

# Biology Study Skills

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Student Success Workshop

# Success Tips for Biology

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- Organize your time - Good time management skills will help you to become more organized and waste less time preparing to study.
- Using your critical thinking skills by asking questions such as “Why does it work that way?” “How do we know that?” “What is the evidence?” “How does this relate to what the instructor said the other day”.
- Follow up the lecture with active learning strategies like reviewing and/or re-writing lecture notes or creating concept maps.

# High-quality work versus low-quality work

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Reading the textbook - *Quality* of time spent vs *quantity* of time spent

- Low Quality – Reading the textbook just to get it done
- High Quality – Reading with a critical eye and asking the questions “If I had to teach this to someone, could I do it?”, “The text’s treatment of questions is different from what I learned in class, what questions should I ask my instructor?”

Taking Notes - *Quality* of time spent vs *quantity* of time spent

- Low Quality – Going over and over your class notes – this requires you to do nothing but recall and repeat
- High Quality – Organize new information to help you to understand the way concepts are related to each other.

# High-quality work versus low-quality work

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## Attending vs participating in class

- Low Quality – Showing up to class and just taking notes.
- High Quality – Getting involved in the class and using your critical thinking skills to focus your learning. Ask yourself “Why does it work this way?” or “How do we know that? What is the evidence?” or “How does this relate to what the instructor said the other day about . . .?”

# Note-taking Before Class

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- Always read the lecture material before the classroom lecture. Preview lecture material and notes from the previous class.
- Re-read and review the Biology Text to help you better understand the lecture material.
- Many students find it useful to highlight information in textbooks. When highlighting, be sure to **only highlight specific phrases or keywords**. If you highlight every sentence, it will be difficult for you to identify the specific points that you need to focus on.
- Create summaries of the important points from the textbook and your notes.

# Note-taking During Class

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- Sit in the front of the class
- Don't let your mind wander and stay focused
- Participate in class – Get actively involved!
- Use notes from your instructor, if provided, for note-taking in class. Preview these notes before class so you will be better prepared to take notes.
- Focus on the main points. Don't try to write down everything your instructor says word for word.

# Note-taking During Class

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- Form abbreviations for commonly used words by writing the first few letters.
- Watch for clues to identify important information.
- Leave some extra space in your notes in case you want to rewrite or add information when you are reviewing your notes.

# Review your notes After Class

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- Review your notes as soon as possible after class. Use time between classes to immediately review the lecture notes you have just taken. Otherwise review your notes within a 24 hours period. After your review, write a summary of the information.
- Compare your notes for accuracy by referring to your textbook notes, asking your instructor for feedback on your notes, and/or comparing your notes to a trusted classmate's notes for more information.
- Re-organize or re-write your notes in a format that helps you understand the information more clearly. This will also help you to review the material you have written.

# Test Prep Tips

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- Start studying early -Students who “cram” often don't perform their best AND they do not retain the information.
- You should review your notes on a daily basis throughout the semester.
- Use study aids such as flash cards or practice tests to ensure you know the information.
- Work with a study group to test your knowledge.
- Don't go into an exam with gaps in your knowledge, get answers to your questions by talking to your instructor or attending a study group session.
- Remember to relax. Feeling rested, well, and confident is important in terms of success.

# How to prepare for the test

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## 5 Day Study Plan

You can use a 5 day study plan to help you organize your materials and time in studying for a test. Using this plan will help to reduce tendencies to procrastinate, cram, or suffer test anxiety.

# 5 Day Study Plan

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## **Step 1 – Set specific goals**

- Make a list of all of the topics you will need to review for your test. You will want to include textbook readings, lecture notes, homework assignments, lab reports, projects, or any other materials covered in class.

## **Step 2 - Set a specific target date and time**

- Choose the days and times that you are available to study. Days 1, 2, 3, and 4 are organized as review sessions. Day 5 of your study plan (the day before the test) should be dedicated to reviewing the special notes you created in step 3.

# 4 Steps to Creating a Study Plan

**Step 1** – Prepare for the midterm in Biology scheduled for Monday by reviewing:

Chapters 1-4

Terminology (study guides)

Lecture notes

Textbook notes

Homework questions

Notes from video

**Step 2** – Target dates and times to study

Mon 8 – 9:00 am

3 – 4:00 pm

Wed 8 – 9:00 am

3 – 4:00 pm

Fri 8 – 9:00 am

3 – 4:00 pm

Sat 10 – 12:00 pm

4 – 6:00 pm

Sun 2 – 4:00 pm

7 – 9:00 pm

# 5 Day Study Plan

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## Step 3 – Identify Steps

- Group your study materials in four logical categories by putting topics that go with each other together.
- Create summary notes to use as you review each chapter so that this information can be reviewed one final time before the test.
- Examples of summary notes:
  1. Lists or categories of information to remember
  2. Charts that compare or contrast different subjects studied
  3. Chapter outlines
  4. Create flash cards of categories or terminology
- Finally, create your five day plan by writing a list of what you will review each day.

# Example of a Five Day Study

Monday	Wednesday	Friday	Saturday	Sunday
8 – 9:00 am Chapter 1 <ul style="list-style-type: none"> <li>• class study guide</li> <li>• homework questions</li> <li>• handouts</li> </ul>	8 – 9:00 am Chapter 2 <ul style="list-style-type: none"> <li>• study guide</li> <li>• homework questions</li> <li>• video notes</li> </ul>	8 – 9:00 am Chapter 3 <ul style="list-style-type: none"> <li>• class study guide</li> <li>• handouts</li> <li>• homework questions</li> </ul>	10 – 12:00 pm Chapter 4 <ul style="list-style-type: none"> <li>• study guide</li> <li>• homework questions</li> <li>• 2 short papers</li> </ul>	2 – 4:00 pm <ul style="list-style-type: none"> <li>• Review summary notes</li> <li>• Self quiz on chapter 1 &amp; 2</li> </ul>
3 - 4:00 pm Chapter 1 <ul style="list-style-type: none"> <li>• lecture notes</li> <li>• textbook notes</li> <li>• notes – guest speaker</li> </ul>	3 – 4:00 pm Chapter 2 <ul style="list-style-type: none"> <li>• lecture notes</li> <li>• textbook notes</li> </ul>	3 – 4:00 pm Chapter 3 <ul style="list-style-type: none"> <li>• lecture notes</li> <li>• textbook notes</li> </ul>	4 – 6:00 pm Chapter 4 <ul style="list-style-type: none"> <li>• lecture notes</li> <li>• textbook notes</li> </ul>	7 – 9:00 pm <ul style="list-style-type: none"> <li>• Review summary notes</li> <li>• Self quiz on chapter 3 &amp; 4</li> </ul>

# 5 Day Study Plan

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## Step 4 - Plan a reward

- Choose a reward for yourself after you have completed your five day study plan and after you complete the test.

# Tool to Use for success

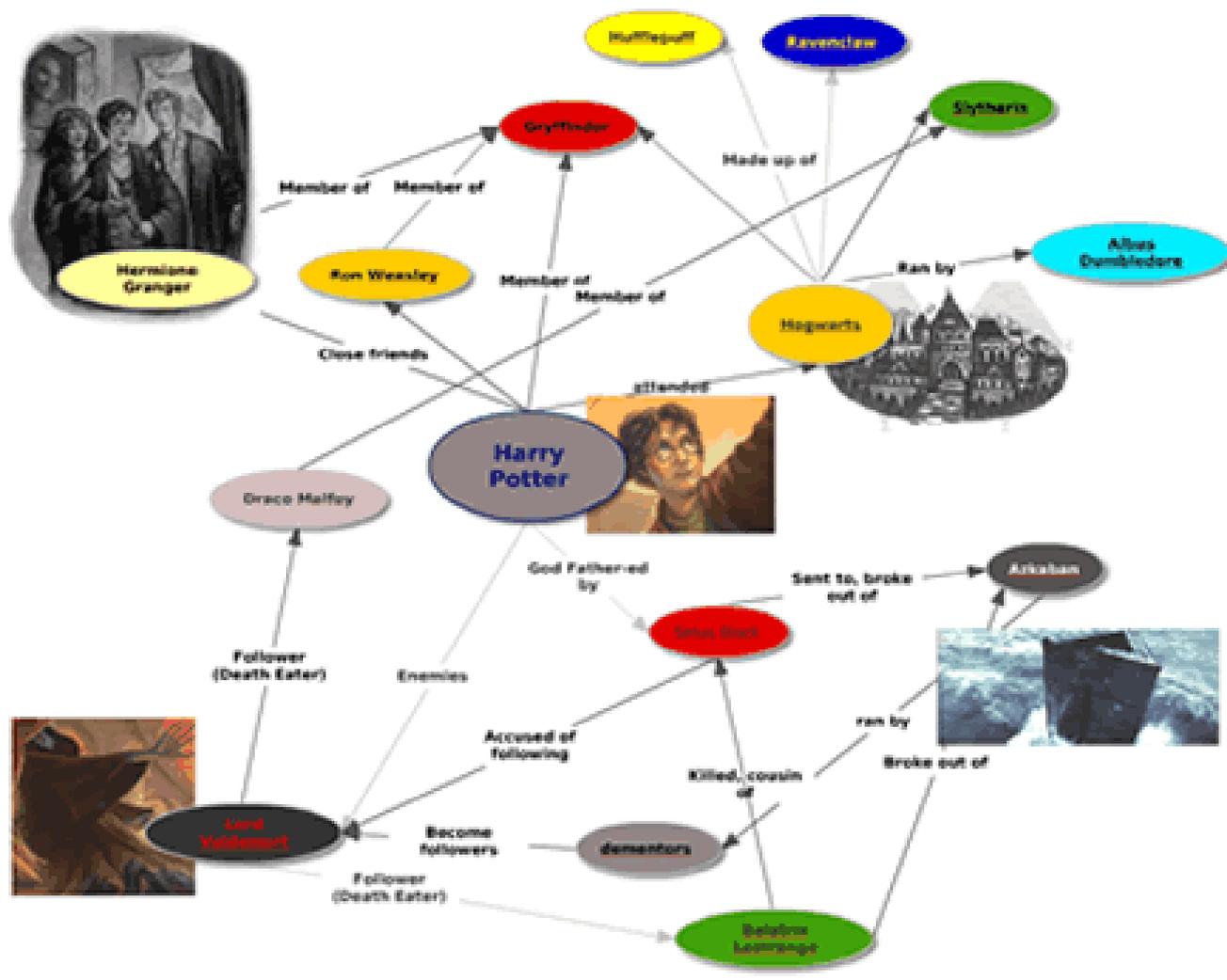
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- Remember to utilize free services such as tutoring in the LAC
- Websites, such as Khan Academy ([www.khanacademy.org](http://www.khanacademy.org)), can help you to better understand information and give you an opportunity to expand upon your knowledge.
- Know your strengths as a student as use them.

# Concept Maps

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- Concept mapping is an activity that helps you reorganize the information in a way that conforms to your “mental landscape”.
- Concept mapping helps you to understand the patterns and relationships between concepts.



# Steps in Making A Concept Map

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1. Make a list of the concepts from the lecture.
2. Rank the concepts from most general to most specific.
3. Start each map at the center of the top of the page with the most general concept, which will generally be the chief topic of a particular lecture. Below it, place the second-most general concept(s), etc...
4. Circle these two concepts and link them with a solid line.
5. Label the line with a linking phrase.
6. Work your way down the page, adding increasingly specific concepts and looking for crosslinks, which should be drawn with dashed lines.
7. Add details (examples).
8. Do a second version of the map with the goal being to add formerly unnoticed crosslinks and to organize the map so that it flows as logically and as clearly as possible.

# Finally, set a course for success

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- If you want to do better academically, set a goal for the remainder of the semester and stick to your goal. Make a plan for what you will commit to in order for you to be successful.
- If you don't have interest in the course, establish interest in the material. Talk about what you are learning with others.
- Share your success plan with your academic advisor, your instructor, your tutor or your study group. Ask them for help in keeping you on the path to success.

# Information retrieved from:

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<http://biology.about.com/od/biologyhomeworkhelp/a/aa120705a.htm>

<http://courses.ttu.edu/biol1403-mdini/regular/howtostudybiology.html>