Study Skills Packet

From Mrs. Gunn



**Your Preferred Learning Style**

A learning style is a way of learning. YOUR preferred learning style is the way in which YOU learn best. Three learning styles that are often identified in students are the **Auditory Learning Style**, the **Visual Learning Style**, and the **Tactile/Kinesthetic Learning Style**. Read about each of these learning styles to identify YOUR preferred learning style.

**Are you an Auditory Learner?**

Auditory Learners learn best when information is presented in an auditory language format. Do you seem to learn best in classes that emphasize teacher lectures and class discussions? Does listening to audio tapes help you learn better? Do you find yourself reading aloud or talking things out to gain better understanding? If YES, you are probably an auditory learner.

**Are you a Visual Learner?**

Visual Learners learn best when information is presented in a written language format or in another visual format such as pictures or diagrams. Do you do best in classes in which teachers do al lot of writing at the chalkboard, provide clear handouts, and make extensive use of an overhead projector? Do you try to remember information by creating pictures in your mind? Do you take detailed written notes from your textbooks and in class? If YES, you are probably a Visual Learner.

**Are you a Tactile/Kinesthetic Learner?**

Tactile/Kinesthetic Learners Learn best in hands-on learning settings in which they can physically manipulate something in order to learn about it. Do you learn best when you can move about and handle things? Do you do well in classes in which there is a lab component? Do you learn better when you have an actual object in your hands rather than a picture of the object or a verbal or written description of it? If YES, you are probably a Tactile/Kinesthetic Learner.

Your learning style is your strength. Go with it whenever you can. When you can choose a class, try to choose one that draws heavies on your learning style. When you can choose a teacher, try to choose one who’s teaching method best matches your style. When you choose a major and future career, keep your learning style firmly in mind.

**NOTE TAKING AND USING YOUR NOTES**

The note-taking process, like the learning process, involves more than just what happens in lectures. It is a process that requires you to do things before, during, and after lectures. We always learn more efficiently when we can relate new information to our prior knowledge, which is why it is important to be armed with as much background information as you can, before you go to the lecture.

Be positive. Tell yourself you will get something valuable out of the lecture. Remember that you are in control of your own learning. Learning isn’t something that is “done to you”.

Some mild exercise before studying will increase blood and oxygen circulation and help your brain function efficiently. A 10km run may be going a bit too far!

By avoiding writing every word uttered by the lecturer, you will **reduce** the amount of material and restrict yourself to essential facts and ideas. Using symbols or “texting” shorthand can be useful when taking notes.

Using key words allows you to expand on them in your first review. Looking for key words, patterns and ideas will help to **reduce** the material.

By writing notes in your own words, you are forcing yourself to be an **active** learner. Non-linear (mind maps) also encourage you to link concepts and be an **active** and **visual learner**.

Anything which a lecturer takes the time to write up on the board or produce as a diagram, graph or handout, should be regarded as an **exam clue**.

And finally, readable notes with lots of blank spaces will aid the **review** process.

Did you notice how many times **review** is mentioned in this section?

Review your notes as soon as possible after the lecture. This is the time you fill in those gaps, expand on key words and ideas, and highlight areas of uncertainty and areas of importance. Writing summaries for Cornell format notes helps you to review.

Review your notes again about a week after the lecture. This is the time to quickly test yourself on some of the key areas. This weekly review also serves as pre-reading for the next lecture. It activates your prior knowledge before being exposed to new material.

A monthly review is important to your long term retention of the material. Rehearse important points, amplify points which have become clearer and again, test yourself.

All of these reviews can be done in 10 – 20 minutes per subject. The value of those 10-20 minutes is equal to hours of re-learning and cramming later in the semester. The next section proves this statement.

Note taking Strategies

A complete and accurate set of notes aids in content understanding and in exam preparation and performance. Many biology professors generate most of their test questions directly from the lecture notes, so to succeed on tests you need to hone your note taking skills by using the strategies described here.

Note taking strategies discussed in this section are:

* Focus on Details
* Reduce Distractions
* Completeness and Accuracy
* Organization of Notes
* Illustrations and Examples
* Review Notes
* Recopy Notes

**Focus on Details**

All teachers expect you to know details, not just generalized information. This requires that you record terms and definitions, people and contributions, lists, and supporting facts for main concepts. Take word lists from the text with you to class to facilitate note taking.

**Reduce Distractions**

Taking good notes requires that you decrease distractions. Sit in the front of the room, where you are less likely to fall asleep or daydream. It is easier to concentrate when sitting toward the front because you are less distracted by the actions of other students. Avoid seats near the door, windows, wall maps, and other distractions.

**Completeness and Accuracy**

Instructors lecture quickly at times, yet you need a complete and accurate set of notes. To accomplish this, prepare for class by previewing the assigned readings, compare your notes with those of other students, check the information in the notes against the textbook, or tape record the lectures and add to the notes later. Be sure to get permission to tape from the instructor.

**Organization of Notes**

Several note taking formats are effective for most biology courses. The Cornell and expanded note taking methods are discussed in more detail in the Note taking section of the General Purpose Learning Strategies main stack.

The Cornell method of split page with recall and notes columns is a good approach for students who have trouble organizing information as it is given during class.

The expanded note taking procedure builds on the Cornell format by providing extra blocks or columns for assignments, lecture summaries, added content such as organizational aids and textbook material, questions, and self-testing check-ups.

A combination of Cornell and expanded note taking can be used to meet specific student needs in a particular course. For example, use the right- and left-hand pages of the notebook as the notebook as the note taking template. On the right-hand page is the date, recall column for key words (later to be put on flash cards) or key concepts for quick reference when reviewing, and lecture notes. On the left-hand page is a question column for self-made test questions from the lecture notes on the opposite page and a check column for noting problem areas.

**Illustrations and Examples**

Pay particular attention to the illustrations and examples discussed during class. Students who do not have time to record illustrations and corresponding notes during class should Xerox illustrations from the book and take copies to class for note taking. When Xeroxing illustrations, leave the room to write notes and explanations in the margins.

**Review Notes**

Review lecture notes within 24 hours of class. Otherwise, you will lose from memory 60%-70% of what you heard in the class.

**Recopy Notes**

The easiest way to review within 24 hours of class is to recopy and reorganize notes. Rewrite notes in a note taking format you prefer; the Cornell method, for example, is usually effective. Rewrite notes by hand or key them into a word processor. Add pertinent information from the book if necessary.

**Methods of review**

Short, frequent reviews and end-of-week reviews are effective for most biology courses. The goal of review is to be able to recall information, make connections with existing knowledge, and see relationships among information. Simply memorizing isolated facts will not allow you to reach this goal. Memorizing is temporary – you need to push information from short-term to long-term memory. Experts suggest students spend six to ten hours per week on each science course alone. How best to spend this time?

Efficient methods of review discussed in this section are:

* Space reviews
* Make the Review Active
* Recopy and Reorganize Lecture Notes
* Review Lecture Notes
* Review the Book
* Work in Groups
* End-of-Week Reviews

**Space Reviews**

Review at least every other night. By spacing reviews, students force themselves to use the information repeatedly, which increases chances of remembering the material.

**Make the Review Active**

The more ways you can enter the information into memory, the better your chances of recalling it on exams or during classroom activities. Try combining reading and writing, reading and speaking aloud, writing and listening to tapes.

**Recopy and Reorganize Lecture Notes**

A good way to review new material is to recopy and reorganize lecture notes. Refer to the Note taking section of the General-Purpose Learning Strategies Main Stack for more information.

**Review Lecture Notes**

Read over lecture notes, highlighting or underlining important information. If the Cornell or two-column format of note taking is used, write key words in the recall column while reviewing the notes. Make a concept map of your notes.

**Steps in Making a Concept Map**

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 cross links, which should be drawn with dashed lines.**

**Review the book**

Read and review material in the text that relates to the lecture notes. Look at and answer the review questions at the end of the chapter.

**Work in Groups**

Use a study partner or a study group at least occasionally. Why? For one thing, talking about what you need to learn reinforces learning. In addition, other students may be able to explain things about which you are unclear. Other students may have effective memory strategies or organizational strategies to share.

**End-of-Week Reviews**

End-of-Week reviews may include a number of activities. Work on flash cards that weren’t completed during this week. Make up and answer questions for self-testing. Develop and apply memory and organizational strategies. Read through lecture notes from the past week; the read all notes since the last test.

Time Management

Good time management practices enhance success in biology courses for a number of reasons. They help students avoid procrastination and panic before tests. They help students become more organized. They give students more free time because time is not wasted, especially the small amounts of time we all let slip by between classes, waiting in line, and waiting for the instructor

The following time management strategies are discussed in this section:

* Semester Calendar
* Weekly / Daily Planner
* Daily “To-Do” List
* Course Organizers

**Semester Calendar**

Semester calendars provide an overview of due dates for papers, tests, reading assignments, and lab assignments. Complete a semester planner as soon as you receive the syllabus.

**Weekly / Daily Planner**

Take information from the semester calendar and organize it into more manageable parts with due dates for each part.

**Daily “To-Do” List**

Incorporate readings, “in-progress” work on papers, compilation of information organizers, review of lecture notes, and other tasks.

**Course Organizers**

Use a course organizer to keep track of due dates and grades on various tasks. You will always know where you stand. A sample template is given below.

You may want to customize the organizer for your own purposes. For example, you may want to add columns to record the percent each task contributes to your grade.

Reading Strategies

The following reading strategies should help students prepare effectively for class, take better notes, and participate meaningfully in class.

* Preview
* Read for Content
* Focusing Method
* Illustrations and Examples

**Preview**

Preview each reading assignment in order to gain a general idea of the content before it is covered in class. To survey a chapter of text, read the introduction and summary, look at the illustrations and figures, and read the questions at the end of the chapter.

**Read for Content**

After class, carefully read the material in the text that relates to the lecture.

**Focusing Method**

To stay on track while reading, jot down one word or one phrase as you read each paragraph or section of the text. This allows you to get back on track if interrupted and it helps you to concentrate on the content of the reading. If you are interrupted, just read through your notes quickly to get refocused on the content.

**Illustrations and Examples**

Pay particular attention to the illustrations and examples given in the text book. Take copies of them to class for note taking if necessary, leaving room to write notes and explanations in the margins.

**Remembering**

* Students are confronted with two kinds or types of memory work. The first and more common is general remembering or remembering the idea without using the exact terms. General memory is called for in all subjects; however, the arts, social sciences and literature probably make the greatest use of this particular kind of remembering.

The other type of memory work is the verbatim memorizing or remembering the identical words by which something is expressed. This type of memorizing may be called for in all subjects but especially in law, dramatics, science, engineering, mathematics, and foreign language where the exact working of formulas, rules, norms, laws, lines in a play, or vocabulary must be remembered.

Other kinds of memory have their place and it is important for the students to know when to stop with the general idea and when to fix in mind the exact words, numbers, and symbols.

1. Understand thoroughly what is to be remembered and memorized. When something is understood, be it a name or chemical chain it is almost completely learned, for anything thoroughly understood is well on the way toward being memorized. In the very process of trying to understand, to get clearly in mind a complex series of events, or chain of reasoning, the best possible process of trying to fix in mind for later use is being followed.
2. Spot what is to be memorized verbatim. It is a good plan to use a special marking symbol in text and notebook to indicate parts and passages, rules, data, and all other elements which need to be memorized instead of just understood and remembered.
3. If verbatim memory is required, go over the material or try to repeat at odd times, as, for example, while going back and forth to school.
4. Think about what you are trying to learn. Find an interest in the material if you wish to memorize it with ease.
5. Study first the items you wish to remember the longest.
6. Learn complete units at one time as that is the way it will have to be recalled.
7. Over-learn to make certain.
8. Analyze material and strive to intensify the impressions the material makes.
9. Fix concrete imagery whenever possible. Close your eyes and get a picture of the explanation and summary answer. Try to see it on the page. See the key words underlined.
10. Make your own applications, examples, and illustrations.
11. Reduce the material to be remembered to your own self-made system or series of numbered steps.
12. Represent the idea graphically by sue of pictorial or diagrammatic forms.
13. Make a list of key words most useful in explaining the idea or content of the lesson.
14. Form a variety of associations among the points you wish to remember. The richer the associations, the better memory.
15. Try making the idea clear to a friend without referring to your book or notes.
16. Actually write our examination questions on the material that you think you might get at the end of the term. Then write answers to your own questions. Since you now have the chance, consult the text or your notes to improve your answers.
17. Follow suggestions for reviewing. This is an important part of remembering.

**Using Memory Effectively**

* **Acronym**
* **Acrostic**
* **Rhymes**
* **Loci**
* **Keywords**
* **Image-naming**
* **Chaining**

The following techniques and exercises use associations with letters, images, maps, etc to help you remember.

As you proceed through the list of techniques, try to think of strategies that would be useful to you! Some people use letters, some images, even songs. Each depends on how comfortable you are with, or how useful they are to, your way of thinking!

1. **Acronyms**

**An acronym** is an invented combination of letters. Each letter is a cue to, or suggests, an item you need to remember.

**PEMDAS,** sequence in solving or evaluating math equations

**P**arenthesis **/ E**xponents **/ M**ultiplication **/ D**ivision **/ A**ddition **/ S**ubtraction

**ROY G. BIV,** the colors of the visible spectrum

**R**ed, **O**range, **Y**ellow, **G**reen, **B**lue, **I**ndigo, **V**iolet

**IPMAT,** the stages of cell division

**I**nterphase, **P**rophase, **M**etaphase, **A**naphase, **T**elephase

1. **An acrostic** is an invented sentence or poem with a first letter cue:

The first letter of each word is a cue to an idea you need to remember.

**Please Excuse My Dear Aunt Sally (**PEMDAS, above)

Sequence in solving or evaluating math equations

**P**arenthesis **/ E**xponents **/ M**ultiplication **/ D**ivision **/ A**ddition **/ S**ubtraction

**Every Good Boy Deserves Fun**

An acrostic for remembering a sequence of musical notes (G-clef notes on sheet music)—**E, G, B, D, F**

1. **Rhyme-Keys: (for ordered or unordered lists)**

First, memorize key words that can be associated with numbers.

Example: bun=one; shoe=two; tree=three; door=four; hive=five, etc.

Create an image of the items you need to remember with key words.

Four basic food groups—dairy products; meat, fish and poultry; grains; and fruit and vegetables

Think of cheese on a bun (one), livestock with shoes one (two), a sack of grain suspended in a tree (three), a door to a room stocked with fruits and vegetables (four)

1. **The Method of Loci: (for approximately twenty items)**

Select any location that you have spent a lot of time in and know well.

Good for kinesthetic learners!

Imagine yourself walking through the location, selecting clearly defined places—the door, sofa, refrigerator, shelf, etc. Imagine yourself putting objects that you need to remember into each of these places by walking through this location in a direct path.

Again, you need a standard direct path and clearly defined locations for objects to facilitate the retrieval of these objects.

George Washington, Thomas Jefferson, and Richard Nixon, you could imagine walking up to the door of your location and seeing a dollar bill stuck on the door; when you open the door Jefferson is reclining on the sofa and Nixon is eating out of the refrigerator.

1. **The Keyword Method: (for foreign language vocabulary)**

First, after considering the foreign word you need to remember, select a key word in English that sounds like the foreign word.

Next, imagine an image which involves the key word with the English meaning of the foreign word. *For example*, consider the Spanish word “cabina” which means “phone booth”. For the English keyword, you might think of a “cab in a …” You could then invent an image of a cab trying to fit in a phone booth. When you see the word “cabina” on the test, you should be able to recall the image of the cap and you should be able to retrieve the definition “phone booth”.

1. **The Image-Name Technique: (for remembering names)**

Simply invent any relationship between the name and the physical characteristics of the person. For example, if you had to remember Shirley Temple’s name, you might ingrain the name in memory by noticing that she has “curly” (rhymes with Shirley) hair around her temples.

1. **Chaining: (for ordered or unordered lists)**

Create a story where each word or idea you have to remember cues the next idea you need to recall if you had to remember the words Napoleon, ear, door, and Germany, you could invent a story of Napoleon with his hear to a door listening to people speak in German.

**Before the Test**

1. Be sure to find out ahead of time.
	1. What material the test will cover
	2. What type of test it will be (multiple choice, true false, short answer, essay)
	3. How the test will be graded
	4. How much of the test will count toward the final grade

Study in a place that is free of distractions. Have ready all the things you will need, such as paper, pens, or a calculator. Study at a time when you are alert and not hungry or sleepy.

Don’t wait until the last minute to study! Short daily study sessions are better than one long session the night before the test.

Set a goal for each study period. If you are being tested on three chapters set up four study sessions, one of each chapter and one for a review of the main ideas in all three chapters. Repetition is key! Read and reread your class notes and the relevant chapters in the textbook.

While you are reviewing your notes, cover them up periodically and summarize them out loud. Pretend that you are explaining the material to someone else.

Create your own study aids.

1. Make an outline from your notes of just the main ideas.
2. Make a timeline of important dates or the order of events.
3. Make flashcards for studying vocabulary or events and important dates.
4. Make up your own quiz or test based on your notes and have a friend, parent or sibling test you.

Do any practice exams or study sheets provided by the teacher. These will help you focus your study session and give you confidence. Get help from the teacher if you do not understand something.

**Studying in a group**

Experts say that studying in group can be more effective than studying alone. Students say it can be more fun, too! Here are a few tips for organizing a study group.

* It often works best to have just three to five people in a study group. That way, each person gets the time to talk and make sure she understands the material.
* Schedule a few study sessions. Whether studying alone or in a group, a few short sessions are much more useful than one long “cram” session.
* Having one person act as the leader can help a group to run smoothly. The main goal of the leader is to keep everyone focused on studying so that things don’t become too social.
* Be prepared! A study group is a place to share your understanding of a subject. The other people in the group aren’t there to teach you facts you should already know. The more you can offer the group, the more you’ll get out of it.

Sticking to an agenda is important. Here’s one plan for organizing your group time.

1. First, compare your notes and review old homework. If there is something you have had trouble understanding, write down your questions about it before meeting with your study group.
2. Next drill each other on facts you need to memorize. For example, what are the four stages of a butterfly’s life cycle? You might want to give each other practice quizzes.
3. Lastly, take the time to discuss “why” questions. For example, why do monarch butterflies migrate?

One way to handle “Why” questions is to make a list of the important ones you will want to review. Then divide the questions among the group. At your next meeting, have each person present a lesson about her questions.

**Ten Tips for Taking Tests**

1. Read the instructions carefully. Never assume you will know what they will say! Ask the teacher if you are unsure about anything.
2. Read the entire test through before starting. Notice the point value of each section. This will help you to pace yourself.
3. Answer the easiest questions first, then the ones with the highest point value. You don’t want to spend 20 minutes trying to figure out a two-point problem
4. Keep busy! If you get stuck on a question, come back to it later. The answer might come to you while you are working on another part of the test.
5. If you aren’t sure how to answer a question fully, try to answer at least part of it. You might get partial credit.
6. Need to guess on a multiple-choice test? First eliminate the answers that you know are wrong. Then take a guess. Because your first guess is most likely to be correct, you shouldn’t go back and change an answer later unless you are certain you were wrong.
7. On an essay test, take a moment to plan your writing. First, jot down the important points you want to make. Then number these points in the order you will cover them.
8. Keep it neat! If your teacher can’t read your writing, you might lose points.
9. Don’t waste time doing things for which you will not receive credit, such as rewriting test questions.
10. Leave time at the end to look over your work. Did you answer every question? Did you proofread for errors? It is easy to make careless mistakes while taking a test.