

## Biology Learning Strategies Center Concepts of Biology: Analysis, Recitation, and Review

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### Top Ten List of Things to do to Succeed in Biology

10. **Work together:** Recent research has shown that people who study and work together learn more quickly and effectively than people who study and work alone. Find a few friends who are working on the same material (the optimal study group is three people), and then help each other to understand the concepts. If you can teach something to someone else, you will really understand it yourself!
9. **Get help early:** If you find yourself struggling with biology (or any other academic subject), get help right away. Professors and teaching assistants hold regular office hours: *use them!* You can also attend groups sessions and workshops offered by the Learning Strategies Center. For non-majors biology, these are usually held on Monday evenings from 7:30 to 9:00 in RPCC Auditorium. The Biology Learning Strategies Center in G-20 Stimson Hall is also available for walk-in help, Monday through Friday from 1:00 to 5:00 PM and Monday through Thursday from 7:00 to 9:00 PM. Call 255-3357 or 255-0974 for more information.
8. **Read the textbook:** Always read the textbook with a specific goal in mind, such as answering specific questions or understanding particular concepts. *Don't* read it like a novel. If you do, you will retain almost none of it — this is why we can reread novels!
7. **Write in the margins:** Most biology textbooks have extra-wide margins between the text and the outer edges of the pages. These margins are there for a reason: *you* should be writing in them! What do you write in the margins? Questions about the material, summaries of the main points, supplementary material you have learned or read elsewhere...whatever helps you learn!  
(P.S. Simply highlighting massive amounts of text is almost *never* an effective learning strategy.)
6. **Learn the key terms:** Every biology textbook uses **boldface type** to emphasize the key terms in the text. These are usually also defined in a glossary at the end of the textbook. Learn the meaning of these terms, and be able to apply them correctly.
5. **Study the illustrations:** Biology textbooks are very lavishly illustrated; in fact, more money is usually spent on the art program than on the authors. Therefore, the illustrations are usually outstanding, and can clarify concepts as well as, if not better than, the text.
4. **Attend lecture:** If you're not attending lecture, you're missing the most important part of the course. **Note:** Copying someone else's lecture notes, or simply reading them is *not* enough!
3. **Know your lecture notes cold:** Exams are based primarily on material presented in lecture. Use these rules of thumb: If it's mentioned in lecture *and* in the textbook, there's a 100% chance it'll be on the exam. If it's *only* mentioned in lecture, there's still a 75% chance it'll be on the exam. If it's *only* mentioned in the text, there's only a 25% chance it'll be on the exam.
2. **Understand the concepts:** In biology, as with any science, memorization is important. But, at Cornell, memorization alone is *not* enough — you must be able to apply the concepts that you have learned to new situations. One way to learn how to relate concepts to each other is by **concept mapping:** make a diagram of the various concepts relating to an overall idea, and then connect them with lines that indicate the relationships between the concepts. Contact the Biology Learning Strategies Center (G-20 Stimson Hall, 255-3357) for more information about concept mapping and other conceptual learning techniques).

*And the number one thing to do to succeed in biology?*

1. **Be an active learner:** To do well in science courses at Cornell, you must be able to understand the concepts presented, and to be able to apply them under new circumstances. So, when you read your text or go a lecture, constantly ask yourself what the material *means*.
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