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KELLY
Boarding and Day School
Boys and Girls, Aged 4-18

MK Revision Parental Forum 2025

Welcome and thank you for coming.



Metacognition

Application

Schemata

Exam wrappers

Revision

Strategies

The forgetting curve

Cramming v Spacing

Pomodoro Technique

Interleaving/spacing

Flash cards

Summary...



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Thinking School



University
of Exeter





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Using metacognition

3 Metacognition Questions to Improve Grades

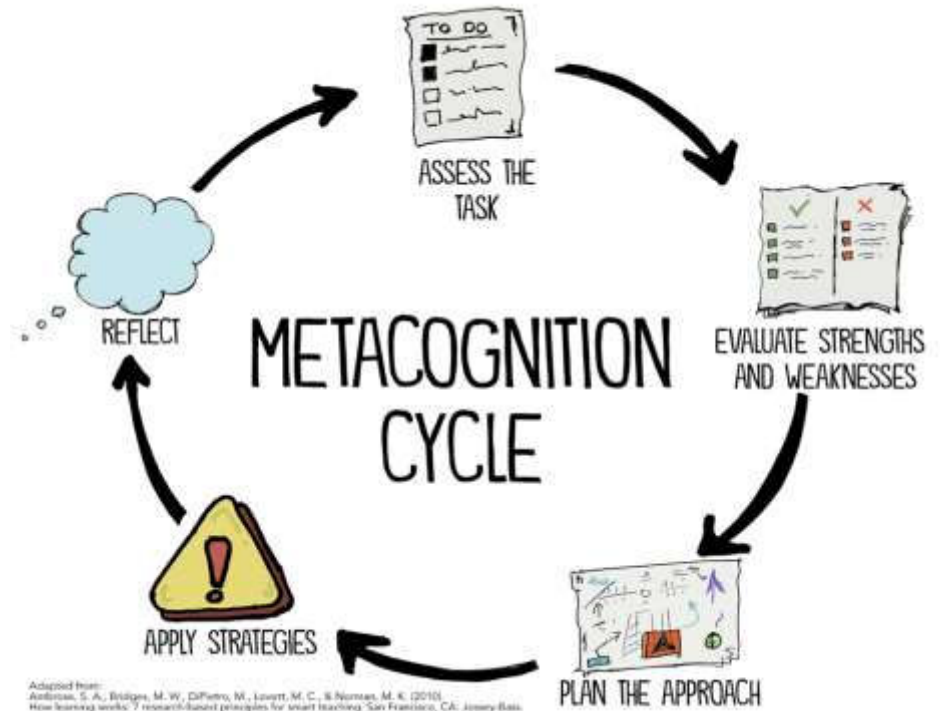
by @inner_drive | www.innerdrive.co.uk



WHICH RESOURCES DO I NEED TO HELP ME STUDY?
Think strategically when choosing your study resources. Only choose resources which are useful and effective.

WHY IS THIS RESOURCE USEFUL?
Consider why the specific resource you have chosen is helpful to your learning. This allows you to maximise its potential.

HOW WILL I USE THIS RESOURCE?
Create specific and realistic plans about when, where and how you will use your chosen resources.





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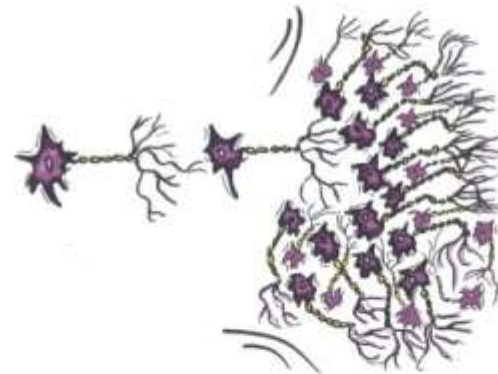
Neurons

IT'S ALL ABOUT CONNECTING

The brain is all about making connections.

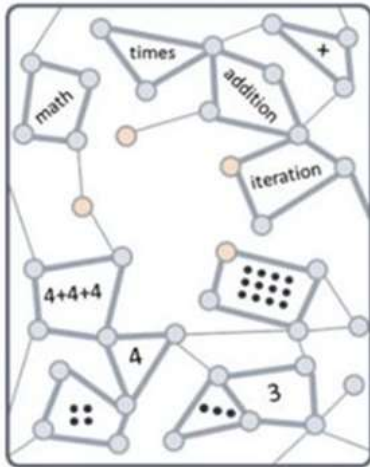
You have **BILLIONS** of neurons in your brain and these join up in all sorts of combinations resulting in **HUNDREDS OF TRILLIONS** of connections between axons and dendrites. That's more than **1,000,000,000,000!**

That's a whole lot of joining up...

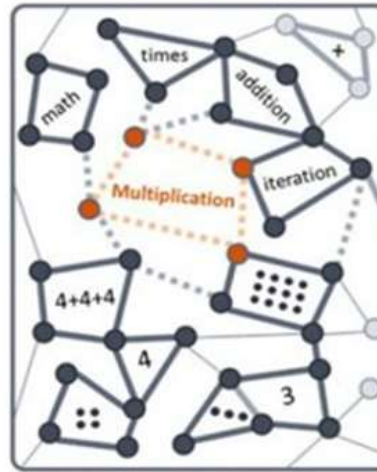




Schemata

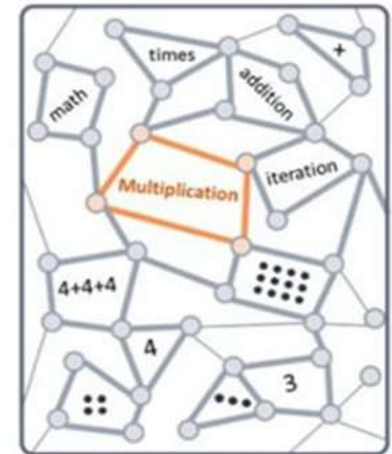


Before Learning



Learning

(image via Efrat Furst on Twitter @EfratFurst)



After Learning

How adults can help at home:

- *Activate prior knowledge:* “What does this remind you of?”
- *Explain in your own words:* short oral summaries.
- *Dual code:* combine a simple sketch or diagram with key words.
- *Concrete examples & analogies:* real-life comparisons.
- *Consistent vocabulary:* use the same key terms.



How schools strengthen schema over time:

Spaced practice (little and often),
Retrieval practice (quick quizzes from memory),
Interleaving & variation (mixing topics and problem types),
Elaboration (how/why questions),
Teach it to someone else (explain back).

Why schema help: Faster recall, reduced cognitive load, better transfer to new topics, more durable memory.



What are good strategies for revision?

- From your own experience...
- Common responses: reading, highlighting, note taking, exam practice

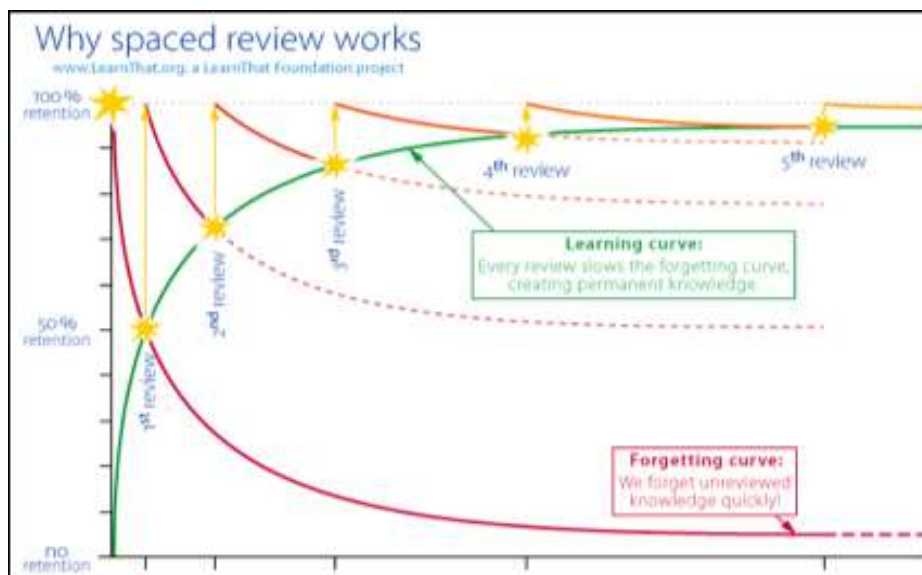


- Reading
- Writing
- Abbreviating
- Retrieval practice
- Spacing
- Interleaving
- Paired study
- Teaching others...



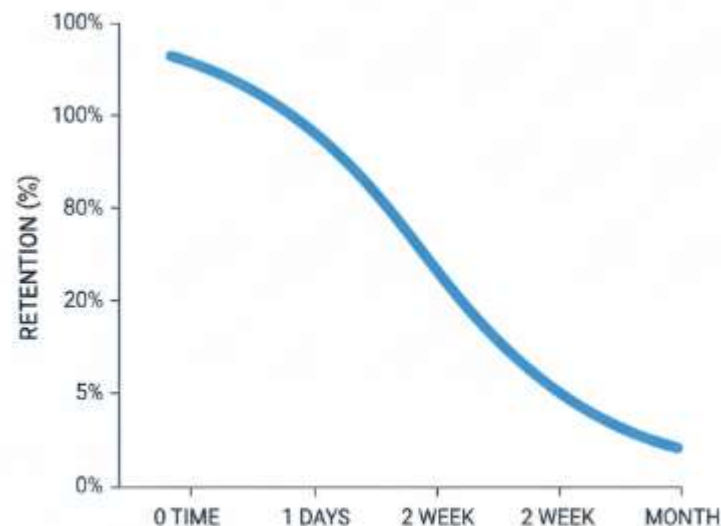
Ebbinghaus curve of forgetting

The forgetting curve, a concept developed by Hermann Ebbinghaus, illustrates how information is lost over a period of time when there is no attempt to retain it.



THE FORGETTING CURVE

Information retention over time without reinforcement

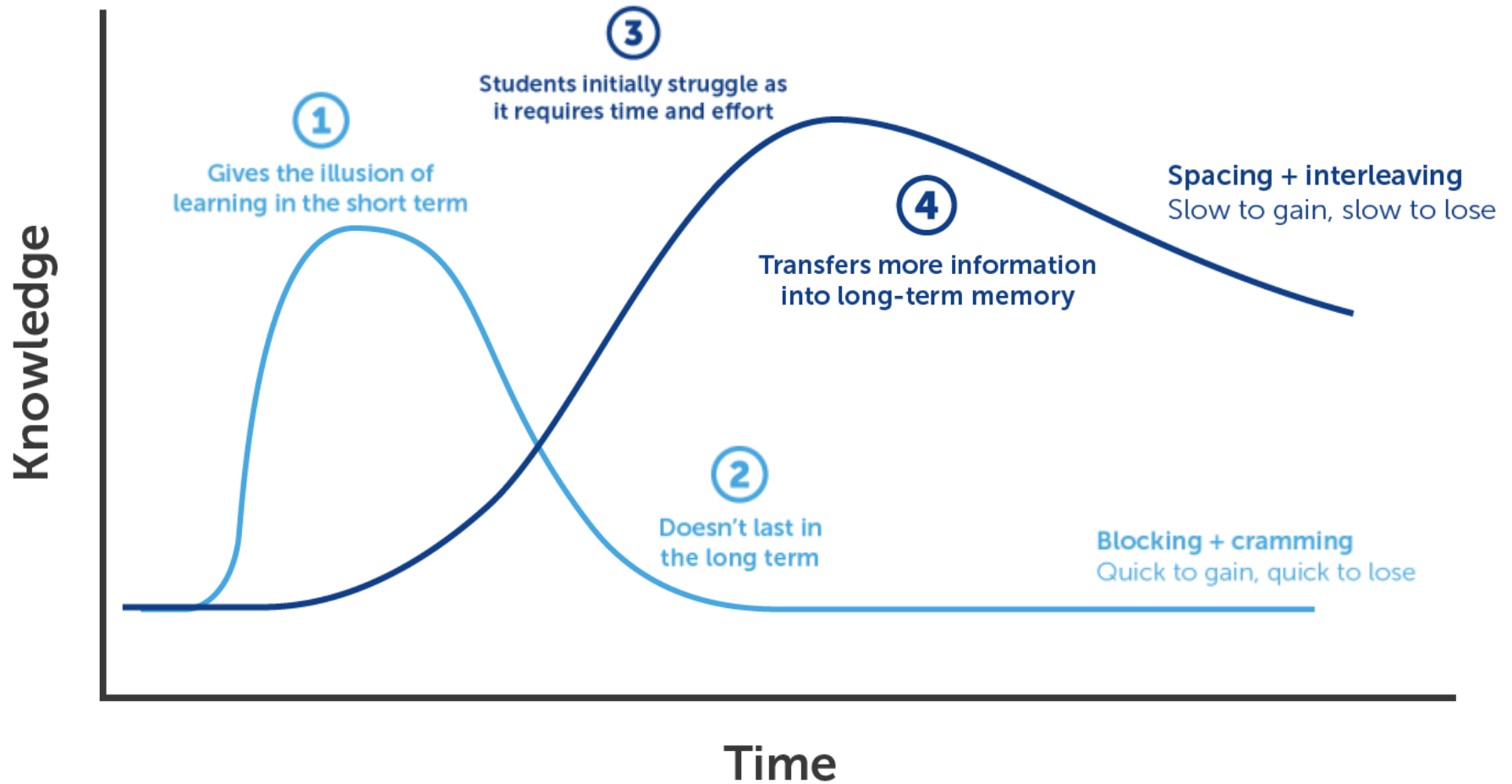


Based on Hermann Ebbinghaus's research



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How to organise your time



The Pomodoro Technique

Procrastination

Organisation

Cognitive load

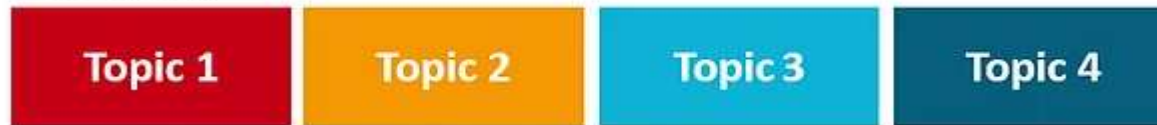


Interleaving and spaced practice

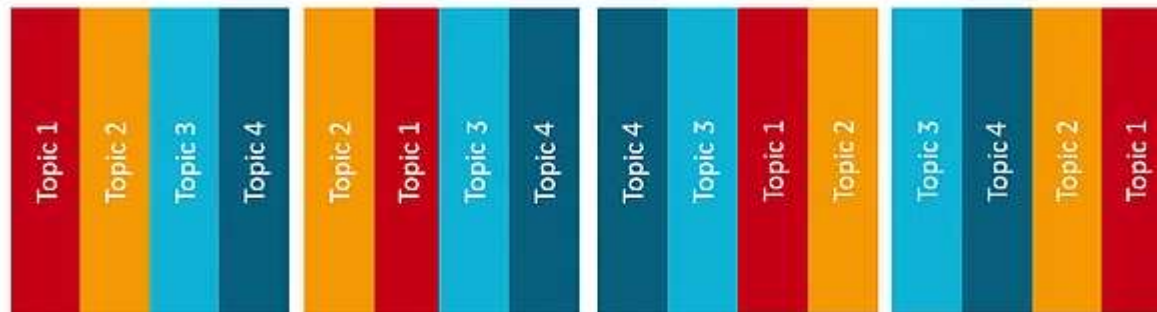
What is Interleaving?

Interleaving involves mixing up topics within the same subject when studying. This is the opposite of blocking, which is fully covering one topic before moving on to the next. This graphic gives an example (taken to the nth degree for illustrative purposes only) of the difference between the two:

Blocking



Interleaving





Using Flashcards to Revise



- This technique potentially includes:
- Reading
- Writing
- Abbreviating
- Retrieval practice
- Spacing
- Interleaving
- Paired study
- Cornell Notes Method
- Teaching others/Feynman Technique



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How do I know if I know it?

1. Take Notes



2. Formulate Questions



3. Recite & Review



4. Summarize



1. Learn & Understand

(Choose a Topic & Study it in Detail)



2. Teach It

(Explain the Concept in Simple Language)



3. Identify Gaps

(Review & Relearn Difficult Parts)



4. Simplify & Refine

(Organize, Use Analogies & Plain Language)





It takes effort...

- Yes, the working brain burns more calories than the resting brain. The brain is a very metabolically active organ, and it uses about 20% of the body's total energy, even when at rest. When the brain is working, it uses even more energy. For example, a study by the University of California, Berkeley found that the brain uses about 50% more energy when solving math problems than when watching a movie.
- The reason why the working brain uses more energy is because it is more active. When the brain is working, it is sending and receiving signals from all over the body. It is also processing information and making decisions. All of this activity requires energy.
- The amount of energy that the brain uses depends on a number of factors, including the type of task that the brain is performing, the difficulty of the task, and the person's individual metabolism. However, in general, the working brain uses more energy than the resting brain.
- In addition to using more energy, the working brain also produces more heat. This is why the brain can feel warm to the touch when you are concentrating on a difficult task. **The body's natural cooling system helps to keep the brain from overheating, but it is important to stay hydrated and to take breaks when you are working on difficult tasks.**
- Here are some tips for saving energy on your brain:
- Get enough sleep.
- **Eat a healthy diet.**
- Exercise regularly.
- Take breaks when you are working on difficult tasks.
- Avoid multitasking – you cannot do it. [This includes listening to music].
- Meditate or practice mindfulness.
- By following these tips, you can help your brain to function at its best and to avoid burnout.



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