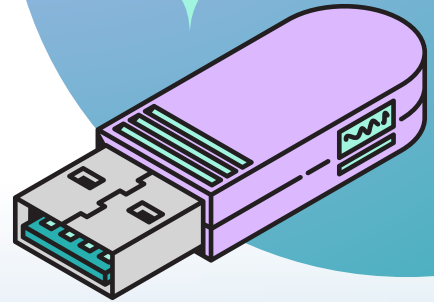


making memories

Work with your brain to learn better.



MAKING MEMORIES

To move information you've learned into long-term storage (which happens during sleep!), your brain sorts memories into important ones to keep and those that can be cleared away. To effectively make memories, tell your brain what is important to store through:

- **Repetition** - doing something over & over cements it in our brain.
- **Effort expended** - having to work hard on learning makes a deeper imprint; learning that comes easy also leaves easily.
- **Emotional association** - we are more likely to remember things that make us feel excited, passionate, or upset.
- **Connecting** new learning to prior knowledge gives the new memories something to securely attach to, improving retention.
- **Narrative** - we learn and remember more through stories. Try connecting information to a wider story of how something works or how it happened to make the memory stick.

INEFFECTIVE LEARNING

- **Rereading & highlighting notes** are demonstrably less effective learning strategies - they don't make your brain work hard enough to cement the learning well.
- **Learning styles are a zombie myth** (a disproven claim that persists) - audio, visual, & kinesthetic learning aren't scientifically valid categories and focusing on one style of information transmission will actually make you learn less!

LEARNING STRATEGIES THAT WORK

Spacing

- ◆ One of the most effective ways to remember & improve recall of new learning is to repeatedly study it with increasing gaps interspersed. Allowing time to start forgetting material before reinforcing it signals to your brain its importance and practices memory retrieval.
- ◆ **Try returning to a subject after 1 day, then 3 days, then 1 week, then 2 weeks, testing what you remember and understand.**

Retrieval

- ◆ Testing knowledge improves memory, recall, & comprehension. Recalling a memory during testing causes your brain to recode it which more securely stores the information. Retrieval practice through testing also requires more effort which improves learning.
- ◆ **Try testing on your own or with a study buddy. Testing will also help you identify areas to strengthen and build your confidence as you improve.**

Explaining

- ◆ Deep understanding of something gives information you want to remember something to anchor to & makes recall easier. A practical way to ensure your level of understanding is to explain a topic to someone else.
- ◆ **Try to imagine teaching (or actually do this with a partner!) what you are learning to someone who asks "but why?" at every point. Challenge yourself to answer all the possible "whys".**

Flexible Routine

- ◆ Our brains learn by constantly making associations which means that always studying in the same environment & conditions will make it harder to recall knowledge in a different setting (like an exam room). Shorter intensive bursts of work, especially when paired with spacing technique, can be more effective than a 3-hour study session.
- ◆ **Try studying in short bursts and in a variety of different locations.**

Reflecting

- ◆ Taking deliberate time to reflect on how well and how much you are learning can help you deepen your understanding (improving retention) and identify what areas you want to strengthen.
- ◆ **Try thinking about a topic from multiple perspectives: what would different people think about it? How do you related to it? Think about what you knew at the start, what you know now, and what you want to learn next.**