NOTE TAKING

One of the most important strategies for being a successful student and learner is to take good notes. Effective note-taking strategies are basically the same whether you are listening to a lecture, studying from a textbook or other printed material, or observing a demonstration of a skill.

One of the most effective note-taking methods is the two-column method which is adapted from a note-taking format developed at Cornell University. It consists of a line in the paper from the top down that is approximately 1/3 of the way into the page from the left side (or about 2 inches from the left margin). This method leaves lots of white space to add additional notes and only uses one side of the page. The key ideas are written in the left column and the details are written in the right side, next to the key ideas.

The following illustration shows how 8 x 11, three-hole paper is used for taking notes. ¹

Cornell Notetaking Format

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comment Section</strong>&lt;br&gt;(2.5 inches wide)</td>
<td><strong>Capture Section</strong>&lt;br&gt;(6 inches wide)</td>
</tr>
<tr>
<td>Questions and Answers</td>
<td>Write down all information:</td>
</tr>
<tr>
<td>Ideas</td>
<td>Statements</td>
</tr>
<tr>
<td>Notes to tie concepts together</td>
<td>Proof</td>
</tr>
<tr>
<td>Rules</td>
<td>Information</td>
</tr>
<tr>
<td>Comments</td>
<td>Examples</td>
</tr>
<tr>
<td><strong>Index</strong>&lt;br&gt;(1 - 1.5 inches high)</td>
<td></td>
</tr>
<tr>
<td>New terms</td>
<td>Topics covered on page</td>
</tr>
</tbody>
</table>

Column 1 - This space is where you write in "cautions, observations, verbal clues from the instructor, typical errors and mistakes, or do's and don'ts resulting from homework, quizzes, and tests". This column is also where you summarize rules or patterns that govern the process. This information is usually added later after you have identified all the steps. Also write rules on **index cards** for review purposes and to study for tests. The index cards can be carried with you in the car or anywhere and looked at for memorization. This "spaced repetition" helps you to internalize the rules.
Column 2 - Record everything written on the board and whatever you can that is said to explain the material. Include exercises and examples in this column line-by-line. Whenever possible add references to the textbook such as page and section numbers. Always write the sequential page number and date that the notes were taken in the upper right hand side. You will be amazed at how often this information is useful.

Index - On the right side of the index area list the topics covered on the page. On the left list any new "terms" or "vocabulary" introduced. Also write any notes to yourself about what you should do about anything on the page.

Identify questions in your notes so you can ask the instructor later. This can be done by using Post-it notes. Place the post-it with the question written on it so it sticks out of the page. See your instructor during their office hours and resolve your questions by going through the post-it notes. You will find most instructors will be very happy to help if you use this method.

NOTES ON TAKING NOTES 2
Your class notes should be thorough; however, it is not possible to write down every word the instructor says. Class time should be devoted to an exchange of ideas among the students and the instructor. The textbook already provides a record of many of the ideas and examples that will be presented in class. Since you have already paid for an expensive printed copy of that material, there is no need to acquire a hastily hand-written copy as well.

You can facilitate good note-taking by spending a few minutes before class reading through the material that will be covered. Do not try to absorb every detail; try to assimilate the main ideas and glance through the examples. Make a note in the margin of anything you don't follow. Bring your book to every class period. If you find, for example, that the teacher is working the same example that you had difficulty following in the book, try to listen and pay attention (this is sometimes called “active listening”). Do you now understand the parts that didn’t make sense before? If not, ask about them. In fact, if you have a question, it is likely that someone else in the class has the same question. You’ll be doing them and yourself a favor by speaking up. (Incidentally, instructors rarely complain about students asking too many questions. It is much more common for teachers to express frustration over the lack of class participation.)

Take notes even when you understand what is being covered. Many students find that the act of writing things down improves their memory of what was covered. In addition, if the instructor is covering material not in the text, or is taking a radically different approach to solving the problem, you will want a detailed record. Listen to what the instructor says; some of the spoken information belongs in your notes even though it is never written on the board.

Class time should be a balanced mixture of listening, thinking, questioning, and note-taking. If you find that you are devoting most of your class time to one activity and neglecting the others, you attempt to restore a balance.

The section below on Effective Notes uses the two column method as an example. 3
Effective Notes - Effective notes should include all of the following:

1. If the teacher writes it down, you write it down. All items written on chalkboards, whiteboards, overheads, powerpoint, website, or other mediums by the instructor. If teachers feel it is important enough to write down for you in class, it is important for you to learn.

2. Ideas, topics or materials that are emphasized or repeated. The more often it is repeated, the more important it is to include in your notes.

3. Word or Phrase clues. Teachers tend to tell you what should be included in your notes, by hinting, suggesting, or even telling you. Possible words or phrases may include: "That sounds like a good test question!", "You should remember this!", or identifying phrases such as "First", "Second" or "Last".

4. Watch the Teacher. If the teacher looks at their notes or textbook and then makes the new point, write it down. Teachers often give important information immediately after reviewing their notes.

5. If a teacher adds to a lecture, you need to record those notes. They may add to material discussed earlier in the lecture or they may complete their lecture and then add to it later. This is often a result of reviewing their notes or to a student question. Remember, if a teacher feels that it needs to be added, you need to add it to your notes as well.

6. Introductions and Conclusions to discussions and lectures. Most teachers and speakers use a style of presentation that involves three steps. 1) Tell them what you will tell them. 2) Tell them. 3) Tell them what you told them. Because of this style, the introduction and conclusion also includes key information.

7. ALL Terms, Definitions, Formulas, Theorems, Symbols or other specific information to the subject you are studying. It is VERY critical that you understand these in order to know what the teacher and classmates are discussing. If you don't know these, you will fail very quickly in most math classes.

8. Examples. Teachers often include examples of how to solve a particular problem using the technique being taught at the time. These may be different than the examples in textbooks and may be easier to understand than the text examples. You also may (recommended) add additional examples to improve your understanding of the problem.
9. Focus Symbols. These are symbols to add to your notes to improve the effectiveness of reviewing later. Good use of these symbols can improve what you learn AND reduce the amount of time it takes to study. Examples may include placing a star next to any topic that the teacher has told you or hinted at being on and exam (*). A question mark (?) can be used to indicate that you missed one or more important notes. It is very important that you use the same symbol to ALWAYS represent the same thing in your notes.

10. Make your notes your own. Your ability to use your notes to study from is directly related to how comfortable you are with reading them and reviewing them at a later time. Focus symbols such as stars, question marks, symbols, arrows and other methods of personalizing the notes can greatly improve your ability to learn from your notes. Adding additional examples, your own comments or questions, page numbers of related materials and other actions that help you to "own your notes" will improve your note-taking skills.

11. Make Up Missed Notes! When you miss class for ANY reason, it is your responsibility to copy the notes from a classmate. Time does not stop just because you were not there! Lessons continue and you are the one responsible for getting the missed material. Copy the notes as soon as possible, review them and be prepared to ask questions of classmates or the teacher for anything you don't understand. A good strategy is to have found those students in class who take notes as well or better than you do. DON'T just photocopy them, but take the time to write them out. If you must photocopy their notes, once you begin the review process, you should rewrite them and put them into your own words and your own style. It is difficult to study from most other peoples notes AND the process that makes note-taking such a powerful learning tool MUST include you physically taking the notes.

12. Review your notes often. It is good practice to review your notes before every class.

---

1 Taken from :How to Study Math, Science and Engineering", by Dr. Phillip R. Rosenkrantz,Columbia State Polytechnic University, Pomona

2 Adapted from “How to Survive Your College Math Class (and Take Home Something of Value)”, by Matthew Saltzman and Marie Coffin, Clemson University.

3 From “Mr. Shepherd’s Middle School Resources for Success”, by Doug Shepherd.