

AP PHYSICS: Summer Reading

Mr. Keller

AP Physics-C is a college-level introduction to Mechanics and E&M (Electricity and Magnetism). As you will see, many of the ideas of physics are expressed in the language of calculus. This may sound intimidating but the use of calculus actually makes things easier. After all, much of calculus was invented for the specific purpose of doing physics.

To help you to a smoother start in physics, I have prepared a series of blog posts that I would like you to read over the summer. You can find them posted here at:

<http://advancedmathyoungstudents.com/blog/2018/06/07/enough-calculus-to-get-started/>

Or you can link to the individual posts directly from the outline below. For some of you, most of this will be a review - but definitely not all of it! But for others, this will all be new. Just take your time, read slowly, and feel free to ask lots of questions!

	POST	TOPIC
1	Hairy Questions	Slope and Rate of Change
2	Even Hairier	Acceleration
3	Velocity NOW!	Instantaneous Rate of Change
4	Slope-Finding Functions	What a derivative formula tells us
5	Derivatives, Part I: The Building Blocks	Derivatives of common functions
6	Derivatives, Part II: Combining Functions	Sums, differences, constant product
7	Simple Version of the Chain Rule	Composition of Functions
8	Practice Set #1	
9	Making the Best of Things	Using derivatives for optimization
10	Exponential Decay - Part 1	1st Order Differential Equations
11	Exponential Decay - Part 2	Understanding time constants
12	Practice Set #2	(Will be emailed to you directly)

If you successfully complete the two practice sets, you will have an easy time of it on our first test of the year. And I believe that you will also find that the information will help you get started in your calculus class.

One other note: we will be talking a lot about rotational physics this year. It will be helpful to have a clear understanding of radian measure. If you feel at all shaky, you should review these two posts: [Angle Measurement for Pizza Crust Lovers](#) and [That Radian Feeling](#).

If you have any questions about any of these posts, please feel free to email me. I hope you have a relaxing summer and that you are looking forward to another year of interesting physics.

-- Mr. K