Study Tips for Science

Studying for science is very different then studying for history or English. Strategies that work for those classes may not work well in a science class. You probably won't have time to try all of these strategies, but pick a few you think will help and try those. The key is to find as many different ways to work with the information and use as many of your senses (visual, auditory and tactile) as you can to help you retain the information.

Before Class

- **Read the text *before* class.** It is very important that you read the text before class: but HOW you read the book makes all the difference.
  Actively read the chapter using the SQ3R textbook study system.
  file:///C:/Users/dailey_b/AppData/Local/Temp/sq3r-textbook_study_system_07222019-1.pdf
  Don't try to memorize the whole chapter. Focus on the main concepts and terminology: the instructor will add information during the lecture.
- Make a list of all the words in the chapter that you don't understand. It is very likely that these are terms the instructor will explain in class. If not, ask questions.
- Pay attention to headings, bold print and pictures.
- If the instructor has online notes or review sheets read them prior to class.

During Class

- ***Go to class*…and go prepared**. Reading the book or copying a classmate's notes is no substitute for attending lecture and lab. Science is a complex hands-on subject. It involves learning biological systems that require explanation and experimentation. Science is also a cumulative subject. What you learn in one class will create the building blocks for what you will learn in the future. Arrive at each lecture having read the textbook, completed all lab assignments and reviewed your notes from the previous lecture. You will get much more out of lectures if you come prepared. Students who regularly attend their science class perform far better than those students who don't come to class regularly.
- Actively take notes and participate in class. If you have already read the chapter you will have an idea of what will be covered and will already know some of the terminology. Don't try to write down everything the instructor says, but anything that is emphasized or put on the board, be sure to make notes. Then after class you can add to the notes from the lecture by going to your textbook and adding anything that you missed.
- Record your class. Being able to go back and fill in your notes can be helpful. Also if you are an auditory learner the more you hear the information, the more you will retain it.
- If you have any questions, ask your instructor during class or office hours. Instructors **welcome** questions, it shows that you are engaged in learning the material!

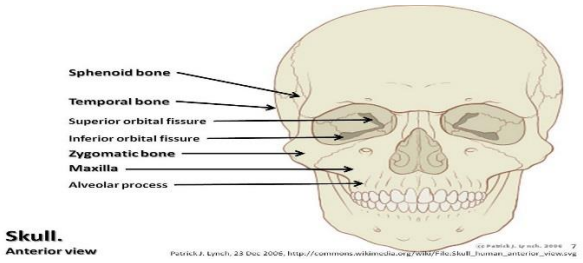
After Class

- Rewrite your notes. This is time-consuming but does two things. It gives you a chance to review what you covered in class and make sure you didn't miss anything. And it also gives you a well-organized set of notes to study for the test.
- Use the resources that are provided. In the Publisher online resources there are videos, power points, graphic images and other study materials that are available for you to use. Check them out and incorporate them into your study routine.
- Use instructor office hours to stop by and get clarification of any concepts/ information that you do not fully understand. Check the Instructor Information tab in D2L for days and times.

Study Tips

- **Schedule study time**. The rule of thumb for a science class is to budget 2-4 hours outside of class for every hour that you're in class. For a class that meets 4 hours a week, that's at least 8 hours of study time. Put the study times in your planner and set aside time every day to study. Use the College study scheduling tool for assistance. https://www.ldadvisory.com/wp-content/uploads/College-study-scheduling-tool-form.pdf
- **Take breaks.** Spend 45-50 minutes studying and then take a 10-15 minute break, preferably doing something physical to recharge your body/brain and then go back to studying.
- **Read the detail, but read for meaning.** After reading about a new concept, in your own words write down a summary of the concept. Doing so will improve your understanding of the concept and provide a valuable tool to prepare for the exam.
- **Learn terminology by making flashcards**. Flashcards are a great memorization aid. Spend part of your study time making and studying flashcards. Put the new term on one side and the definition on the other side. Also you can put a question on one side and the answer on the other side. These are mobile study aids that you can take with you wherever you are and quiz yourself.
- **Use drawings and diagrams.** Science is full of complex systems and processed that you have to understand, memorize, apply and reproduce for your exam. Employing imagery, particularly drawings and diagrams, can make even the most challenging biological processes easy to understand and remember. Also it allows you to use your tactile learning style which will help you retain the information.

  - **Mind Mapping.** A mind map or concept map is a visual way to take notes and learn information. Mind maps allow you to see the big picture and how different ideas are connected to one another. They also can help clarify your thinking, simplify complex ideas, and aid you in memorizing information more effectively. To learn more about Mind Mapping go to: http://www.mindmapinspiration.com/drawing-a-mind-map-from-start-to-finish/ or watch this video https://www.youtube.com/watch?v=ReXuXy4M7oY&t=9s
  - Use a science coloring book such as The Anatomy Coloring Book from Amazon.



- **Employ mnemonic devices.** For some reason the human brain loves relationships and associations. Take the time to associate complex or unfamiliar science terms and vocabulary with familiar words and phrases. For example, to memorize **K**ingdom, **P**hylum, **C**lass, **O**rder, **F**amily, **G**enus **S**pecies (taxonomy order) you simply have to remember
  King **P**hillip **C**ame **O**ver **F**rom **G**reat **S**pain.
- **Answer questions at the back of the chapter.** Instructors often recommend questions to go along with the reading. These questions are good practice, especially the critical thinking questions that ask you to think about real life scenarios and apply what you have learned.
- **Teach it.** There is no better way to make sure you understand something than to teach it to someone else. If you study alone, you can explain things out loud to yourself. Or teach your significant other, your parents, your kids, or even your cat.
- **Start a study group.** Study groups can really improve your success in science classes. You can practice your explanations on people who are studying the same material, ask and answer questions and share study tips with one another.
- **Practice the five day study plan.** Break the material you need to know for the test into chunks. Day 1 you will prepare and study your material for the 1st chunk (1-2 hours). Day 2 you will prepare and study your material for the 2nd chunk (1-2 h) and review the 1st chunk (30 m). Day 3 you will prepare and study your material for the 3rd chunk (1-2 h) and review 1st and 2nd chunks (30m-1h). You will continue that pattern until you have studied and reviewed all the information for the test.
- If you struggle with **test anxiety** go to: https://www.hws.edu/studentlife/counseling_relax.aspx

For more information or to schedule an academic counseling appointment contact:
The Student Success Center (101A) 864-941-8356

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References:
http://www.butte.edu/departments/cas/tipsheets/studystrategies/studybio.html
https://www.dummies.com/education/science/biology/ten-tips-for-getting-an-a-in-biology/
https://www.educationcorner.com/biology-study-skills-guide.html