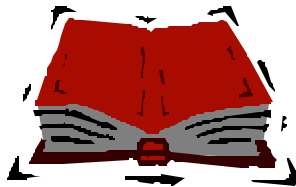


Hints for Studying Science



Below is some information from StudyTips.org and the Dawson College study help website. These are just some ideas to get you started in your science study skills. Remember, you need to understand the concepts and be able to apply them, not just memorize facts and vocabulary. The books for 6th – 8th grade have a number of online resources in each chapter to help you with the material covered. You can also download these textbooks onto a MP3 player. If you have problems understanding a concept or have questions see Mrs. Jones and she will help you!



Science Textbooks

Studying scientific textbooks requires a plan. Get an idea of your assignment by reviewing it and any accompanying handouts or web information. Look over the chapter quickly, getting the main topics. Notice the key words, the topics, the subtopics and the graphical information. Look over any extra information, such as cds or web sites, which came with the textbook.

When you first read the textbook, read over the entire text to get a general understanding of the material. Scientific textbooks often need to be read more slowly because one idea builds on the next. Read a bit, and then stop. See if you understand what you have read. Put the graphics, tables, lists and facts with the text for better understanding.

Review back over the text. Take note of what you do not understand. Write down words and concepts that are unfamiliar. It may help to read out loud for better comprehension. Use whatever learning style works best for you. It may help you to create visual pictures of the material in your mind or create sense clues. It may also help for you to invent your own way of noting ideas and concepts, one that you will understand . A second reading may be necessary, but only to understand what you did not comprehend. When you think you know the information, it is time to move on to the next step.

Go back over your textbook notes as well as classroom lecture notes and lab notes. All of these help form the overall picture of what you need to learn.



Learning by Problem Solving

Solving problems is usually the most important aspect of math or science courses. When working a problem, follow these steps:

- Read through the problem at a moderate speed to get an overview.
- Read through the problem again for the purpose of finding out what the problem is asking for (your unknown). Be able to state this in your own words.
- If appropriate, draw a diagram and label the givens.
- Read each phrase of the problem and write down (symbolically or otherwise) all information that is given.

Devise a tentative plan to solve the problem:

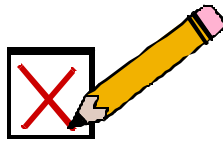
- Form relationships among all facts given.
- Think of every formula or definition that might be relevant to the problem.
- Work backwards; ask yourself, "What do I need to know in order to get the answer?"
- Relate the problem to a similar example from your textbook or notes.

During the problem solving process, it is often helpful to say out loud all of the things you are thinking. This verbalization process can help lead you to a solution.

After you have worked a problem, analyze it to sharpen your understanding and to help you when working future problems. Focus on the processes used (not the answer) and ask yourself these questions:

- What concept, formulas, and rules did I apply?
- What methods did I use?
- How did I begin?
- How does the solution compare with examples from the textbook or my notes?

Explain each step using your own words. Write these explanations on your paper.



Preparing for Exams

Before the Exam:

Quickly review your notes to determine what topics/problems have been emphasized.

Look over your notes and text. Make a concept list in which you list major concepts and formulas that will be covered.

Review homework

Try to predict test questions; make up your own problems and practice working them.

During the Exam:

Glance over the whole exam quickly. Get a sense of how much time to spend on each question. Leave time at the end to check your work.

If you have a lapse of memory on a certain problem, skip the question and return to it later.

After the Exam:

Analyzing returned tests to prepare for future tests. Ask yourself the following questions:

- Did most of the test come from the lecture, textbook, or homework?
- How were the problems different from those in my notes, text, and homework?
- Where was my greatest source of error (careless errors, lack of time, lack of understanding of material, uncertainty of which method to choose, lack of prerequisite information, test anxiety, etc.)?

How can I change my studying habits to adjust for the errors I am making?