**BASIC WAYS TO MEMORIZE**

**Outline of basic ways to memorize**

 1. Link new ideas to both familiar and new ideas.

 2. Ask yourself, "Why does this make sense?"

 3. Notice similarities and differences.

 4. Notice when ideas are new.

 5. Notice when ideas are unexpected.

 6. Notice when ideas reach your goals.

 7. Memorize typical examples of concepts.

 8. Make vivid mental images.

 9. Think of details and fine points.

 10. Think of concepts that are more general and more specific.

 11. Think how ideas generalize to new examples.

 12. Think how to use ideas to reach goals.

 13. Think of your personal associations.

**The basic idea of this study tip is that when you notice how facts and ideas are related to each other, you build links and links build memory.** If you have a memory problem, you may not be associating ideas. We all forget ideas that stand alone. So think about the ways new information relates to other things that you know. The only shortcut you can use to speed up learning is to think. No thinking, no linking!

Don't try to use all of these suggestions at first. Pick one, practice it until you feel comfortable using it, and then try another and another.

**1. Take new ideas and link them to both familiar ideas and other new ideas.** After you read or hear a new idea, search your memory for other ideas that you naturally link it to. Go back and forth in your mind between the new and the familiar ideas. Think about how they are related. You have a lot of choices.

Also link new ideas to other new ideas. When you read, you will notice many new bits of information. You can improve your memory by thinking how the new ideas are related to each other. You search for patterns among the new items. This is in addition to your linking new ideas to old familiar ideas you already know.

**2. Ask yourself, "Why does this make sense?"** Take a new fact and deliberately try to answer the question, "Why does this make sense?" Or ask, "Why is this idea true?" Search your mind for what you already know that is consistent with the idea that the new information is true. Research on memory shows that this one of the most powerful learning techniques there is.

Suppose you are studying a theory that you know is false. Don't worry about it. Just pretend it might be true and ask, "Why does this theory make sense?" Then think of answers.

Don't ask yourself, "Why is this idea untrue?" And don't ask, "Why does this idea make no sense at all?" Research on learning shows that people forget ideas more when they search only for why ideas are nonsense. This does not mean that it's bad to do the different activity of evaluating ideas critically.

**3. Notice similarities and differences.** When you want to remember a new fact, notice if it reminds you of anything similar. Your simple act of thinking of similar familiar knowledge will boost your memory for the new fact.

Example: My wife once noticed that the name of Faye, a waitress, was the same as one of my aunts. Months later, she saw the wait­ress, thought of my aunt, and recalled "Faye".

**Also notice an opposite fact or a contrasting idea to the new idea.** Try to think of related facts that are different. Learn what the color red is by comparing it to orange and magenta.

Example: One of my sons said it was his main method of learning history. He read, for example, about a certain war and thought how it resembled a later war and differed from it. When studying the American Revolution, he compared it to the French Revolution. His memory grew naturally. Students who think about similarities and differences remember so much that they can often skip the step of memorizing things explicitly.

**4. Notice when ideas are new ones**. As you read, think about whether facts are new to you or are already familiar. Search on purpose for what is new about a book. Your noticing what is new improves your memory because it adds an emotional zing to the idea and it helps you classify it as important. (Of course, when you see familiar material, don't skip it; read it.)

**5. Notice when ideas are unexpected.** Many times information will surprise you or go contrary to your beliefs. Notice it. That will strengthen your memory for it.

**6. Notice when ideas reach your learning goals.** Ask questions. Look for answers. Then notice the answers consciously. Say to yourself, "That's what I'm looking for!" When you consciously notice that a fact or idea is what you wanted to find, you will in­crease your memory for it.

**7. When learning definitions of new concepts, memorize typical examples, too.** Study three things when you try to learn new words: the words themselves, their definitions, and good typical examples. Try to see the examples in your mind.

Suppose you needed to memorize the definition of the biological term "mammal". "Mammals are warm-blooded animals that give birth to living young, feed them with milk, and are generally covered with fur or hair." Now as you memorize it, memorize that a cow is a mammal.

**8. Make vivid mental images.** When you think of examples, use your mental ability to visualize, *to see* images of the examples. Research shows our brains usually remember images better than words. Put in shape, size, color, and movement. For example, students of nursing can read about a disease, shut their eyes and mentally see a friend sick, showing the disease's symptoms, and lying in a hospital bed on white sheets.

You can add auditory imagery (sounds, spoken words). Nursing students could imagine hearing their friend's voices naming the symptoms. Add kinesthetic imagery (feelings of touch, move­ments of your body). Nurses could imagine touching hot foreheads and feeling the heat of a fever. You can use kinesthetic images for learning subjects that you might not think of. For example, an Electronics student studied circuit diagrams by pretending that he was an electron flowing through the wires and parts of the circuit. He imagined feeling the forces on him. A math student improved his understanding of graphs and charts by moving his hands up and down to match the line of the graph. And stu­dents of literature, psychology, sociology, and history often imagine feeling people's feelings.

**9. Think of details and fine points.** Study a concept very closely and notice its exact features and relate them to the whole thing. There is something very powerful about analyzing things into their parts. Read an author's argument and sub-divide it into its parts. Read some history and break it into a series of events.

**10. Think of more general categories and more specific categories.** As you read about concepts, link them to the larger categories they fit into. For example, when you read about apples, remind yourself they fit into the concept of fruit. Things that apply to fruit in general also apply to apples. And as you read in sociology about folkways, rituals, and laws, make an effort to place them into the category of social norms. You can also link concepts to more specific concepts. For example, three varieties of apples are McIntosh, Red Delicious, and Gravenstein. By thinking "up" to general concepts and "down" to specific ones, your memory grows.

**11. Think how ideas generalize to new examples.** Use this way of thinking when you learn principles, rules, procedures, and scientific laws and want to apply them to new situations. First, learn the principles and read a few examples. Next deliberately think of new examples not mentioned by the book.

**12. Think how to use ideas to reach goals.**

Here's a powerful way of thinking because it uses desires and wants. As you learn:

(1) Think about things you want and how the new ideas could help you get what you want; (2) Think how you can use this new information. For example, a mechanics student read about motors and thought about types of auto trouble he could fix by using his knowledge.

**13. Think of your personal associations.** Most things we read about will bring memories to mind. As you read, let yourself think about those personal things. Take time to notice and mull over personal associations. Practice thinking of the new idea and your personal association in order to strengthen the memory. Think how your new knowledge lets you see a past event in a new way.