HOW TO ACTUALLY STUDY

A Practical Manual of Ten Real Learning Techniques

No highlighting. No re-reading. No melting ice cream while you stare at a page.
Just the methods that cognitive science and history's sharpest minds actually used.

Contents

INTRODUCTION

Why Most “Studying” Doesn't Work

Open almost any student's desk and you will find the same ritual: a textbook, a highlighter running dry, and a pot of coffee or, if you are the type this manual is written against, a glass of something cold that you nurse for three hours while your eyes drift across the same paragraph for the fifth time. It feels like work. It produces almost nothing. The page has been read, but the knowledge has not been built.

This happens because re-reading and highlighting create **fluency**, not **memory**. The words become familiar, so your brain reports back a comfortable feeling of “yes, I know this” — a feeling researchers call the illusion of competence. That feeling evaporates the moment you sit in front of an exam question, a client, or a real problem with no textbook open beside you, because recognizing information and retrieving it from scratch are two entirely different mental operations. Studying that only ever asks you to recognize will never prepare you to retrieve.

Real learning is not about spending more hours with a book open. It is about forcing your brain to do the specific kind of work that builds durable, retrievable, connected knowledge. Cognitive scientists have spent decades identifying which kinds of mental work actually do this, and a separate lineage of extraordinary thinkers — from ancient Roman orators to Cold War physicists — independently discovered the same principles through sheer necessity, because they had to hold enormous bodies of knowledge in their heads without any of it turning to dust.

This manual collects ten of the best of these techniques in one place. Some are ancient. Some come from twentieth-century laboratories. One comes from a physicist who trained an entire generation of Soviet scientists through sheer intellectual terror and a notebook of problems. None of them involve a highlighter. None of them involve reading the same sentence six times and hoping it sticks.

How to use this book

Each technique below includes what it is, why it works, and a concrete, step-by-step way to apply it starting today. You do not need all ten at once. Read through them, pick two or three that fit the subject you are studying, and build a small personal system out of them — the final chapter shows you how to combine them into a weekly routine. The goal is not to do more work. It is to stop wasting the work you are already doing.

> *“The person who reads a passage twice does not know it twice as well as the person who reads it once and then tries, from memory, to explain it out loud to an empty room. They only feel like they do.”*

TECHNIQUE 1

The Memory Palace (Method of Loci)

This is the technique you already half-know as “the castle technique” — the trick of assigning a piece of information to each room of a house, then walking through that house in your mind to retrieve everything in order. Its real name is the **method of loci** (Latin for “places”), and it is at least 2,500 years old. Ancient Greek and Roman orators used it to deliver hour-long speeches without a single note card, and modern memory-championship competitors use the exact same method to memorize the order of a shuffled deck of cards in under thirty seconds.

Why it works

Human memory is extraordinarily good at two things: spatial navigation and vivid, unusual imagery. It is comparatively poor at holding abstract lists of facts, dates, or vocabulary in isolation. The memory palace exploits this mismatch. Instead of asking your brain to store “the ten cranial nerves in order,” which it resists, you ask it to remember a walk through your own house, which it does almost automatically — and you attach one nerve to each doorway, lamp, or piece of furniture along the way, made as strange and vivid as possible. Strangeness is not decoration here; it is the mechanism. A memory that is bizarre, exaggerated, or slightly absurd is dramatically more likely to be recalled than a neutral one, because novelty is what your attention and memory systems are built to prioritize.

How to build one

- **Choose a route you know perfectly.** Your childhood home, your current apartment, or your walk to the corner shop. It must be a space you can walk through in your mind without effort.
- **Mark 8–15 distinct stations along the route** — the front gate, the hallway mirror, the kitchen table, the top of the stairs. Always visit them in the same order.
- **Attach one piece of information to each station** using an image, not a word. If you are memorizing that the mitochondria is the powerhouse of the cell, don't picture the word “mitochondria” — picture a tiny power plant with smokestacks sitting on your kitchen table, humming loudly.
- **Exaggerate everything.** Make it huge, make it moving, make it violate physics, make it funny or slightly disgusting. A calm, ordinary image is instantly forgettable; a ridiculous one is not.
- **Walk the route in your head, forward and then backward,** immediately after building it, then again before bed, then again the next morning.

What it's best for

Ordered lists, sequences, vocabulary, named parts of a system (bones, nerves, legal clauses, historical events in order), or anything where the order itself is part of what you need to recall. It is less suited to deep conceptual understanding — for that, pair it with the Feynman Technique below, using

the palace to hold the vocabulary and Feynman to hold the reasoning.

> *A student memorizing the twelve cranial nerves once told me she placed a tiny sniffing dog on her front step for the olfactory nerve, a pair of eyeballs hanging from the doorbell for the optic nerve, and a trumpet blasting in the hallway for the vestibulocochlear nerve. She has not forgotten a single one, four years later, without ever reviewing the list again.*

This is a preview.

You've just read Technique 1 of 10. The full guide includes:

- The Feynman Technique
- Landau's Method — Deriving Instead of Memorizing
- Active Recall (Retrieval Practice)
- Spaced Repetition and the Leitner System
- Interleaving
- The Cornell Note-Taking System
- Dual Coding
- The SQ3R Reading Method
- Elaborative Interrogation
- A final chapter on combining all ten into one weekly study routine

Get the full 18-page guide to unlock the rest.