

Study Tips for Chemistry Classes

Getting the Most Out of the Lecture

1. Read the assignment before the lecture.
2. Try to take notes in outline form showing major topics, subtopics, and their relationships. Include examples.
3. Read over notes the same day. Rewrite, change, and add to notes where necessary.
4. Make sure your notes are complete. If you missed part of the lecture, find out what it was you omitted and fill it in.

Solving Problems

Many students memorize relationships and formulas without taking the time and energy to think about them. Understanding relationships and formulas is crucial to learning chemistry. Ask yourself the following questions whenever you learn a new formula.

1. What system or change does this formula describe? What do the variables mean and what are their units?
2. When does it apply?
3. What are some examples of its application? What is its significance?

Note carefully which concepts or relationships are used in the worked-out problems in the text, study guide, and solutions manual. Why was this formula used and not one of the others in the chapter? What information given in the problem indicates that the problem should be solved in this way?

To solve a problem, you must determine which relationships are relevant out of all those you have learned. Be sure the relationships you use apply to the system as described in the problem. If you still can't see a method, think about relationships that involve the other values given in the problem.

Problem-Solving Tips:

1. Identify and write down the known quantities and the unknown quantities asked for.
2. Plan the solution: What do you know about the unknown that might link it to given information?
3. Perform calculations with a calculator.
4. Check your answers (Is the answer what the problem asked for? Is the answer reasonable? Does it have the correct number of significant figures?)

Using Study Groups

1. Form a study group consisting of three to six serious chemistry students.
2. Try to convene at the same place and same times weekly – recommended 2 hours a week with more hours before an exam.
3. Assign specific tasks to members.
4. Spend most of your time discussing and solving problems.
5. Increase the time for your sessions to prepare for exams. Each member should be responsible for preparing and presenting material that will appear on the upcoming test.

Preparing for and Taking Exams

Because chemistry exams generally consist mostly of problem solving, your preparation can only be effective if you practice solving relevant problems.

- 1) Review the assigned problems, solve additional problems in the text and study guide, and from previous exams, if available. **DO NOT** only review the solutions of problems. For problems already solved, simply change given values and rework the problem finding a different answer. To be successful on a problem-solving exam, you must have the experience of solving many problems yourself.
- 2) Review your old exams to re-familiarize yourself with the kinds of questions your professor asks. Identify the questions you were most successful answering as well as those you could not correctly complete. Try to emphasize problems that resemble those that were particularly difficult for you in the past.

Taking the Exam.

Make sure your calculator can perform all required operations and replace your batteries before the exam.

1. Read instructions carefully.
2. Answer the questions or solve the problems you feel sure about first.
3. Show all work clearly.
4. Use a calculator with all required functions.
5. Check your answers to see if they match the questions and if they are reasonable.

The Laboratory Period

Preparing for the Laboratory Exercise

1. Read and understand the lab in advance.
2. Write up objectives and procedures of the lab as well as tables needed for data.
3. Ask your lab instructor questions before you begin.

Writing the Lab Report

Write your lab report as soon as possible after you have completed the experiment. When writing the report, carefully follow the requirements given to you by your instructor. If you are unsure about content, talk with your instructor and perhaps request a sample lab report.

Your report should be grammatically correct, well organized, and should contain all the information required. Lab instructors generally emphasize your data and analysis, but they also consider the effectiveness of your writing technique.

1. **Include** only what is asked for by your instructor.
2. Write your own report.
3. Use tables and graphs to present data.
4. Review your returned lab reports and determine how you may improve future reports.