Memorization Strategies

Many college courses require you to memorize mass amounts of information. Memorizing for one class can be difficult, but it can be even more frustrating when you have multiple classes. Many students feel like they simply do not have strong memory skills. Fortunately, though, memorizing is not just for an elite group of people born with the right skills—anyone can train and develop their memorizing abilities.

Competitive memorizers claim that practicing visualization techniques and using memory tricks enable them to remember large chunks of information quickly. Research shows that students who use memory tricks perform better than those who do not. Memory tricks help you expand your working memory and access long term memory. These techniques can also enable you to remember some concepts for years or even for life. Finally, memory tricks like these lead to understanding and higher order thinking. Keep reading for an introduction to effective memorization techniques that will help you in school.

Simple memory tips and tricks

In addition to visual and spatial memory techniques, there are many others tricks you can use to help your brain remember information.

Try to understand the information first. Information that is organized and makes sense to you is easier to memorize. If you find that you don't understand the material, spend some time on understanding it before trying to memorize it.

Link it. Connect the information you are trying to memorize to something that you already know. Material in isolation is more difficult to remember than material that is connected to other concepts. If you cannot think of a way to connect the information to something you already know, make up a crazy connection. For example, say you are trying to memorize the fact that water at sea level boils at 212 degrees Fahrenheit, and 212 happens to be the first three digits of your best friend's phone number. Link these two by imagining throwing your phone into a boiling ocean. It's a crazy link, but it can help that fact to stick.

Sleep on it. Studies show that your brain processes and stores information while you sleep. Try to review information just before you go to sleep—even if it's only for a few minutes—and see if it helps embed the information in your memory.

Self-test. Quiz yourself every so often by *actively* recalling the information you are trying to study. Make sure to actively quiz yourself—do not simply reread notes or a textbook. Often, students think they remember material just because it is familiar to them when they reread it. Instead, ask yourself questions and force yourself to remember it without looking at the answer or material. This will enable you to identify areas that you are struggling with; you can then go back to one of the memory tricks to help yourself memorize it. Also, avoid quizzing yourself

immediately after trying to memorize something. Wait a few hours, or even a day or two, to see if it has really stuck in your memory.

Use distributive practice. For a concept to move from your temporary working memory to your long-term memory, two things need to happen: the concept should be *memorable* and it should be *repeated*. Use repetition to firmly lodge information in your memory. Repetition techniques can involve things like flash cards, using the simple tips in this section, and self-testing. Space out your studying and repetition over several days, and start to increase the time in between each study session. Spacing it out and gradually extending the times in between can help us become more certain of mastery and lock the concepts into place.

Write it out. Writing appears to help us more deeply encode information that we're trying to learn because there is a direct connection between our hand and our brain. Try writing your notes by hand during a lecture or rewriting and reorganizing notes or information by hand after a lecture. While you are writing out a concept you want to remember, try to say the information out loud and visualize the concept as well.

Create meaningful groups. A good strategy for memorizing is to create meaningful groups that simplify the material. For example, let's say you wanted to remember the names of four plants—garlic, rose, hawthorn, and mustard. The first letters abbreviate to GRHM, so you can connect that with the image of a GRAHAM cracker. Now all you need to do is remember to picture a graham cracker, and the names of the plants will be easier to recall.

Use mnemonics. Mnemonics are systems and tricks that make information for memorable. One common type is when the first letter of each word in a sentence is also the first letter of each word in a list that needs to be memorized. For example, many children learned the order of operations in math by using the sentence *Please Excuse My Dear Aunt Sally* (parentheses, exponents, multiply, divide, add, subtract). Check out <u>Wikipedia</u> for a good list of examples and ideas.

Talk to yourself. It may seem strange at first, but talking to yourself about the material you are trying to memorize can be an effective memory tool. Try speaking aloud instead of simply highlighting or rereading information.

Exercise! Seriously! Studies show that exercise can improve our memory and learning capabilities because it helps create neurons in areas that relate to memory. Cardio and resistance training (weights) both have powerful effects, so do what works best for you.

Practice interleaving. Interleaving is the idea of mixing or alternating skills or concepts that you want to memorize. For example, spend some time memorizing vocabulary words for your science class and then immediately switch to studying historical dates and names for your history class. Follow that up with practicing a few math problems, and then jump back to the science definitions. This method may seem confusing at first, but yields better results in the end

than simply spending long periods of time on the same concept. Check out this <u>video</u> for more explanation on interleaving and other similar strategies.

Visual and spatial techniques

Visual and spatial techniques are memory tricks that involve your five senses. They utilize images, songs, feelings, and our bodies to help information stick. Humans have outstanding visual and spatial memory systems. When you use visual and spatial memory techniques, you use fun, memorable, and creative approaches rather than boring, rote memorization. This makes it easier to see, feel, or hear the things you want to remember. Visual and spatial techniques also free up your working memory. When you group things together, you enhance your long-term memory. Using visual and spatial techniques helps your mind focus and pay attention when your mind would rather wander to something else. They help you make what you learn meaningful, memorable, and fun.

The common practice of <u>using your knuckles</u> to remember the number of days in each month is a great example of an easy visual spatial technique to help you remember details.

Memorable visual images. The next time you have a key item you need to remember, try making a memorable visual image to represent that item. Images are important because they connect directly to your brain's visuospatial centers. Images help you remember difficult concepts by tapping into visual areas. But you don't just have to use images—the more of the five senses you can use, the easier it will be for you to recall information. Rather than just visualizing an image, try to *smell, feel*, and *hear* the image as well. For example, if you are trying to remember that the capital of Louisiana is Baton Rouge, draw up an image of a girl named Louise carrying a red baton.

The memory palace technique. This technique involves visualizing a familiar place—like the layout of your house or dorm room—and using it as a visual space where you can deposit concept-images that you want to remember. This technique can help with remembering unrelated items, like a grocery list. To use the memory palace technique, visualize your place (house or dorm room) and then imagine items from your grocery list in different areas around the place. For example, picture a cracked egg dripping off the edge of the table or a bushel of apples sitting on the couch. This technique can take some time to get used to, but once you do, the quicker and more effective it becomes. This <u>Ted Talk</u> explains memory palaces more.

Songs and jingles. Much like the memory palace and images, songs or jingles use your brain's right hemisphere and can help us remember tricky things like equations and lists. There are already plenty of songs out there for things like the quadratic formula—try Googling what you are trying to remember to see if someone has already created a tune. If not, try making your own.

The five senses. Using as many of the five senses as possible when studying helps you use more parts of your brain and retain information better. For example, if studying for an anatomy exam, pick up the anatomy models, feel each part, and say the names of them out loud.

Lively visual metaphors or analogies. This can help you to not only remember but *understand* concepts, especially in math and science. A metaphor is a way of realizing that one thing is somehow similar to another. For example, think about the country of Syria as shaped like a bowl of cereal and the country Jordan as a Nike Air Jordan sneaker. Metaphors—especially visual ones—can stick with you for years. They help glue ideas in your mind because they make connections to neural structures that are already there.

Works consulted

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Source: https://learningcenter.unc.edu/tips-and-tools/enhancing-your-memory/

Acronyms to Improve Memory for Studying

Acronyms are the most commonly used memory technique and are great for remembering short lists or sequences.

You have probably learned 'PEMDAS' in school – a sequence for solving equations. It stands for Parenthesis, Exponents, Multiplication, Division, Addition and Subtraction.

Another common acronym to help you remember a geographical list of names is HOMES, which is used to remember the Great Lakes – Huron, Ontario, Michigan, Erie, and Superior.

Here's a simple tip to create your own acronyms for remembering things better.

According to the <u>Cambridge dictionary</u>, acronyms are constructed with the first letter of each constituent word and they actually *sound* like words. That's what makes them easy to remember.

Spaced Repetition for Memory Improvement

Here's a well-known fact about memory – the more you reinforce something, the easier it becomes for your brain to recall it.

However, to improve memory for studying, *when* you reinforce something is far more important than *how often* you reinforce it. <u>Sisti, Glass and Shors</u> called this phenomenon the 'spacing effect.'

In the spaced repetition method, you practice remembering at the *right time*. The simplest way to apply this memory method is to use flashcards when you study.

While going through your flashcards, divide them into **three bundles**. If you remember something clearly, those cards go into the 'Easy' pile. You don't have to study those flashcards again for a week or two.

If you moderately remember something, keep it in the 'Medium' pile and revisit it after a few hours or a day. And if you cannot remember something at all, place it in 'Hard' and study it again within the next 10 minutes.

Improve Your Focus to Improve your Memory

How often do you get interrupted when you study?

Texts, app notifications, YouTube, Netflix or just a noisy room – students face dozens of distractions and interruptions every single hour.

These factors make it close to impossible for you to reach a high level of concentration – which is terrible news if you are trying to improve memory for studying.

<u>Researchers from MIT</u> have found that it's easier to form a long-term memory when your mind pays close attention to a task. You will have to minimize distractions from devices or people around you if you wish to remember things better.

Here are a few ways:

- 1. Mute *all* notifications when you study. If you have an iPhone, just activating the 'Do not disturb' mode will do the trick.
- 2. Try to isolate yourself from people you know while studying. Go to a library or a café where you won't be disturbed.
- 3. Practice meditation for just a few minutes a day. Research (Maclean et al. 2010) has indicated that just basic meditation helps us focus far better. You can learn to meditate in only a few minutes <u>from this article</u>.
- 4. Use app blockers like Freedom.to to block YouTube and other distracting sites while studying.
- 5. Work on one topic at a time and avoid multitasking and switching tasks.

Source: https://www.magneticmemorymethod.com/improve-memory-for-studying/

Introduction to Concept Mapping

Used as a learning and teaching technique, concept mapping visually illustrates the relationships between concepts and ideas. Often represented in circles or boxes, concepts are linked by words and phrases that explain the connection between the ideas, helping students organize and structure their thoughts to further understand information and discover new relationships. Most concept maps represent a hierarchical structure, with the overall, broad concept first with connected sub-topics, more specific concepts, following.

Definition of a Concept Map

A concept map is a type of <u>graphic organizer</u> used to help students organize and represent knowledge of a subject. Concept maps begin with a main idea (or concept) and then branch out to show how that main idea can be broken down into specific topics.

Benefits of Concept Mapping

Concept mapping serves several purposes for learners:

- Helping students brainstorm and generate new ideas
- Encouraging students to discover new concepts and the propositions that connect them
- Allowing students to more clearly communicate ideas, thoughts and information
- Helping students integrate new concepts with older concepts
- Enabling students to gain enhanced knowledge of any topic and evaluate the information

How to Build a Concept Map

Concept maps are typically hierarchical, with the subordinate concepts stemming from the main concept or idea. This type of graphic organizer however, always allows change and new concepts to be added. The Rubber Sheet Analogy states that concept positions on a map can continuously change, while always maintaining the same relationship with the other ideas on the map.

• Start with a main idea, topic, or issue to focus on.

A helpful way to determine the context of your concept map is to choose a focus question something that needs to be solved or a conclusion that needs to be reached. Once a topic or question is decided on, that will help with the hierarchical structure of the concept map.

• Then determine the key concepts

Find the key concepts that connect and relate to your main idea and rank them; most general, inclusive concepts come first, then link to smaller, more specific concepts.

• Finish by connecting concepts--creating linking phrases and words

Once the basic links between the concepts are created, add cross-links, which connect concepts in different areas of the map, to further illustrate the relationships and strengthen student's understanding and knowledge on the topic.

Source: http://www.inspiration.com/visual-learning/concept-mapping



Source: https://study.com/academy/lesson/concept-map-definition-examples.html