

## TIP #1. Practice Retrieval



- Put your **books and notes away** and
- **Produce** the material you are learning, from memory.

### Why?

- Completing a practice test = only warming up for studying
- **Correct the practice test**, then check your notes and textbooks to review what you haven't mastered yet.
- Research shows that bringing the information to mind produces **flexible and durable learning**.

### NOTE:

- It will FEEL hard
- **Keep at it!** Don't get discouraged.
- Difficulty and struggle create more learning in the long run.
- When would you rather struggle? a) When reviewing material at home? OR b) In front of your test sheet?

### KEY SELF-REFLECTION QUESTIONS

- What are the main ideas?
- Which ideas are new for me?
- How are these ideas connected to what I already know?

*Write your answers down on paper, not just in your head. 😊*

## How to study

Quick Tips for busy students



## TIP #2. Space out Retrieval Practice

- Break up your studying over time, i.e., 20 minutes/day, rather than 2 hours in a row once/week
- Small chunks spread over weeks and months = greater retention over a longer period of time.

### Why?

- To learn **more** in the same amount of time
- To remember information in the **long term** (i.e., final exam, next semester, a lifetime)

### How?

- **Take out your agenda/planner**, BLOCK out time to practice retrieval
- Set aside a **reasonable amount of time**, perhaps 20 minutes every few days
- **\*Check** if this schedule worked for you. Rewrite your schedule if necessary.
- **\*Sleep** helps you consolidate information: so sleep well the night after your class and the next day, study for 20 minutes or so.



### TIP # 3. Interleave Different Problem types

- Review different types of problems
- Avoid massed or repetitive practice
- You may *feel* like this is ineffective studying, but interleaving will improve and deepen your understanding.

### TIP #5. STOP...



- Beware of the *illusions of knowing*.
- Familiarity  $\neq$  mastery.
- Although commonly used, re-reading, cramming or massed practice are not effective study habits.



### TIP #7. Construct Memory Cues

- Create an **anagram**.
- Use **Memory "Pegs"**, e.g. One-sun, two-shoe, three-tree, etc. Associate each detail you need to remember with one image.
- Create a memory palace (<https://youtu.be/p9IOqd1LpkA>)

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### TIP # 6 Use Flashcards Effectively

- Keep reviewing material from the **beginning of term**, not just the latest chapter.
- Start with the material you have **almost mastered**.
- Don't "throw out the cards too early." Remove cards you have mastered **later than you think you should** (i.e., if you think you've mastered it, keep it a while longer in your pile), then put it away.
- Then of course, review **all** your flashcards periodically throughout the semester.

### Successful students...

- Have a growth mindset, i.e., Focus on learning goals, Believe you can, and Embrace challenges.
- Practice like experts by using the tips.
- Use memory cues

# Resources

Images *Checklist, Calendar, Leaves, Stop, Castle* and *Cards* made by [Freepik](#) from [www.flaticon.com](http://www.flaticon.com).

## Useful resources you may wish to share with your students

**Short Podcasts on the Learning Scientists - How students can use spacing and retrieval practice:**

<http://www.learningscientists.org/learning-scientists-podcast/2018/3/7/episode-14-how-students-can-use-spacing-and-retrieval-practice>

**Links to posters on the Learning Scientists' website:**

<http://www.learningscientists.org/posters>