

Your Memory and How to Improve It

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What is memory? Simply put, memory is the mental activity of recalling information that you have learned or experienced. That simple definition, though, covers a complex process that involves many different parts of the brain and serves us in disparate ways.

Memory can be short-term or long-term. In short-term memory, your mind stores information for a few seconds or a few minutes: the time it takes you to dial a phone number you just looked up or to compare the prices of several items in a store. Such memory is fragile, and it's meant to be; your brain would soon read "disk full" if you retained every phone number you called, every dish you ordered in a restaurant, and the subject of every advert you watched on television. Your brain is also meant to hold an average of seven items, which is why you can usually remember a new phone number for a few minutes but need your credit card in front of you when you're buying something online.

Long-term memory involves you making an effort (conscious or unconscious) to retain the information, because it's personally meaningful to you (for example, data about family and friends); you need it (such as job procedures or material you are studying for a test); or it made an emotional impression (a movie that had you riveted, the first time you ever caught a fish, the day your uncle died). Some information that you store in long-term memory requires a conscious effort to recall: episodic memories, which are personal memories about experiences you've had at specific times; and semantic memories (factual data not bound to time or place), which can be everything from the names of the planets to the colour of your child's hair. Another type of long-term memory is procedural memory, which involves skills and routines you perform so often that they don't require conscious recall.

Certain areas of the brain are especially important in the formation and retention of memory:

The hippocampus, a primitive structure deep in the brain, plays the single largest role in memory processing.

The amygdala, an almond-shaped area near the hippocampus, processes emotion and helps imprint memories that involve emotion.

The cerebral cortex, the outer layer of the brain, stores most long-term memory in different zones, depending on what kind of processing the information involves: language, sensory input, problem-solving and so forth.

In addition, memory involves communication among the brain's network of neurons, millions of cells activated by brain chemicals called neurotransmitters.

Wouldn't it be nice just to look at a page and never forget what was on there? What if you could never again forget a friend's birthday? The bad news is, not everyone has a photographic memory, otherwise known as eidetic memory. Only a few actually have it, the rest rely on mnemonic devices. The good news, however, is that everyone can take steps to improve their memory, and with time and practice most people can gain the ability to memorise seemingly impossible amounts of information.

Convince yourself that you do have a good memory that will improve. Too many people get stuck here and convince themselves that their memory is bad, that they are just not good with names, that numbers just slip out of their minds for some reason. Erase those thoughts and vow to improve your memory. Commit yourself to the task and bask in your achievements -- it's hard to keep motivated if you beat yourself down every time you make a little bit of progress.

Keep your brain active. Regularly "exercising" the brain keeps it growing and spurs the development of new nerve connections that can help improve memory. By developing new mental skills—especially complex ones such as learning a new language or learning to play a new musical instrument—and challenging your brain with puzzles and games you can keep your brain active and improve its physiological functioning.

- **Exercise daily.** Regular aerobic exercise improves circulation and efficiency throughout the body, including in the brain, and can help ward off the memory loss that comes with aging. Exercise also makes you more alert and relaxed, and can thereby improve your memory uptake, allowing you to take better mental "pictures."

- **Reduce stress.** Chronic stress, although it does not physically damage the brain, can make remembering much more difficult. Even temporary stresses can make it more difficult to effectively focus on concepts and observe things. Try to relax, regularly practice yoga or other stretching exercises, and see a medical practitioner if you have severe chronic stress.
- **Eat well and eat right.** There are a lot of herbal supplements on the market that claim to improve memory, but none have yet been shown to be effective in clinical tests (although small studies have shown some promising results for ginkgo biloba and phosphatidylserine). A healthy diet, however, contributes to a healthy brain, and foods containing antioxidants—broccoli, blueberries, spinach, and berries, for example—and Omega-3 fatty acids appear to promote healthy brain functioning. Feed your brain with such supplements as Thiamine, Vitamin E, Niacin and Vitamin B-6. Grazing, eating 5 or 6 small meals throughout the day instead of 3 large meals, also seems to improve mental functioning (including memory) by limiting dips in blood sugar, which may negatively affect the brain.
- **Take better pictures.** Often we forget things not because our memory is bad, but rather because our observational skills need work. One common situation where this occurs (and which almost everyone can relate to) is meeting new people. Often we don't really learn people's names at first because we aren't really concentrating on remembering them. You'll find that if you make a conscious effort to remember such things, you'll do much better. One way to train yourself to be more observant is to look at an unfamiliar photograph for a few seconds and then turn the photograph over and describe or write down as many details as you can about the photograph. Try closing your eyes and picturing the photo in your mind. Use a new photograph each time you try this exercise, and with regular practice you will find you're able to remember more details with even shorter glimpses of the photos.
- **Give yourself time to form a memory.** Memories are very fragile in the short-term, and distractions can make you quickly forget something as simple as a phone number. The key to avoid losing memories before you can even form them is to be able to focus on the thing to be remembered for a while without thinking about other things, so when you're trying to remember something, avoid distractions and complicated tasks for a few minutes.
- **Create vivid, memorable images.** You remember information more easily if you can visualize it. If you want to associate a child with a book, try not to visualize the child reading the book – that's too simple and forgettable. Instead, come up with something more jarring, something that sticks, like the book chasing the child, or the child eating the book. It's your mind – make the images as shocking and emotional as possible to keep the associations strong.
- **Repeat things you need to learn.** The more times you hear, see, or think about something, the more surely you'll remember it, right? It's a no-brainer. When you want to remember something, be it your new colleague's name or your best friend's birthday, repeat it, either out loud or silently. Try writing it down; think about it.
- **Group things you need to remember.** Random lists of things (a shopping list, for example) can be especially difficult to remember. To make it easier, try categorizing the individual things from the list. If you can remember that, among other things, you wanted to buy four different kinds of vegetables, you'll find it easier to remember all four.
- **Organize your life.** Keep items that you frequently need, such as keys and eyeglasses, in the same place every time. Use an electronic organizer or daily planner to keep track of appointments, due dates for bills, and other tasks. Keep phone numbers and addresses in an address book or enter them into your computer or cell phone. Improved organization can help free up your powers of concentration so that you can remember less routine things. Even if being organized doesn't improve your memory, you'll receive a lot of the same benefits (i.e. you won't have to search for your keys anymore).

- **Try meditation.** Research now suggests that people who regularly practice "mindfulness" meditation are able to focus better and may have better memories. Mindfulness (also known as awareness or insight meditation) is the type commonly practiced in Western countries and is easy to learn. Studies at Massachusetts General Hospital show that regular meditation thickens the cerebral cortex in the brain by increasing the blood flow to that region. Some researchers believe this can enhance attention span, focus, and memory.
- **Sleep well.** The amount of sleep we get affects the brain's ability to recall recently learned information. Getting a good night's sleep – a minimum of seven hours a night – may improve your short-term memory and long-term relational memory, according to recent studies conducted at the Harvard Medical School.
- **Venture out and learn from your mistakes.** Go ahead and take a stab at memorizing the first one hundred digits of pi, or, if you've done that already, the first one thousand. Memorise the monarchs of England through your memory palaces, or your grocery list through visualization.

Through diligent effort you will eventually master the art of memorization!