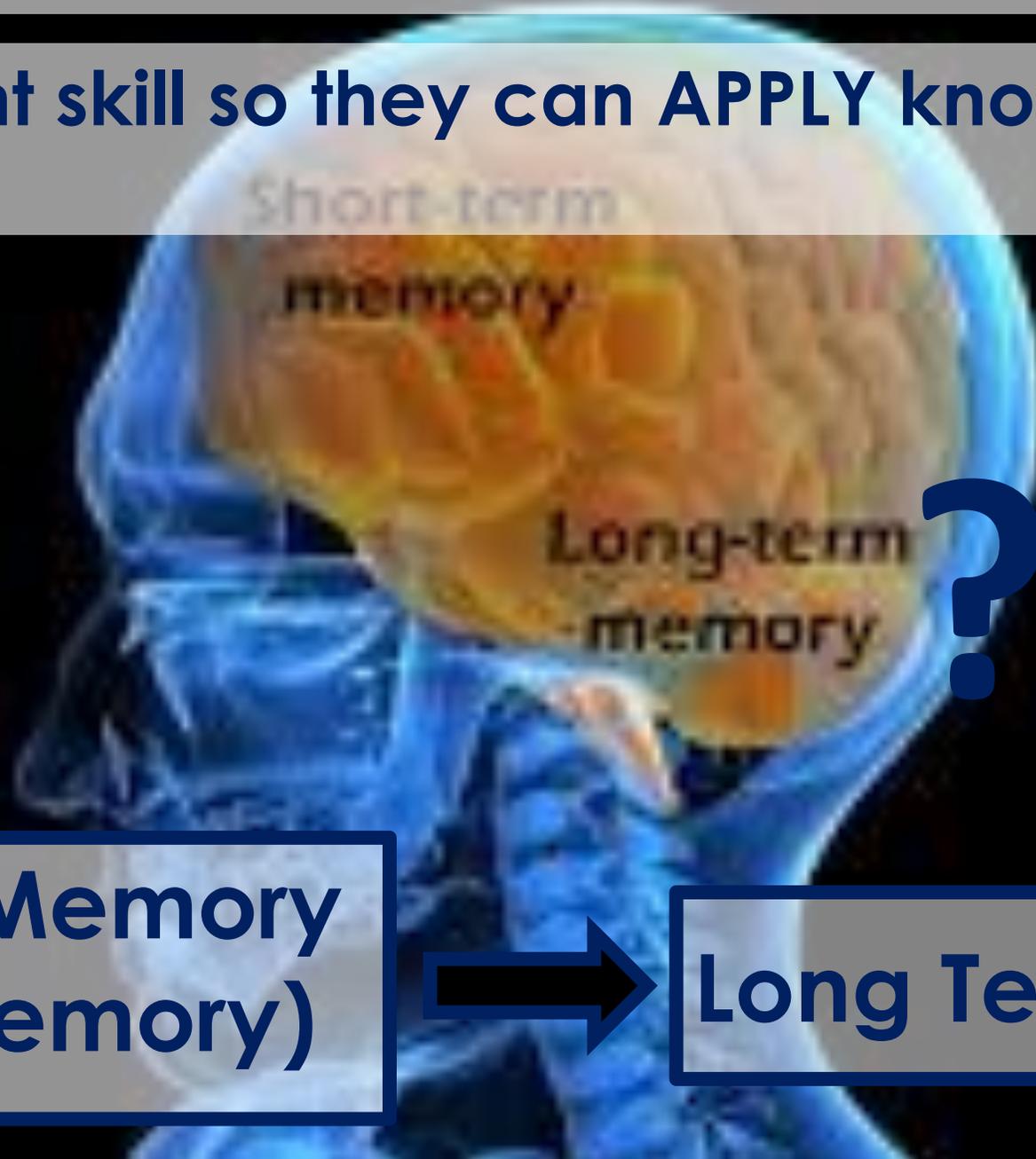


HENLEY-IN-ARDEN  
SCHOOL  
*Achieving Excellence Together*

# Memory and Recall: 'Sticky' Revision for Tricky Exams!

**Our Aim: Teach students things so that they remember them FOREVER.**

**Develop student skill so they can APPLY knowledge independently.**



**Short Term Memory  
(Working Memory)**

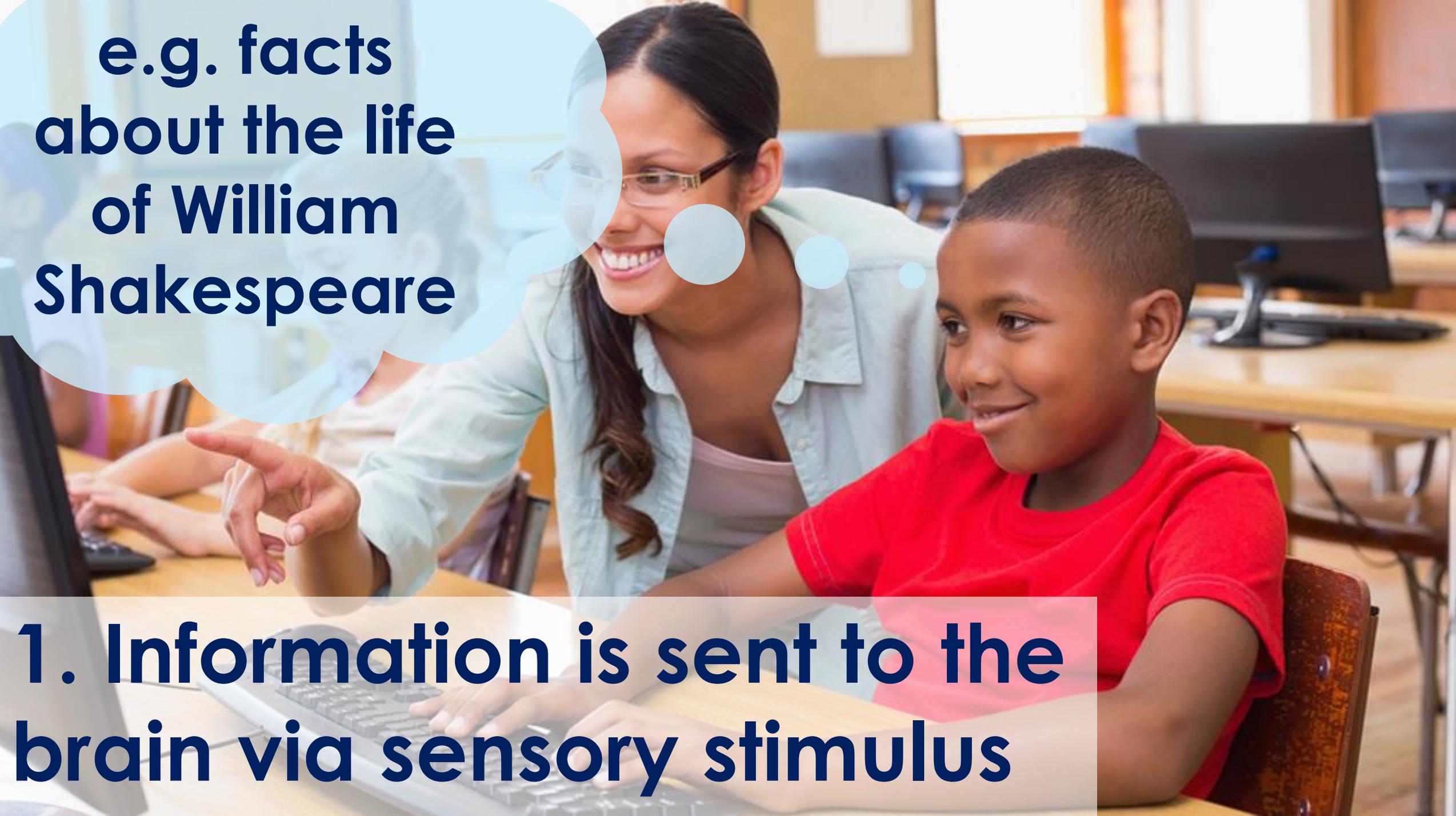


**Long Term Memory**

# Topics covered in tonight's session...

1. How learning and memory work...
2. Things we can start doing tomorrow to memorise more in revision sessions...
3. Retrieval...
4. How can we get students to enjoy 'the struggle'?
5. How do we prepare our students for revision?

**How learning  
and memory  
work...**

A photograph of a female teacher with glasses and a light blue shirt leaning over a desk to assist a young boy in a red shirt. They are both smiling and looking at a computer monitor. The boy is typing on a keyboard. In the background, there are other desks and computer monitors in a classroom setting. A large, light blue speech bubble is overlaid on the left side of the image, containing text. At the bottom, a semi-transparent white box contains a numbered list item.

**e.g. facts  
about the life  
of William  
Shakespeare**

**1. Information is sent to the  
brain via sensory stimulus**

**2. Encoding – the brain breaks up the new information and sorts it into different areas...**

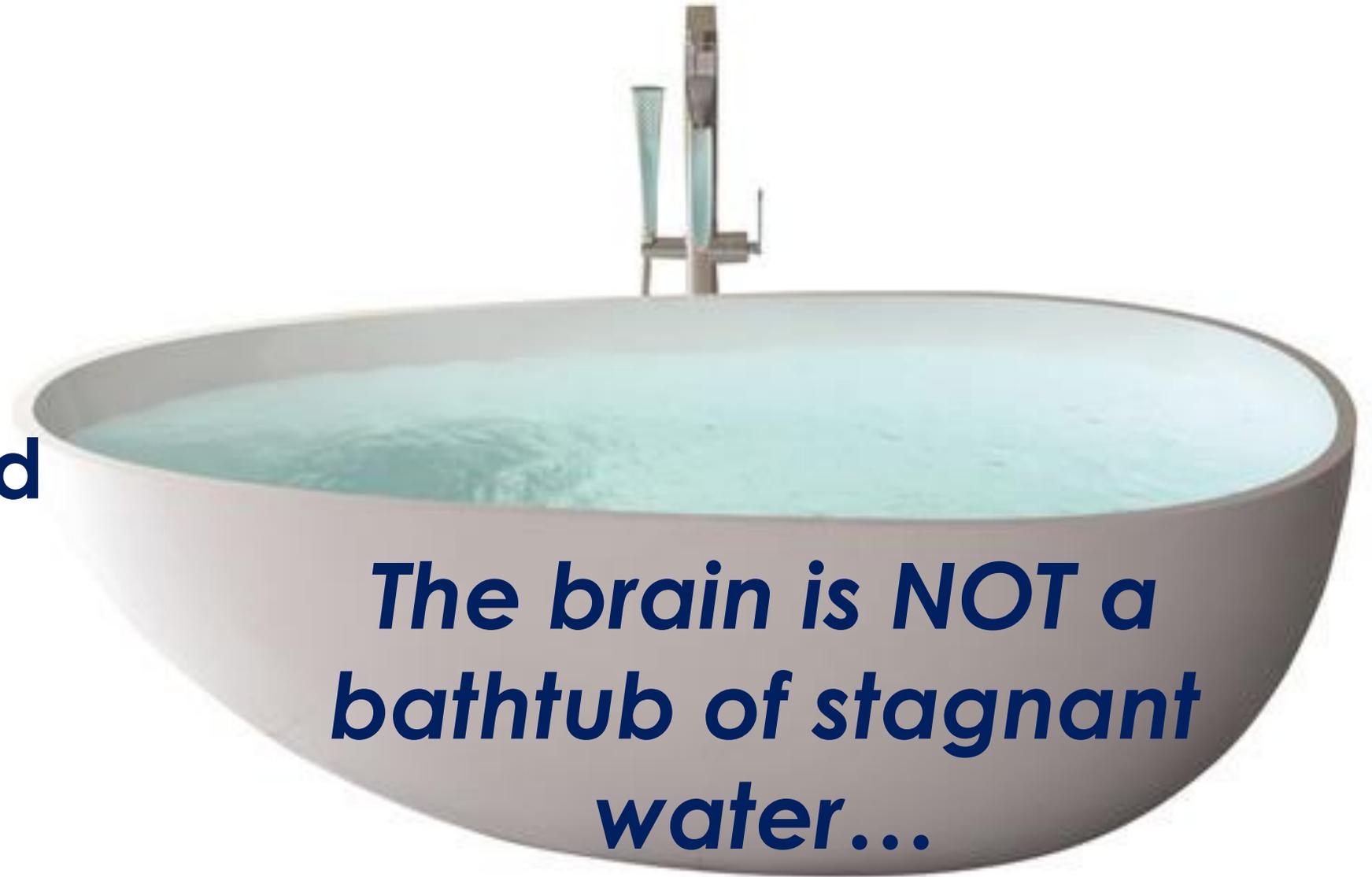


**3. The brain searches for recognisable similarities in knowledge it **ALREADY HAS**, then makes links...**

*'Because the elements making up a memory reside in multiple cortical areas, the stronger the network linking the associated pieces together, the more resistant it will be to forgetting.'*

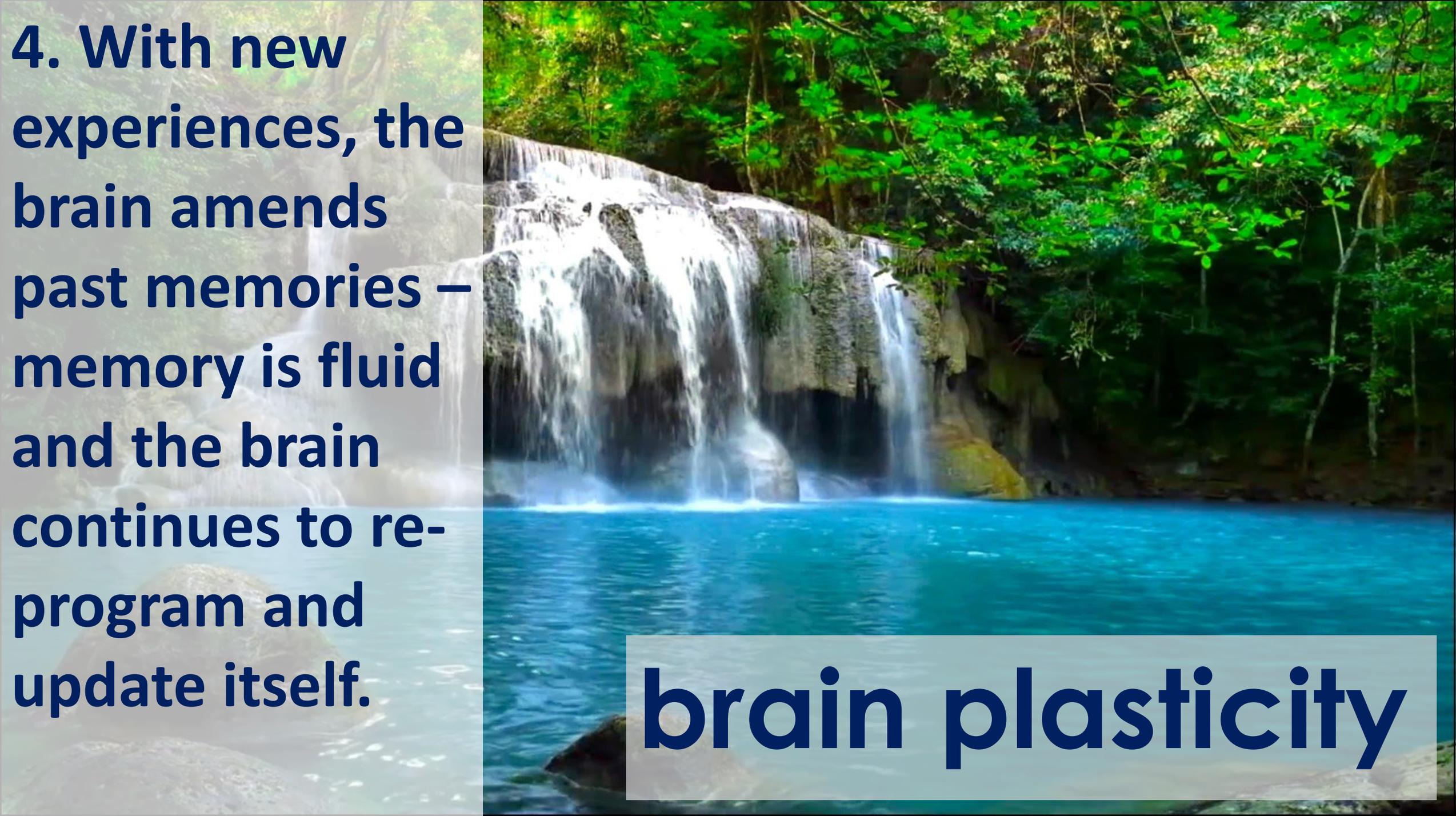
**DUAL CODING**

**4. With new experiences, the brain amends past memories – memory is fluid and the brain continues to re-program and update itself...**



***The brain is NOT a bathtub of stagnant water...***

**4. With new experiences, the brain amends past memories – memory is fluid and the brain continues to re-program and update itself.**

A vibrant photograph of a waterfall in a tropical forest. The water is crystal clear and bright blue as it falls into a pool. The surrounding trees are lush and green, with sunlight filtering through the canopy.

**brain plasticity**

**learning = knowledge acquisition**

~~learning = knowledge acquisition~~

learning = integrating new  
information into an increasingly  
complex web of prior knowledge

*To complicate matters...*

**The brain is EMOTIONAL**



**A learner who is  
upset, anxious or  
disturbed in some  
way WILL NOT  
encode information  
for learning...**



# SUPPORTING STUDENTS WITH ANXIETY

Help your students stay in control with these top tips.



**Teenagers can be tricky during exam times...WE ARE HERE TO HELP!**

Progress Leader: [Jinsley@henleyschool.com](mailto:Jinsley@henleyschool.com)

Pastoral Manager: [Eludden@henleyschool.com](mailto:Eludden@henleyschool.com)

Year 11 Parents' Evening: Opportunity to speak to Assistant Headteacher, Progress: Miss Thompson and Headteacher: Mr Jefferies



## PINPOINT THE ISSUE

Talk to your students regularly about particular issues in order to identify what makes them anxious. Arrange to speak to parents too, ensuring strong, supportive links between home and school.



## HEALTHY EATING

Try to encourage your students to eat lots of fruit and vegetables. Too much sugar can cause dips in blood sugar, resulting in anxious feelings. They should also avoid highly caffeinated drinks.



## ENCOURAGE COPING SKILLS

A safe place or calming activity can encourage coping skills such as deep breathing and positive self-talk.

## EXERCISE

Encourage your students to increase the amount of exercise they do if they're feeling anxious. Exercise requires concentration, and this can take their mind off the issue.

## ADVISE OF CHANGE

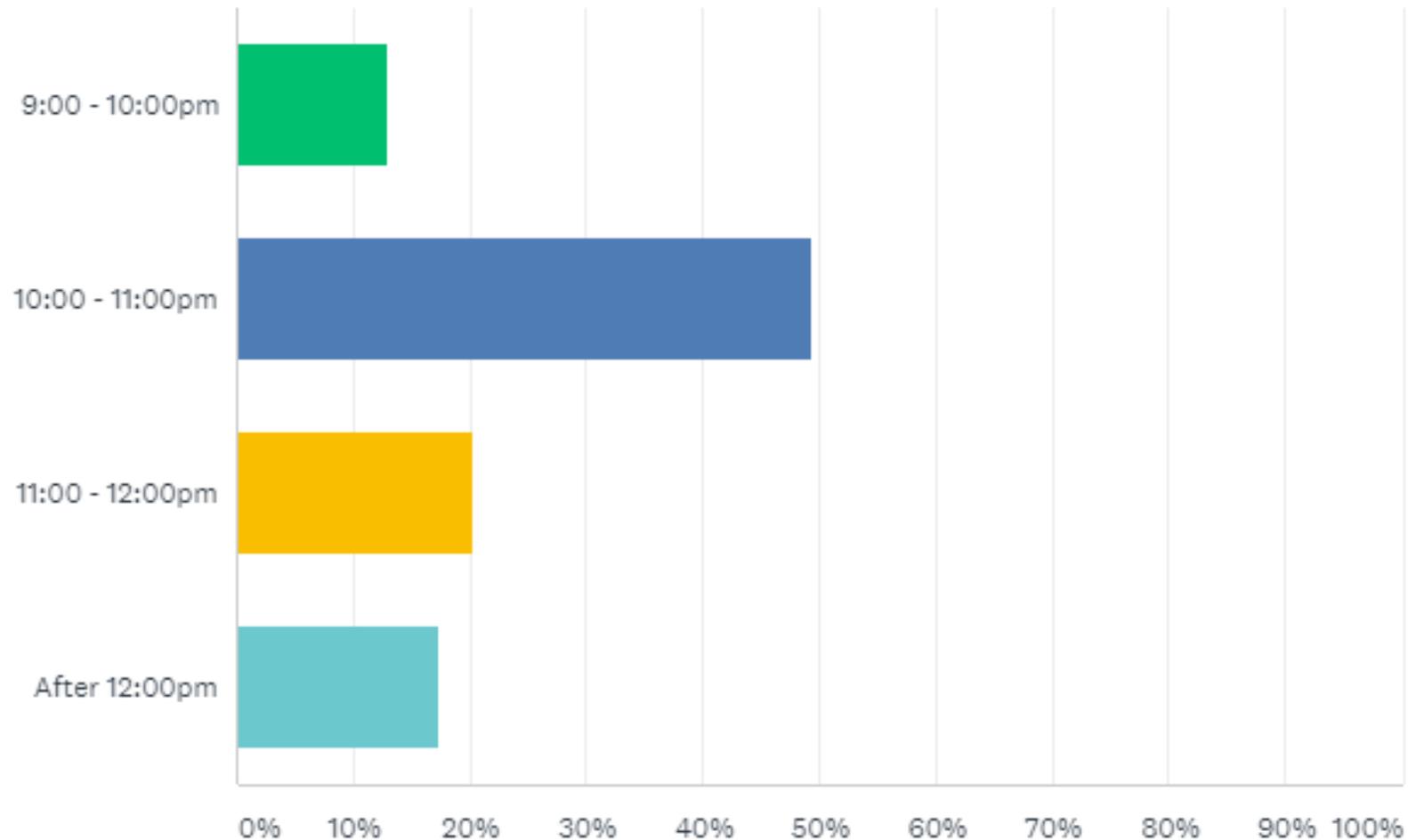
Let students know in advance of any changes to their day or week. Changes to a routine can trigger anxiety, so try to prepare them as much as possible.



## TAKE CONTROL

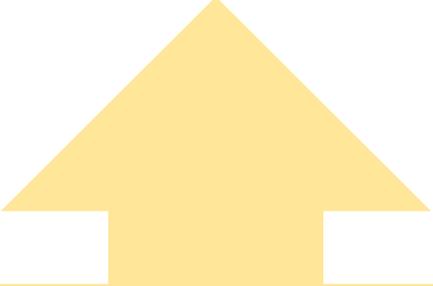
They need to realise that many things are out of their control, so try and support them to look at situations from new viewpoints. Don't forget to remind students that they are in control of their responses and what they focus on.

# What time do you go to bed the night before an exam?



*To complicate matters...*

**The brain is EMOTIONAL**



**A learner who is upset, anxious or disturbed in some way WILL NOT encode information for learning...**



**BUT emotion used in a constructive way can be powerful; the stronger the emotions connected to an experience, the stronger the subsequent memory.**

# Short Term (*working*) Memory

# Long Term Memory

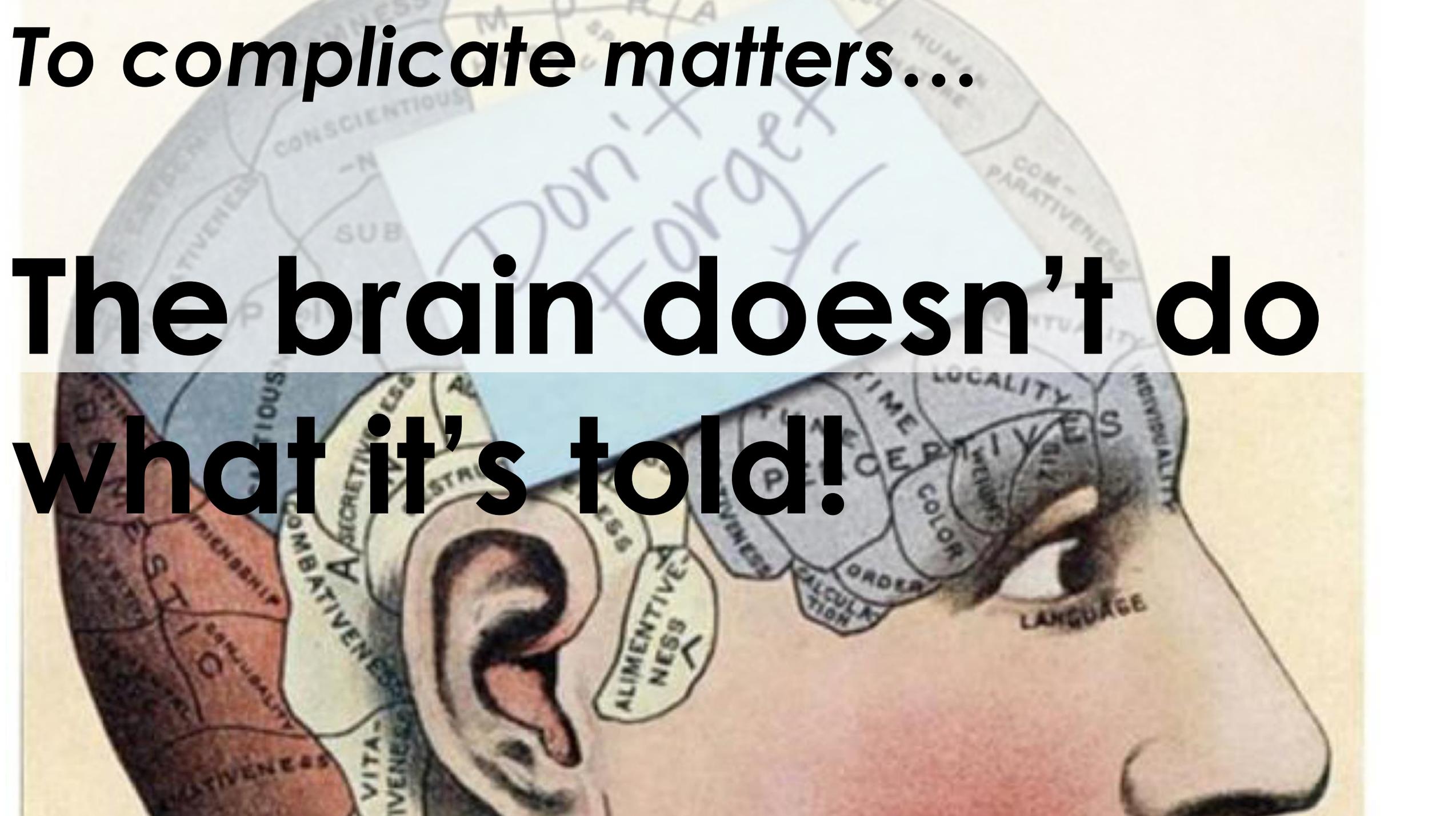
Information **MUST**  
carry personal  
importance for it  
to be encoded for  
learning...

## WM to LTM

The more a student has in their LTM (e.g. times tables etc.), the more they can utilize WM on higher order tasks (e.g. more difficult maths problems)

*To complicate matters...*

**The brain doesn't do  
what it's told!**



**Things we can start  
doing tomorrow to  
help memorise more  
in revision sessions!**

# Encoding

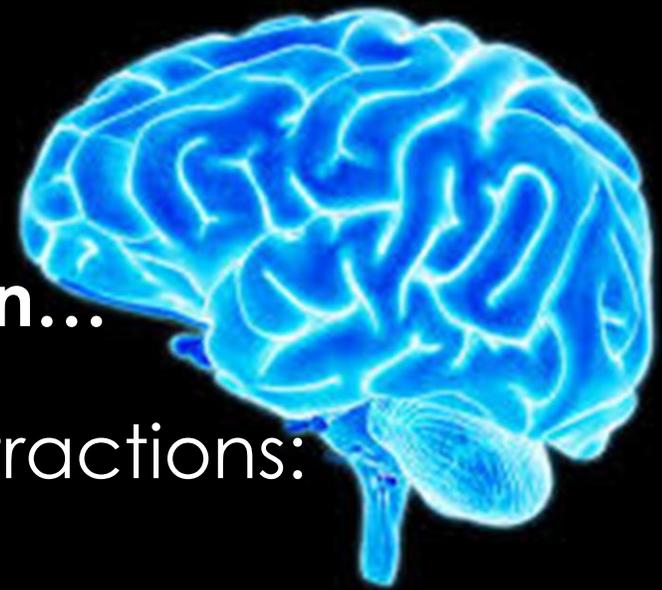
Receiving and  
sorting information  
into its composing  
elements...



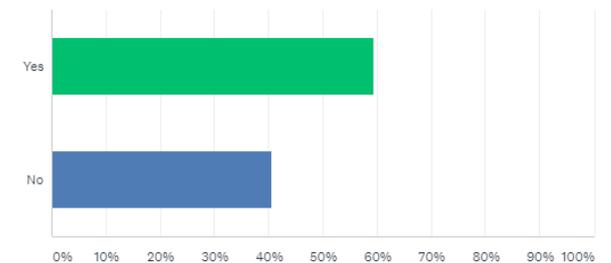
# Encoding: Revision tips!

## Enable your students to manage information...

- Get rid of extraneous information and distractions:
  - ✓ Revision environment (make sure your child has somewhere to revise that isn't cluttered...)
  - ✓ Interruptions – keep to a minimum
  - ✓ Ban mobile phones/social media
  - ✓ Keep home life as calm as possible



Do you find Social Media can be a distraction during your revision?



## Encoding: Revision tips...



## Before your child starts revising a topic, set filters...

- Blank knowledge organisers
- Pop quiz etc.
- ‘Bigger picture – establish *where* the forthcoming revision fits in with the whole qualification.

**We can't  
retrieve  
something we  
failed to  
encode to  
memory in the  
first place...**



# Retrieval

**Where we bring old information out of permanent memory back into working memory, which can be mentally manipulated for usage.**

# What we already do...

- Re-reading notes
- Making pretty mind maps and flash cards using your notes
- Re-reading the novel/poem/play
- Highlighting things

In fact, some studies suggest that re-reading notes and texts actually has a *detrimental* effect because it gives you a false sense of familiarity with the topic...

**These don't work!!!**

# What really works...

**Struggle:** The harder it is to learn or remember something, the better the learning.

# What really works...

**Getting things wrong:** if you get something wrong or find it hard your brain is more likely to remember it for next time...

# What really works...

**Recall/quizzes:** doing small, low stakes tests regularly will help you remember more content. It doesn't matter how well you do, these are quizzes to help you learn, not to test you...

# What really works...

**Doing things FROM MEMORY, not using your notes...**

Using your memory alone is the best way to transfer things to your LTM. Remember, the harder it is, the better the learning!

# What really works...

**REPETITION:** Studies suggest that you have to learn something **THREE – SIX** times before you will have it in your LTM. Repeating the same activities at spaced intervals will help you to learn better.

# DUAL CODING

In other words, putting words AND pictures together, is the same as learning it twice, a bit like a rope made of two different strands...

*'Visual and verbal information are processed differently and along distinct channels in the human mind, creating separate representations for information processed in each channel. The mental codes corresponding to these representations are used to organize incoming information that can be acted upon, stored, and retrieved for subsequent use. (...) The ability to code a stimulus two different ways increases the chance of remembering that item compared to if the stimulus was only coded one way.'*  
(Sternberg, 2003).



# DUAL CODING IDEA



1. Revise information
2. Get your child to assign simple images to the information
3. They recall the information using only the pictures as help
4. Then they recall the pictures using the information to remind them
5. Finally, your child should recall it ALL with NO help!



# RETRIEVAL SHOULD...

## BE AT THE HEART OF EVERY REVISION SESSION!

- ✓ It should be **HARD!** It's not working unless it feels difficult to do!
- ✓ Repeated...(at least three times)
- ✓ *Completely* from memory

**How can we get  
students to enjoy  
'the struggle'?**

# RETRIEVAL BEATS RE-EXPOSURE!!!

## Questions/tasks should be:

- Answerable
- Unhelpful (NO MORE MULTIPLE CHOICE!!!)
- Low stakes
- Self serving – mark and correct their own!

**Spaced retrieval** – build in regular cumulative quizzes

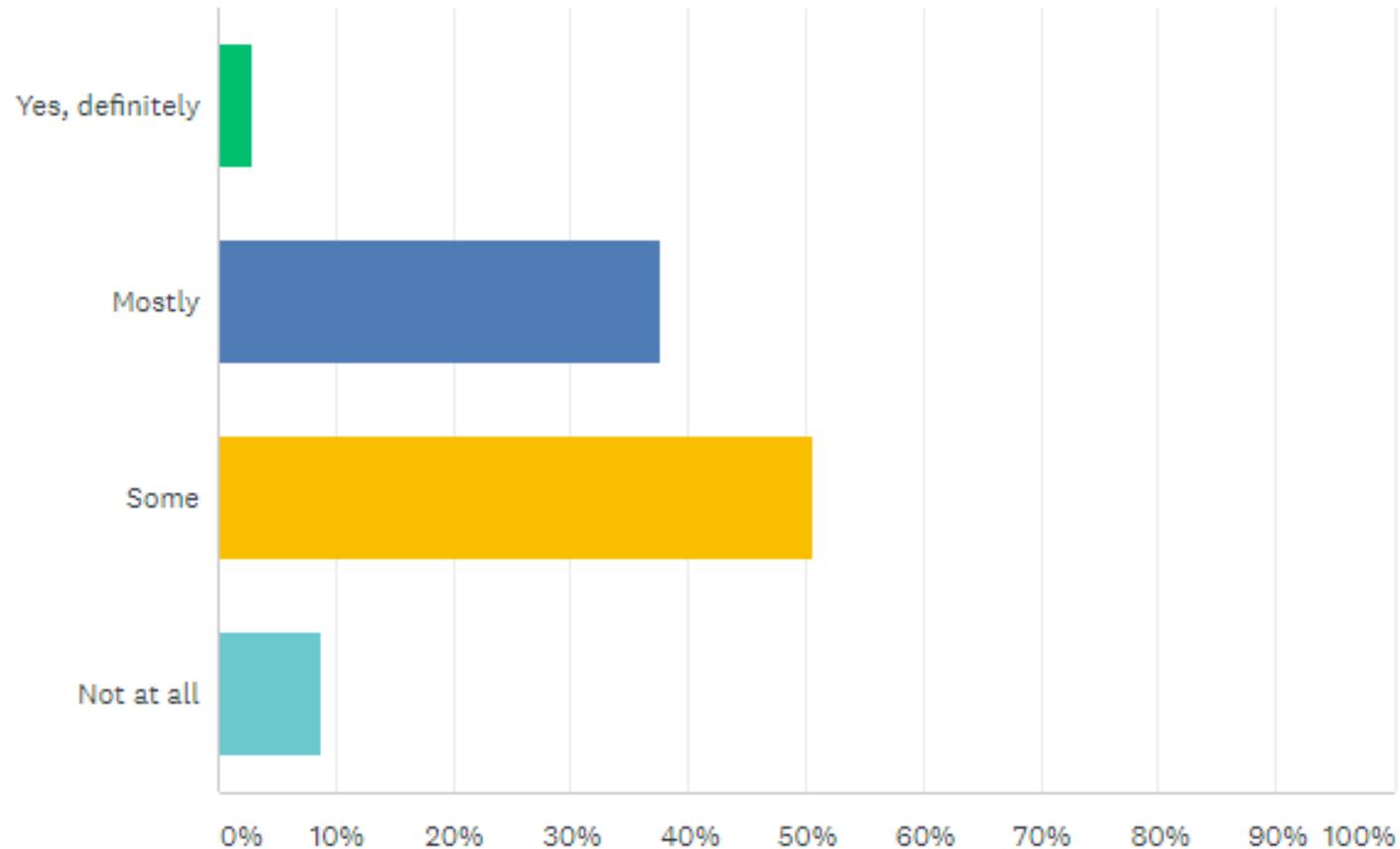
**Interleaving** – Spend time on one topic, and then return to one revised earlier...

# Struggle...

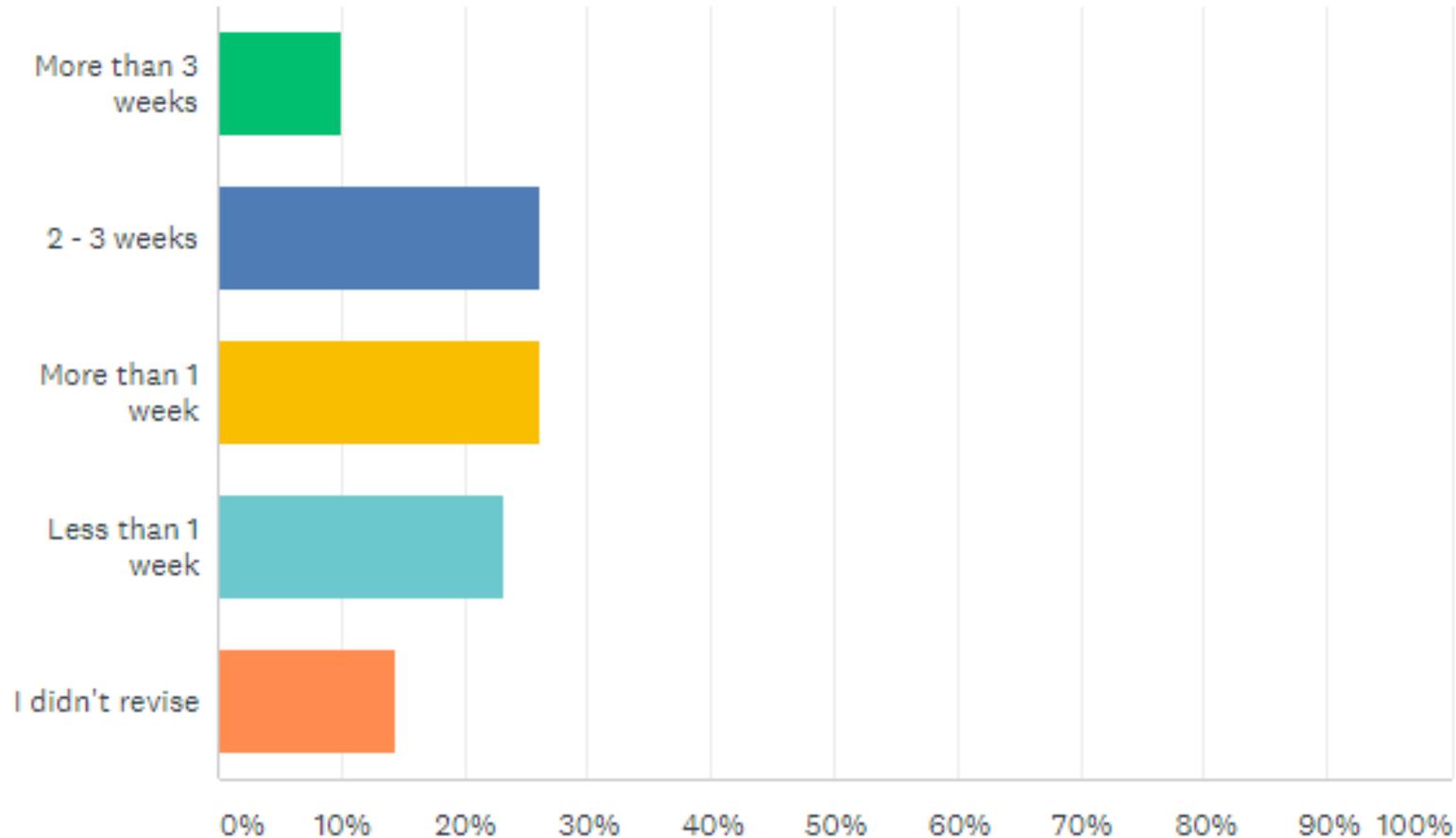
- Regular quizzes, from memory, even if things only taught or mentioned once...
- Complete large pieces of work, with guidance, from memory...
- Tell them it's difficult. Tell them it should *feel* difficult. Get them to embrace the struggle, because that's where the best learning happens!

**How do we  
prepare our  
students for  
REVISION?**

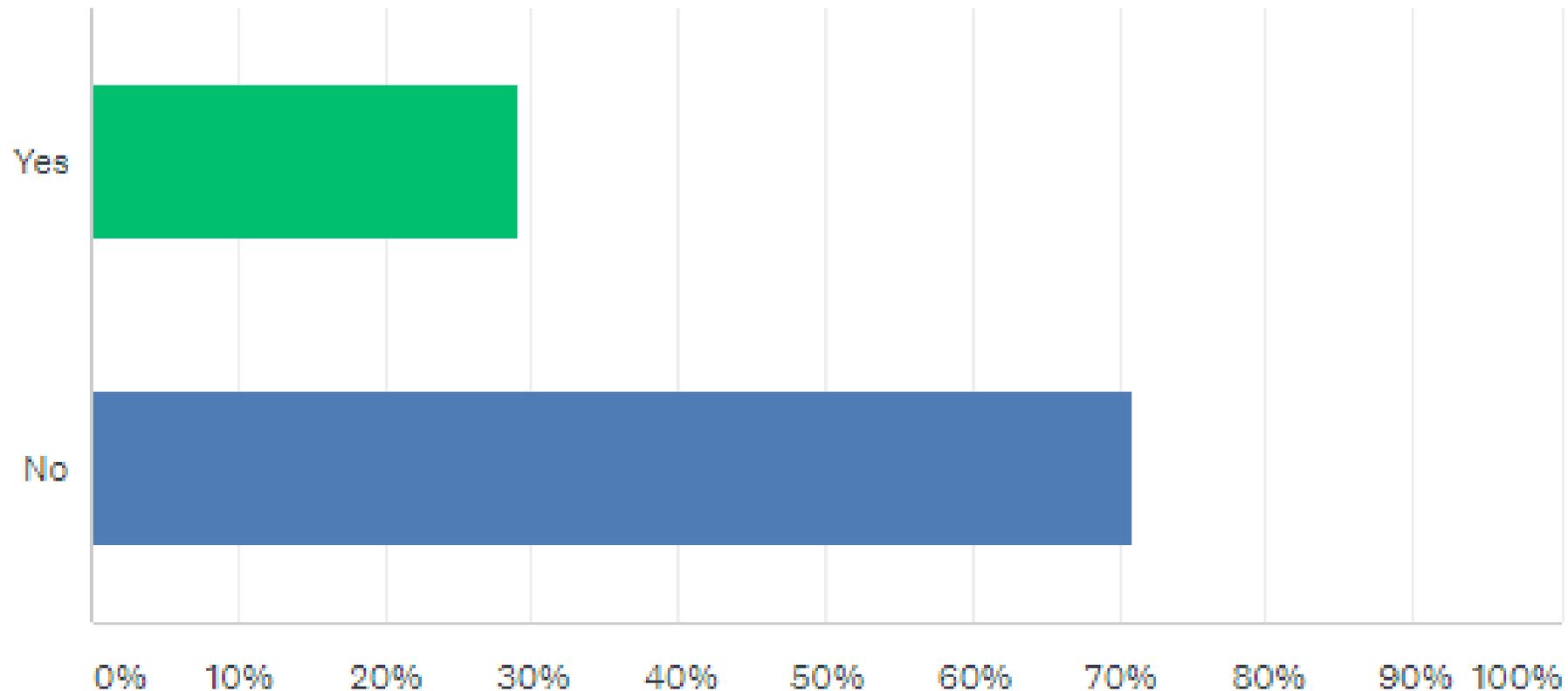
# Did you feel you had the appropriate skills to revise for your year 10 mocks?



# How much time did you spend revising before your year 10 mocks?

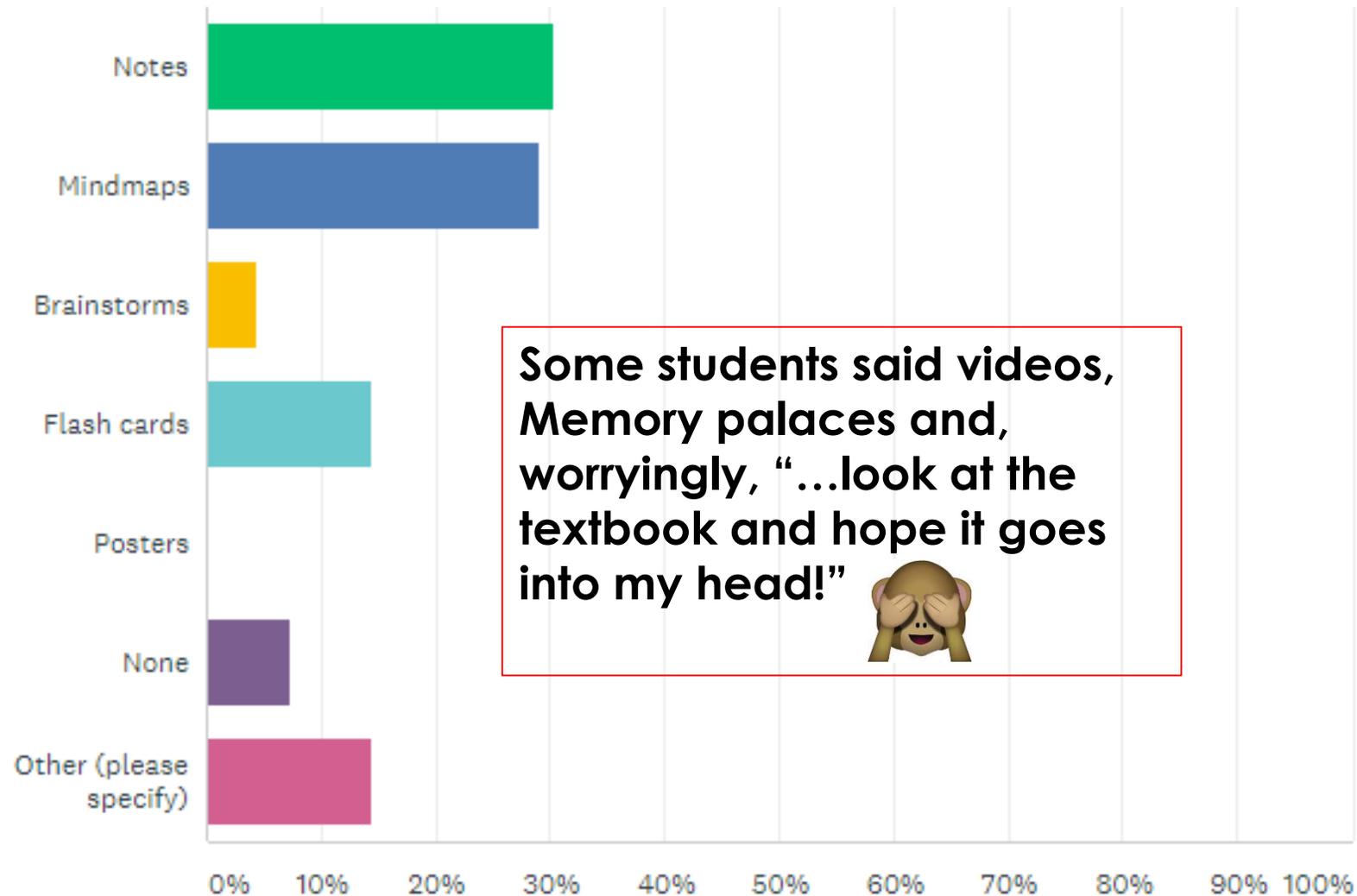


# Did you have a revision timetable?



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

# What is your current revision strategy?



**What it looks like in practice:**

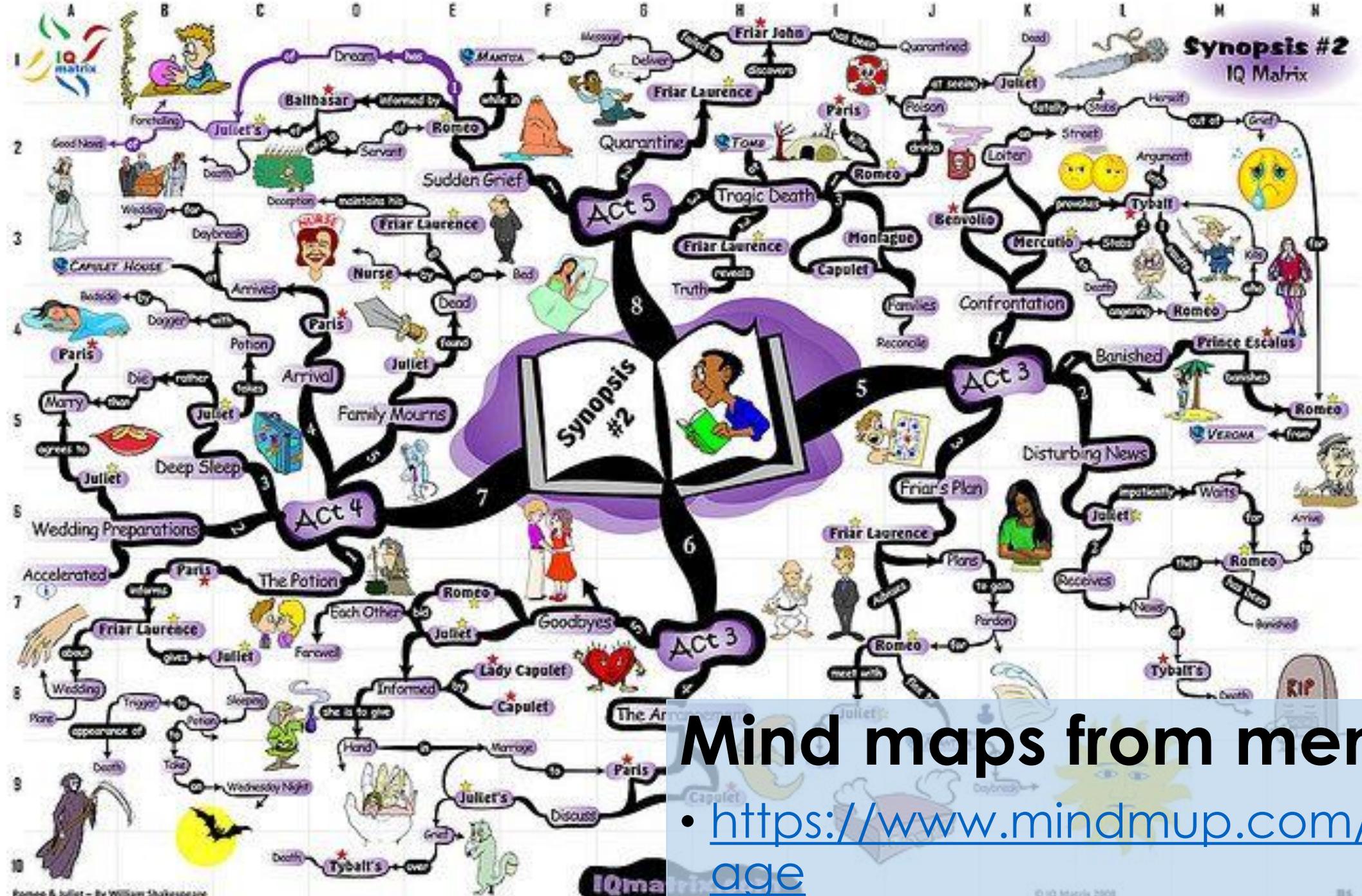
**Regularly asking students to do things from memory first (often with stages of differentiated support)**

# Flashcards!



- <https://quizlet.com/294055954/gcse-aqa-science-chemistry-flash-cards/>

**Synopsis #2**  
IQ Matrix



**Mind maps from memory**

- <https://www.mindmup.com/#storage>

Revision clock, from memory in an hour...

**WATER ON THE LAND**

**THE WATER MANAGEMENT**  
 Surplus - area with too much water  
 Deficit - area with not enough water

**CASE STUDY OF A WATER TRANSFER SCHEME**  
 LAKE VIANINI - ITALY  
 Water surplus - water deficit - Liverpool  
 Pipeline - 1000 miles  
 Issues: ① High voltage ② Village ③ Loss of farmland + wetland ④ Loss of jobs ⑤ Loss of wildlife

**EROSION**  
 Abrasive Action - force of water against bed + banks  
 Corrosion - wearing away of material (sandpaper)  
 Attrition - material breaks + breaks into smaller pieces  
 Solution - acids in water will dissolve material

**TRANSPORTATION**  
 ① Traction  
 ② Solution  
 ③ Suspension  
 ④ Solution

**RIVER DRAINAGE BASIN**  
 Source - Watershed  
 Mouth  
 Tributaries  
 Upper / Middle / Lower  
 River cross profile  
 Height (m) vs Distance from sea

**RIVER LANDFORMS IN THE UPPER COURSE**  
 ① Waterfalls + gorges  
 ② Meanders  
 ③ Levees  
 ④ Floodplains + levees  
 ⑤ Deposition

**RIVER LANDFORMS IN THE MIDDLE COURSE**  
 ① Meanders  
 ② Floodplains + levees  
 ③ Deposition

**RIVER LANDFORMS IN THE LOWER COURSE**  
 ① Deposition  
 ② Ox-bow lakes  
 ③ Levees  
 ④ Floodplains + levees

**RIVER HYDROLOGICAL CYCLE**  
 Precipitation  
 Evaporation  
 Condensation  
 Surface runoff  
 Infiltration  
 Groundwater flow  
 Base flow  
 Interception

**FACTORS AFFECTING DRAINAGE**  
 Relief - shape of land - more surface runoff  
 Impermeable - water cannot infiltrate  
 Deposition - less water in rivers

**LOADING CASE STUDIES: MEDC - JENKESBURY**  
 BRUCESTONSHIRE - JULY 2007  
 Causes - High rainfall, River Severn burst its banks  
 Jenkeshire at confluence of Severn and Avon  
 Development on the plain  
 Effects - 3 people died, 350,000 lost access to running water  
 Water treatment works closed, materials abandoned on nearby motorway (M5)  
 Debate on future of building development  
 Responses - RAF rescue helicopters sent to rescue people, Flood relief fund set up to raise money for affected bridges, Red Cross sent food boxes

**THE 10 HYDROGRAPH**  
 Peak discharge  
 Lag time  
 100% rain

# Revision Grids

... as many quotations as you can remember about FEAR...

"travels of weakness marks of war"  
"I stretch and sluck again"

Define these key terms:  
 sibilance is alliteration  
 personification giving qualities to things  
 emotive language  
 foreshadowing  
 what's going on poem

Write down as many quotations as you can about POWER and ROMANTIC PERIOD (Blake, Agard, Wordsworth...)

Blake is showing how awful some people's lives.  
 William Wordsworth was an orphan, his parents died.

Draw an image to represent this quotation:



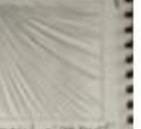
"blood down palace walls"

What are the key principles of Romantic Period?

Every breathing apparatus is the price of the Anti-Church  
 • Anti-govt  
 • Anti-nat  
 • Romanticism

Part 1: Mark-making and tone / Part 2: Making marks / Exercise 3: Mark-making techniques

COLOURS PEN GRAPHITE PENCIL (5MM)

					
1 pencil - diagonal shading from dark to light	1 pencil - more curved lines to suggest movement	1 pencil - fine cross-hatching	1 pencil - diagonal shading from dark to light	1 pencil - fine cross-hatching	1 pencil - wavy lines to suggest movement
					
1 pencil - fine cross-hatching	1 pencil - fine cross-hatching	1 pencil - fine cross-hatching	1 pencil - fine cross-hatching	1 pencil - fine cross-hatching	1 pencil - fine cross-hatching
					
1 pencil - diagonal shading from dark to light	1 pencil - wavy lines to suggest movement	1 pencil - fine cross-hatching			
					
1 pencil - fine cross-hatching	1 pencil - fine cross-hatching	1 pencil - fine cross-hatching	1 pencil - fine cross-hatching	1 pencil - fine cross-hatching	1 pencil - fine cross-hatching

## Mark-Making

			
STIPPLED	HATCHED	VERTICAL LINES	SCRIBBLED
			
CONCENTRIC LINES	ZIG-ZAGS	DOTS & DASHES	SPARKS
			
WAVY LINES	SCRAMBLED LINES	CROSS-HATCHING	LARGE LINES

... because it is vulnerable because it is so soft.

appals which means sinister and corrupt  
 In Prelude it talks about mountains shadowing us  
 the boy is ...

**What it looks like in practice:**

**Explicitly teaching students how to revise, placing a focus on STRUGGLE and doing things *from memory*...**



# HENLEY REVISION GUIDE

## REVISION FOR AQA ENGLISH LANGUAGE



**Course summary:**

- Paper 1** – Explorations in Creative Reading and Writing: Students answer 4 reading questions looking at the use of language, structure and evaluating reader response. They also need to write their own creative text using either a picture or a given idea.
- Paper 2** – Writers' Viewpoints and Perspectives: Students answer 4 questions looking at how the writers use methods to communicate their ideas. They also need to write their own text (leaflet, letter, speech, article or essay) that presents their own views on a given topic.

**Revision guides/websites:**

- CGP have some great revision guides and workbooks (there are some tailored to the AQA specification) Have a good look on their website....
- Collins also do revision guides aimed at each grade.
- Use websites to find articles to read and annotate:  
<https://www.independent.co.uk/voices>  
<https://www.theguardian.com/uk/commentisfree>



**TOP TIP:**  
Use the Bristol University Grammar exercises website to practise your punctuation. There are 32 marks available for accurate spelling punctuation and grammar on the Language papers...  
[http://www.bristol.ac.uk/arts/exercises/grammar/grammar\\_tutorial/page\\_41.htm](http://www.bristol.ac.uk/arts/exercises/grammar/grammar_tutorial/page_41.htm)

## REVISION FOR EDEXCEL MATHS



**Course summary:**

- Paper 1** – Non-Calculator
- Paper 2** – Calculator
- Paper 3** – Calculator

**Revision guides/websites:**

- There is a Pearson revision guide and work book available on Gateway for £5 each.
- Seneca and GCSE Pod have Maths modules tailored to Edexcel.
- [www.mathsgenie.co.uk](http://www.mathsgenie.co.uk)
- [www.corbettmaths.com](http://www.corbettmaths.com)



**TOP TIP:**  
Using MathsWatch! Watch a video on a topic (either the full length version or the one minute version if you have been taught it recently) and have a go at some 'interactive questions' to test applying your knowledge to exam style questions. The best way to revise maths is to DO maths.

## REVISION FOR AQA COMBINED SCIENCE TRILOGY



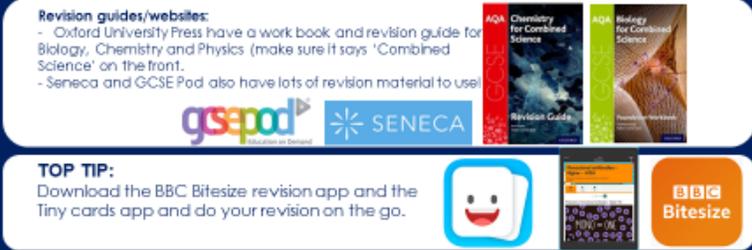
**Course summary:**

- Paper 1 Biology topics 1-4:** Cell Biology; Organisation; Infection and response; and Bioenergetics.
- Paper 2 Biology topics 5-7:** Homeostasis and response; Inheritance, variation and evolution; and Ecology.
- Paper 1 Chemistry topics 8-12:** Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes; and Energy changes.
- Paper 2 Chemistry topics 13-17:** The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere; and Using resources.
- Paper 1 Physics topics 18-21:** Energy; Electricity; Particle model of matter; and Atomic structure.
- Paper 2 Physics topics 22-24:** Forces; Waves; and Magnetism and electromagnetism

**Revision guides/websites:**

- Oxford University Press have a work book and revision guide for Biology, Chemistry and Physics (make sure it says 'Combined Science' on the front).
- Seneca and GCSE Pod also have lots of revision material to use!

**TOP TIP:**  
Download the BBC Bitesize revision app and the Tiny cards app and do your revision on the go.



### Contents:

- Subject Pages (what's on the exams, key revision guides and websites, top revision tips)
- Revision Menus
- Key revision strategies (what really works?)
- Revision Survival Pack
- Exam Days...

# Revision Menu

Remember to EMBRACE struggle!  
Everything should be from memory and independent. If you look at your notes, change colour pen...

## 5 min activities:

- Explode a quotation
- Explode an exam question
- Character mind map
- Answer 3 quiz questions
- 5 minute essay plan
- Write down quotations from memory

## 10 min activities:

- Watch a Mr Bruff Youtube video
- Write down all of the key plot events in *Romeo and Juliet* in chronological order
- Answer 6 quiz questions
- Test yourself using your flashcards - randomly chosen
- Annotate an extract and write a plan

## 30 min activities:

- Practice extract essay (timed)
- Practice part b) question (timed)
- Practice opinion piece (timed)
- Find an interesting image online and plan a creative response

## Resources:

- Revision clocks - set your own time limit!
- Extracts and essay questions (use for timed responses, quick plans, exploding questions, annotating texts)
- See 'Show my Homework' for web links

# A one hour revision session could look like this...

Explode an exam question (Romeo and Juliet, relationships) (5 mins)

10 min break - go for a walk outside

Revision clock  
(Different types of love, Romeo, Juliet) 15 mins

Practice extract question - Romeo and Juliet (30 mins)

Romeo and Juliet Mr Bruff video on Youtube (10 mins)

# MORE REVISION IDEAS...

- Use **colours** and **highlighters** to emphasise important parts of your notes.
- Write key words or concepts on **post-it notes** and stick them all over the house.
- Use **rhymes** or even **songs** to help remember information.
- Practise doing **past exam papers** that your teacher has given you. Then use the mark scheme or text book/notes to mark your answers.
- **Record revision notes** onto a mobile phone and then play them when you're out and about.
- Watch recommended **video clips**.
- Use one of the **websites** recommended.

# HELPFUL WEBSITES...

## **Seneca**

<https://senecalearning.com/>

## **GCSE pod**

<https://members.gcsepod.com/teachers/dashboard>

## **Quizlet**

<https://quizlet.com/>

## **BBC Bitesize**

<https://www.bbc.com/bitesize/levels/z98jmp3>

## **Get Revising (Online revision timetable)**

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

"There is phenomenal evidence to show a clear correlation between students' academic progress and the time they spent on GCSEPod; the top 10 the top 10 users of GCSEPod achieved a whole grade higher than that expected in every subject. **WOW!**"

David Pohl, Deputy Head Teacher, Yardleys School



GCSEPOD.COM



INFO@GCSEPOD.COM



0191 338 7830

# Seneca Learning

- Seneca Learning is an online revision system
- Students make an account and then can revise the majority of the GCSE courses they are studying
- It is proven to be more effective than reading revision guides or making notes
- Students who used Seneca got 2x the test scores.
- Seneca tells you the hours of revision spent revising each subject
- The basic version of Seneca Learning is FREE

## Seneca Premium

We've had great feedback from students who have upgraded to the premium version which includes:

- Predicted papers
- Hardest question courses – it helps students revise for the trickiest questions the exam boards have set in the past
- HyperLearning courses for accelerated 'night before' revision
- Premium Knowledge courses for those who have completed all of the free courses
- Grade 4-5 and 7-9 booster courses
- And if all of that isn't enough... there are pre 'A' level summer holiday courses ready and waiting for next summer and a driving theory test course too.