

## Reading & Taking Notes from a Textbook

**Unit:** Study Skills

**NGSS Standards/MA Curriculum Frameworks (2016):** N/A

**AP® Physics 1 Learning Objectives/Essential Knowledge (2024):** N/A

**Mastery Objective(s):** (Students will be able to...)

- Use information from the organization of a textbook to take well-organized notes.

**Success Criteria:**

- Section headings from text are represented as main ideas.
- All information in section summary is represented in notes.
- Notes include page numbers.

**Language Objectives:**

- Understand and be able to describe the strategies presented in this section.

**Tier 2 Vocabulary:** N/A

### Notes:

If you read a textbook the way you would read a novel, you probably won't remember much of what you read. Before you can understand anything, your brain needs enough context to know how to file the information. This is what Albert Einstein was talking about when he said, "It is the theory which decides what we are able to observe."

When you read a section of a textbook, you need to create some context in your brain, and then add a few observations to solidify the context before reading in detail.

René Descartes described this process in one (very long) sentence in 1644, in the preface to his *Principles of Philosophy*:

"I should also have added a word of advice regarding the manner of reading this work, which is, that I should wish the reader at first go over the whole of it, as he would a romance, without greatly straining his attention, or tarrying at the difficulties he may perhaps meet with, and that afterwards, if they seem to him to merit a more careful examination, and he feels a desire to know their causes, he may read it a second time, in order to observe the connection of my reasonings; but that he must not then give it up in despair, although he may not everywhere sufficiently discover the connection of the proof, or understand all the reasonings—it being only necessary to mark with a pen the places where the difficulties occur, and continue reading without interruption to the end; then, if he does not grudge to take up the book a third time, I am confident that he will find in a fresh perusal the solution of most of the difficulties he will have marked before; and that, if any remain, their solution will in the end be found in another reading."

Use this space for summary and/or additional notes:

Descartes is advocating reading the text four times. However, it is not necessary to do a thorough reading each time. It is indeed useful to make four passes over the text, but each one should add a new level of understanding, and three of those four passes are quick and require minimal effort.

The following 4-step system takes approximately the same amount of time that you're probably used to spending on reading and taking notes, but it will likely make a tremendous difference in how much you understand and how much you remember.

1. Make a Cornell notes template. **Copy the title/heading of each section** as a big idea in the left column. (If the author has taken the trouble to organize the textbook, you should take advantage of it!) *Write the page numbers next to the headings so you will know where to go if you need to look up details in the textbook.* For each big idea, only give yourself about  $\frac{1}{4}$  to  $\frac{1}{2}$  page of space for the details. (Don't do anything else yet.) This process should take only about 1–2 minutes.

Assuming you are going to be taking notes from the textbook *before* discussing the same topic in class (which is ideal), *start a new sheet of paper for each section* (which means everything below your  $\frac{1}{4}$  to  $\frac{1}{2}$  page of notes will be blank), so you can *use the same paper to add notes from class to your notes from the textbook.*

2. Do not write anything else yet! **Look through the section for pictures, graphs, and tables.** Take a moment to look at each one of these—if the author gave them space in the textbook, they must be important. Also read over (but don't try to answer) the homework questions/problems at the end of the section—these illustrate what the author thinks you should be able to do once you know the content. This process should take about 10–15 minutes.
3. **Actually read the text**, one section at a time. For each section, jot down key terms and sentence fragments that remind you of the key ideas about the text, and the pictures and questions/problems from step 1 above. Remember that you shouldn't write more than the  $\frac{1}{4}$  to  $\frac{1}{2}$  page allotted. (You don't need to write out the details—those are in the book, which you already have!) This is the time-consuming step, though it is probably less time-consuming than what you're used to doing.
4. **Read the summary at the end** of the chapter or section—this is what the author thinks you should know now that you've finished the reading. If there's anything you don't recognize, go back, look it up, and add it to your notes. This process should take about 5–10 minutes.

For a high school textbook, you shouldn't need to use more than about one side of a sheet of paper of actual writing\* per 5 pages of reading!

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\* However, you will use more sheets of paper than that because you will use a separate sheet of paper for each topic.

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**Helpful Hints**

- When you write key terms/vocabulary words in your notes, highlight them and define them in your own words, in a way that makes sense to you. (Formal academic language is only useful when you understand it.)
- When you write equations in your notes, highlight them and/or leave space around them to make them easier to see. (Taking notes in multiple colors or using highlighters is helpful for this.)
- Indicate which concepts, equations or words are related to each other (and how they are related), ideally in a different color from the notes themselves. (If relationships have their own separate color, they are easier to follow.) These relationships are likely to be the most important parts of each concept.

Use this space for summary and/or additional notes: