

THE 5A'S OF ACTIVE STUDY

ASSESS

One of the most important shifts you can make as a STEM student to step back from problem-solving just enough to accurately assess yourself, the content, and the course.

- Become aware of the objectives of the course. If you are not sure what those find out by asking their professor or consulting their textbook.
- Use mind-mapping and brainstorming to help you identify clear questions and plan a focused review of your notes and textbook reading.
- Ask yourself how important the visual representations (equations, graphs, diagrams) of the course seem to be. More often than not, you should be learning to use these representations as tools for showing what you know.
- Make the most of the format of your content resources (textbooks, videos, etc). If you are reading through the chapter word for word, consider scanning the introduction/summary of the chapter first.



ASSEMBLE

Considering the fact that STEM courses use pictures and equations to communicate knowledge, create reference pages where conceptual details, equations, diagrams, and graphs are organized separately. Study these types of content differently because they communicate knowledge differently.

- These reference pages can be used in tandem on problem sets and help you to scaffold or support your problem-solving process.
- In some formal reasoning courses (like Organic Chemistry and Math), reactions and equations can be understood as representational tools. It may be effective to record these tools on flashcards for the following step.



ASSOCIATE

Connection-making, or association, between different pieces of conceptual information is very important to success in STEM, so you may find it helpful to create flashcards for concepts and the representational tools of the course.

- You can organize these flashcards by topic, concept, or some other category with special significance (ex. By reagent type or reaction type for organic chemistry).
- These flashcards also become a physical summary of the course that you can use to support their problem-solving later.



APPLY

Engage (or re-engage) your problems and problem sets with any new perspectives from creating these useful tools.

- Ideally, you will feel more prepared for problem-solving, but feel free to ask for help if you identify some additional challenges.



ANALYZE

Think about how to improve your study based on what you've learned from doing problem(s), discussing with peers, or even swapping solutions to analyze your peer's work.

- This is a great time to attend office hours, seek out tutoring, or organize study groups, which can all be phenomenal communities of support.

