Strategies to learn effectively

Strategy + Effort

= Success

Pupil Booklet – 2024

How we learn

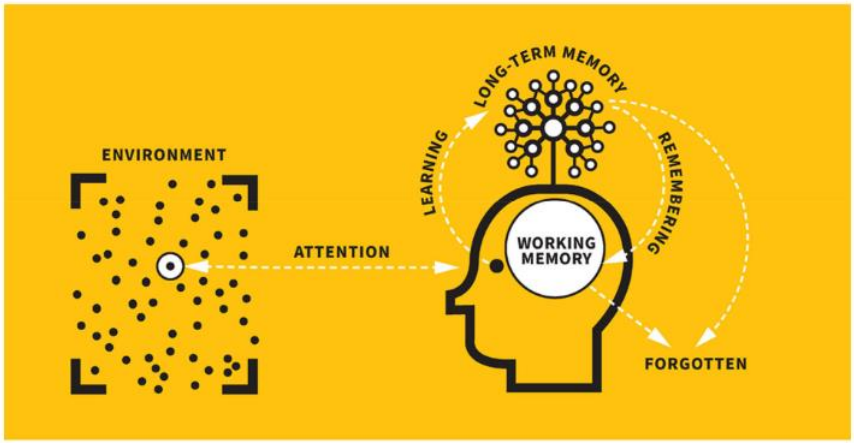
Understanding how you learn will help you to engage in your lessons and study in a way that will help you to be successful. This guide will help you to understand how memory works and other issues linked to motivation, forming good habits and protecting your health and wellbeing.

The Learning Model – memory

Working memory is where you do your day to day thinking. Our working memory is quite small and can easily become overwhelmed if we have to focus on too many things at once – we call this **cognitive overload**. Learning is easier if we know this and make best use of our working memory by:

- Breaking new ideas down into small steps.
- Avoiding multitasking – we can be easily distracted.
- Writing down new ideas soon after someone has explained them (making notes).

By comparison, **our long term memory** is vast. The goal of learning is to ensure that information is stored in long term memory and can



be recalled when necessary. When we learn something new, we will make a connection to what we already know so that it makes sense.

What this means for studying

Memory is the residue of thought – in other words, in order to learn something we have to think about it. This means that when revising by simply copying things down, highlighting or reading over something, you are not likely to learn it.

Forgetting is unfortunately something which is a part of being human and we have to take action to avoid forgetting. To avoid forgetting you should:

- Make connections between what you already know and any new knowledge.
- Practice recalling information regularly. This is called **Retrieval Practice** – more on this later.
- Space out revision – this will make the memory stronger in the long run.

How to study

Before you begin, you are going to need a good summary of the content you need to learn. This might be the notes you have taken in class, a published revision guide (such as BrightRed, for example) or a knowledge organiser from your teacher. This will be what you use to revise in each subject.

Here are three methods of revising (retrieval practice) that are based on cognitive science and will help you to learn:

Brain Dumps

The idea here is to write down everything you can remember about a particular topic in a free-flowing way. Here are the steps:

1. Select a topic and a related prompt; the prompt can be very open or more narrow. For example “Waves” is quite a broad prompt, whereas “Uses of the electromagnetic spectrum” is more focused.
2. Write down what you can remember in relation to your prompt. Don’t worry about organising your ideas too much at this stage.
3. Organise and connect your ideas: once you have written down everything you can remember, start to connect related ideas using arrows or similar. You may even wish to make a new copy and organise your ideas as you go.
4. Check against your notes or knowledge organiser. Be sure to fill in any gaps and to correct any mistakes. You don’t want to memorise wrong information!

Self quizzing

One of the pitfalls we struggle with when learning something is mixing up familiarity with learning. When you are reading over material that you have covered in class, you may feel that you know it because it is familiar. This is often quite superficial and you may find that when you need to recall the material in an assessment, you can’t remember it.

Self quizzing is a way for you to test your knowledge and works best with straightforward factual recall. Here is how to do it:

1. Gather or generate a set of quiz questions. Your teacher may have provided these already. If not, you can easily generate

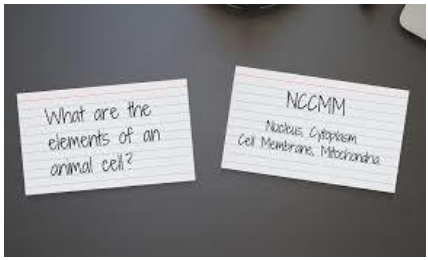
your own. Examples might include – key vocabulary and definitions; labelling diagrams; recalling key facts – who, what, when, where, how; multiple choice questions; maths problems; sequencing; remembering quotations; putting a sequence in the correct order.

2. Answer the questions **unaided**. Doing the questions without notes helps you to think hard and thinking hard helps you to learn. Write down your answers so you can check them against the correct answers once you are finished. This will give you an accurate picture of what you know and where your gaps are.
3. For wrong answers – why did you get it wrong?
   If you just forgot, further rehearsal of the material is needed.
   If you don't fully understand the concept or the question, then you should seek help from your teacher.
4. Test yourself again – use the same questions and leave a bit of a gap, a few days or even a week. You should find you remember more over time.

Flash Cards

These are a popular and useful way to revise factual knowledge. You can use paper cards (available from school) or you can use a digital version such as Anki or Cram.

A good flash card has a prompt on one side that requires you to think of a specific answer, or a heading that requires you to give multiple details or an explanation. Here is how to use flash cards effectively:



1. Gather or create your set of cards. Your teacher may create these for you or help you to make a set. It is important that they are accurate! You need to make sure that you understand what is on them before you begin memorising.
2. Run through them by looking at the prompt, responding (verbally, in your head or by writing down the answer) and then checking the answer.
3. Separate the cards into two piles – correct answers and incorrect answers. For each incorrect answer, establish why you got it wrong. If you just forgot, you need to rehearse it more. If it was wrong because you don't fully understand, you need to go back to your notes or ask your teacher.
4. Rerun the wrong answers using prompt, respond and check again. Hopefully your incorrect pile is now smaller. Keep focused on the error pile until you get every card right.
5. Repeat after time – after a few days you should shuffle your flash cards and go through the whole process again. Your incorrect pile should get smaller each time as the information becomes embedded in your long term memory.

Motivation

Motivation is crucial for learning. Some people believe that motivation is a personality trait – you've either got it or you haven't. This is not true; we can change how motivated we are to do certain things by changing the way we think about them and how we experience them. For example, you can gradually increase your motivation for running by gradually building up speed and distance, running with a friend and giving yourself a reward every time you are successful. So, how can you apply this to studying?

1. Make it more enjoyable. Make sure your study space is comfortable and you have something nice to eat and drink.

Give yourself a reward after a pre-determined amount of time.

2. Ensure success by breaking down your revision into small, manageable chunks. Start with the basics and gradually build up to harder concepts. Ask someone to check what you have done.
3. Build a habit. Human brains make it easier for us to do things we do repeatedly. So, for example, riding a bike is hard at first but, if you do it repeatedly, it becomes automatic. Build a routine around revision – same place, same time and same routine.
4. Do it with friends. Find someone who will be as focused as you and study together.
5. Remind yourself of the end goal. What will your life be like if you are successful? Write it down!

Managing your time

One of the challenges you will face is that you will have a lot to learn and only so much time available for revision and practice. Make a study timetable at the start of the year (remember, learning as you go is much more effective than last minute cramming). The more that you can build a routine around studying, the more likely you are to be successful. Bear in mind that shorter periods of study several days a week will help you learn better than one huge session once a week.

Healthy Learning

Use the SHED method – **S**leep-**H**ydration-**E**xercise-**D**iet. These four things are essential for managing your mood and clear thinking.