

Strategies to Succeed in Chem, Math & Physics

Confused about Chemistry, Math or Physics, and not sure what to do? Take a look at these tips for studying, homework, and test-taking. This is advice directly from instructors and peer educators who support students in this CH/MTH/PH work:

Attend class:

Class is access to your instructor, their thinking and expertise, and to your peers. Contribute to and benefit from that community.

- ✔ Prepare by looking at assigned chapters in the textbook/ completing assigned homework.
- ✔ Take notes, listen for vocabulary/concepts.
- ✔ Review lecture notes at the end of the day — do you get the concepts? If not, ASK QUESTIONS.
- ✔ Introduce yourself to people, make plans to study together.

Learn the concept, not the specific problem:

When you dive into your work, pause and ask yourself if you can you read a problem and understand what kind of question it's asking. Or, can you identify the formula in the problem? Before you get into solving the problems, study the concepts and make sure you understand them. Understanding concepts, and when and how to apply them, will be crucial to your work with other, similar problems, and will set you up for success as you engage with more difficult problems, too.

PROBLEM-SOLVING PROCESS EXAMPLE:

Steps of the problem

Explanation of each step

$$P_1 \times V_1 = P_2 \times V_2$$

Rearrange to solve for P_2

$$P_2 = P_1 \times \frac{V_1}{V_2}$$

Plug in numbers to solve

- ★ Take a piece of paper and draw a line down the middle. On the left, work through one step of the problem; on the right, explain what you're doing and why.
- ★ Be sure you can explain your choices and steps in every problem you solve. Finding the answer is satisfying, but if you can't explain how you did it, chances are your process isn't going to stick with you for when you need it again.
- ★ If you're having trouble, visit your professor or TA. Have them watch as you work out a problem, rather than asking them to show you how to do it. Your professors will appreciate seeing and hearing that you've been thinking about the problems, and they'll be able to pinpoint the exact place you're getting stuck.

Practice & self-test:

Use your homework as a way to practice and test yourself on the concepts learned in class. As you work, take your time writing everything out in an organized way. This will help when you want to reference your previous work quickly and easily.

Strategies for Day-to-Day Practice:

- ✔ Find ways to work through the concepts with unfamiliar problems (different textbooks, online sources, etc.)
- ✔ Read through a group of problems and try to identify their similarities.
- ✔ Create a reference sheet with key information/formulas (if you get a notecard on the exam, you've already begun capturing what you might include).

Strategies for Practice-Testing:

- ✔ Take practice-tests in a test-like environment — classroom, timed, using only the resources you'll have available during the real deal.
- ✔ Use class examples: cover up explanatory notes and try to solve.
- ✔ Bring questions/what you've tried to your TA/instructor/study group to get clarification ASAP.

Pro-Tip: Need a study guide or practice test? Make them yourself! Use chapter and course objectives to inform the content you include and the questions you ask. And, if you can create a practice test with a group, even better! Have everyone write a question/few, exchange them, work through them, and then debrief/consult with each other after.

Use your resources:

- ✔ Office hours! Go to them! Advocate for your understanding.
- ✔ The [MSLC](#) (MTH), the [Mole Hole](#) (CH), the [Worm Hole](#) (PH)
- ✔ ASC Strategists: Waldo 125 | M thru F | 9 AM to 5 PM
- ✔ Academic Coaching: bit.ly/getcoachedOSU

Looking for
more ways to test
yourself?

Check out our [Active Studying @ Make It Stick](#)
tools.

Keep practicing!

Want to
increase the effec-
tiveness of your study
sessions?

Try our [Study Session Planning](#)
tool.

Get specific!