

How To Take Notes in Science Class

Effective note-taking in science classes differs substantially from what may have worked well in the humanities. Science lectures contain *verbal*, *mathematical* and *multimedia* content. In each case there is a most effective method for taking notes. Regular use of these methods will improve your performance on exams — but class notes can only supplement the (equally important) assigned readings in your text, homework assignments, and in-class worksheets.

Verbal:

The most common mistake during lectures is trying to copy down everything your Instructor says. This is pointless as you will not be able to keep up, much less pause to absorb what is being said or ask questions.

The material your Instructor covers in class lectures is often chosen because it may be difficult for students to understand on their own. For this I recommend the *Key Word* method. Make two columns on your note page. On the left side, list the new or important words introduced (Figure 1). On the right side, jot down notes associated with each key word. Leave some space between them for adding notes later. This method provides time to think about what you hear, and ask questions if you don't understand.

Sometimes the lecture will just be for inspiring interest and awe at the way nature works. In this case, just listen and think about how the content relates to the science you already know. You learn when you think.

Mathematical:

When new equations or sample calculations are presented, verbatim transcription is crucial. Note all the mathematical components along with explanations, special conditions, and limitations (Figure 2).

And as always, don't hesitate to question anything you don't follow. Remember — many other students are hoping someone else will ask exactly the same question that you have.

Multimedia:

This category includes videos, audios, slide shows, and internet. These media are often used to show something that cannot be easily recreated in the classroom setting. As such, they're often interesting, fun, and informative. It's easy to just sit back and be entertained, and forget that you are watching something that has a *point* (Figure 3).

Try to identify what that point is. Taking notes during multimedia presentations is not nearly as important as watching and thinking about the science. If your teacher allows it, videos of demonstrations can be valuable reviews. Your teacher may make them available online.

But even if you record the lecture — pay attention, take notes only as required, and ask questions while your friendly teacher is available.

Newton	-established laws of motion and science of dynamics
mass	-measures amount of matter -responsible for inertia -measured in "kg" (kilograms)
dynamics	-study of interactions between forces and masses
force	-causes a mass to accelerate -measured in "N" (newtons)

Figure 1: The Key Word Method

Newton's 2nd Law
used to calculate acceleration of a mass that is not in equilibrium

$$\vec{a} = \frac{\sum \vec{F}}{m}$$

greek letter sigma means "sum" → \sum

vector sum of all forces acting on object (in N) → \vec{F}

acceleration (in m/s^2) → \vec{a}

mass (in kg) not a vector → m

* speed is not a factor

* don't forget F_g in vertical motion!

Figure 2: Equation Notes

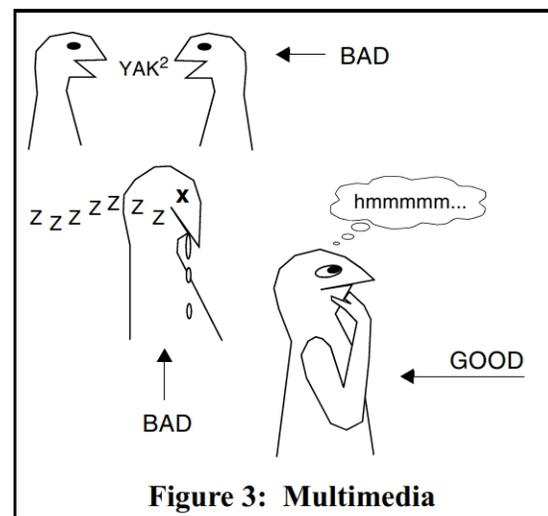


Figure 3: Multimedia