

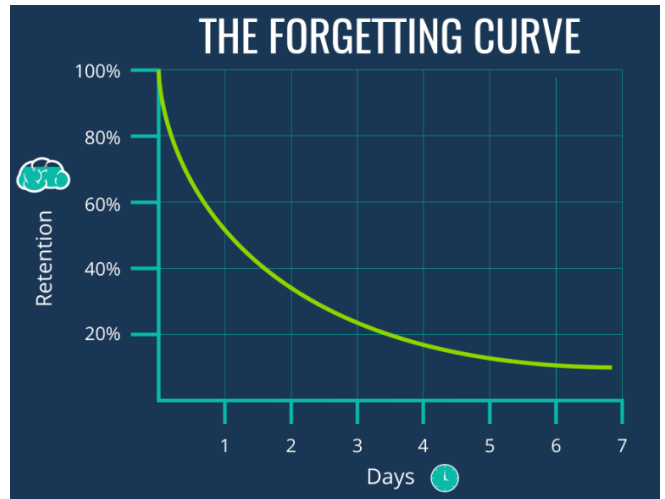
Making new learning stick!



New learning needs work if we are to retain it. As you are accessing home learning this half term, you will encounter concepts and ideas that are new to you. While your teachers are thinking about ways to revisit new learning when we are able to return to school, it is a good idea for you to develop your study habits so that you can make sure all of the hard work that you are undertaking is as effective as possible.

To help you to understand more about this, let's think about long term memory and how it works. Daisy Christodoulou is a teacher, writer and educational researcher. She describes long term memory as 'the powerhouse of cognition (thinking)'. Long term memory allows us to make sense of the world around us, to solve problems and look things up and to distinguish between lies and truth. You can't outsource long term memory to Google! Which is why it's so important to work to retain our new learning so that it becomes embedded in our long term memory. You can learn more about this here:

<http://tiny.cc/tl79pz>



Without any work on consolidation, new things that we learn are quickly forgotten. Ebbinghaus, a psychologist, called this the 'forgetting curve'. His experiments showed that if you memorise something perfectly, by the next day your memory of it will have decayed so that it is now only one third of what you had learned. As the days and weeks progress, without intervention, the memory will decay further. Test it: think about what you had for dinner yesterday, a week ago, a month ago...

So how can we seal the things we learn into our long term memories? There are two main methods:

1. Make the learning more memorable – this is called 'Elaborative Encoding
2. Active and spaced repetition – making a habit of revising it as we go

The most effective learners are 'self-regulating', this means that they make a habit of independent study (no one has to tell them to get on with it!) and they know themselves well enough as a learner to choose the right strategies that work best for them. Read through the following advice on how you can make your learning stick, and aim to make yourself a better learner by creating a regular study habit, based on real evidence around what seals learning into your long term memory.

1. Avoid revision myths

Two revision methods that students sometimes think are the best are reading back through work and highlighting. These methods, even if you spent all day for weeks using them, would not achieve results that are even half as effective as lots of other methods of information retrieval – see ideas below.

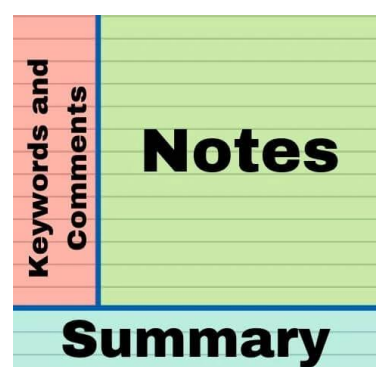
Another revision myth is that 'cramming' (where you do lots of revision in a short space of time before a test) is a good idea. All of the evidence shows that we don't retain information effectively if we cram. Spacing and interleaving revision (doing a little each day and mixing up subjects) is much more effective. Developing a real study habit, where your cue for studying is a similar time each day, and you work in short bursts with a reward like a healthy snack or some time outside, is an incredibly valuable, long term strategy.

2. Prepare for revising material as you are studying it

Much of the home learning that you are currently experiencing puts you in a unique position; you are able to work at your own pace. Rather than getting to the end of a topic and revising it all at once, try breaking new learning down as you go. There are two great methods for this:

a) Cornell Notes – this system of note-taking while you are completing a lesson or home learning task allows you to return to your notes at a later date and test your self, adding shorter summaries, key words and ideas. More on this here:

<https://www.brainzyme.com/blogs/news/cornell-notes>



b) Flashcards

Lots of students already use flashcards, but are we using them in the right way? Flashcards for any topic should be:

- Simple
- Numerous
- Overlapping

Physical flashcards are good, but we tend to write far too much complex information on them, meaning that we aren't really using them as flashcards, we're re-reading lots of information that hasn't been chunked down. Better practice is to create flashcard decks online, for example using Anki, or Quizlet. Creating your own decks is much better than using the pre-made versions, because even the process of making them helps to consolidate learning in your long term memory. Flashcard apps also allow you to increase the intervals between when you test yourself, meaning that you can activate spaced repetition more effectively.

A great way of interrupting the forgetting curve is to create your flashcards at the end of each lesson. Then create a habit of revising a percentage of your full collection of decks of flashcards each day. The app software will test you more frequently on things you get wrong. You could even try putting decks together for multiple subjects. This allows you to revise everything at once, but little and often, helping you to make creative links between subjects and supporting you with interleaving.

3. Making new learning more memorable – elaborative encoding

Elaboration:

Make your learning more detailed and 'real' by asking yourself questions about how and why things work and then produce answers to these questions. Try to make links and connections between multiple ideas to be learned. A good way to do this is to take two ideas and try to explain how they are similar and how they are different. Try to describe how the ideas you are studying apply to your own life experiences or memories. In addition, as you go through your day, take notice of the things happening around you and make connections with the ideas that you are studying. Ideally you should work up to being able to explain processes and concepts without your notes in front of you. It is even better if you can teach them to someone else!

Concrete examples:

When you're studying, try to think about how you can turn ideas you're learning into concrete examples (something that can be touched or sensed, as opposed to abstract ideas which are more difficult to grasp). Making a link between the idea you're studying and a vivid, concrete example can make the lesson stick better. Creating your own relevant examples will be the most helpful for learning; but before you get to that stage, if possible, verify your examples with an expert. Discuss them with your teacher, for example.

Visuals:

Images and diagrams are an effective way of helping to make learning stick. 'Dual coding' is when you have the same information in two formats – words and visuals. This give you two ways of remembering the information later. When you are looking over your class materials, find visuals that go along with the information and compare the visuals directly with the words. Cover up the text and try to describe the visuals with words. On another occasion, you can do the opposite: read the text, and try to create your own visuals. This technique will be helpful regardless of whether you generally prefer to learn from pictures or words. Work your way up to practising retrieval by drawing what you know from memory.

