AP Physics 1 Summer Assignment

Hi everyone! Thank you for your interest in taking AP Physics 1 at BHS! While there is no formal summer assignment that will be done for points/credit, I have provided you with some resources/materials to look over in case you wish to familiarize yourself with some of the topics of the course. Please reach out if you have any questions!

-Mr. Antioch

Textbooks

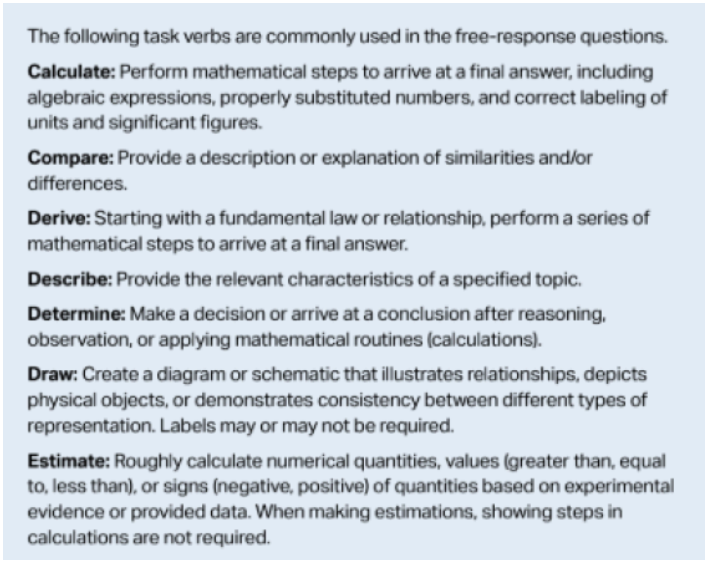
Over the summer, the easiest textbook resource to access is the ck12.org-Physics online text. I do have hard copies of Physics (Giancoli, 6th ed.) in class and a PDF file of it that will be posted to Schoology (file is too big to share here).

Khan Academy and Crash Course

The Khan Academy - AP Physics 1 and Crash Course - Physics pages are great resources to help familiarize yourselves with course content. It is highly recommended you watch through these videos at some point throughout the year. In Crash Course, our class is covered by videos 1-16.

AP Task Verbs

You will also want to familiarize yourself with the AP Task Verbs that will frequently be utilized throughout the course, especially if this is your first AP science course.



The following task verbs are commonly used in the free-response questions.

Calculate: Perform mathematical steps to arrive at a final answer, including algebraic expressions, properly substituted numbers, and correct labeling of units and significant figures.

Compare: Provide a description or explanation of similarities and/or differences.

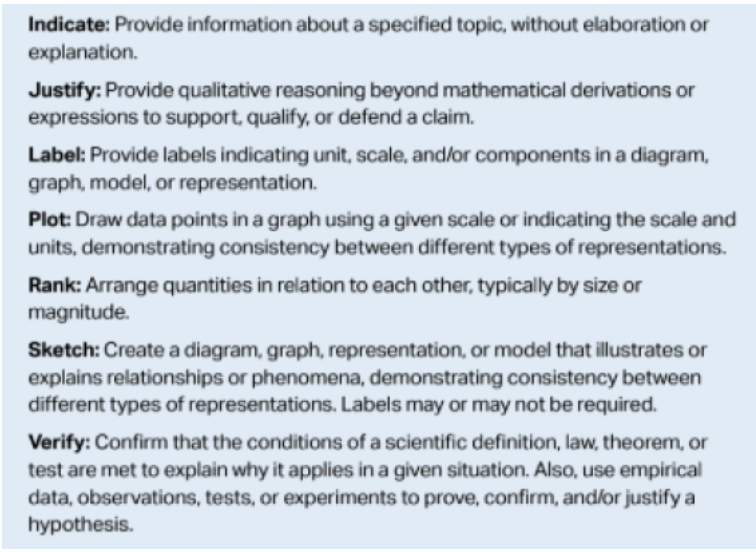
Derive: Starting with a fundamental law or relationship, perform a series of mathematical steps to arrive at a final answer.

Describe: Provide the relevant characteristics of a specified topic.

Determine: Make a decision or arrive at a conclusion after reasoning, observation, or applying mathematical routines (calculations).

Draw: Create a diagram or schematic that illustrates relationships, depicts physical objects, or demonstrates consistency between different types of representation. Labels may or may not be required.

Estimate: Roughly calculate numerical quantities, values (greater than, equal to, less than), or signs (negative, positive) of quantities based on experimental evidence or provided data. When making estimations, showing steps in calculations are not required.



Indicate: Provide information about a specified topic, without elaboration or explanation.

Justify: Provide qualitative reasoning beyond mathematical derivations or expressions to support, qualify, or defend a claim.

Label: Provide labels indicating unit, scale, and/or components in a diagram, graph, model, or representation.

Plot: Draw data points in a graph using a given scale or indicating the scale and units, demonstrating consistency between different types of representations.

Rank: Arrange quantities in relation to each other, typically by size or magnitude.

Sketch: Create a diagram, graph, representation, or model that illustrates or explains relationships or phenomena, demonstrating consistency between different types of representations. Labels may or may not be required.

Verify: Confirm that the conditions of a scientific definition, law, theorem, or test are met to explain why it applies in a given situation. Also, use empirical data, observations, tests, or experiments to prove, confirm, and/or justify a hypothesis.

AP Physics 1 Recommended Textbook Readings by Unit and Source

Unit 1: Kinematics

- Online PDF - Ch. 1 (pg. 11-36), Ch. 2 (pg. 37-99), Ch. 3 (pg. 101-146)
- Hardcopy (White) - Ch. 1 (pg. 1-18), Ch. 2 (pg. 19-44), Ch. 3 (pg. 45-71)
- Ck12.org - Ch. 1, Ch. 2, Ch. 4

Unit 2: Force and Translational Dynamics

- Online PDF - Ch. 4 (pg. 147-198), Ch. 5 (pg. 199-227)
- Hardcopy (White) - Ch. 4 (pg. 72-105)
- Ck12.org - Ch. 3

Unit 3: Circular Motion and Universal Gravitation

- Online PDF - Ch. 6 (pg. 229-271)
- Hardcopy (White) - Ch. 5 (pg. 106-135)
- Ck12.org - Ch. 5

Unit 4: Work, Energy, and Power

- Online PDF - Ch. 7 (pg. 273-329)
- Hardcopy (White) - Ch. 6 (pg. 136-166)
- Ck12.org - Ch. 6, Ch. 7

Unit 5: Linear Momentum

- Online PDF - Ch. 8 (pg. 331-374)
- Hardcopy (White) - Ch. 7 (pg. 167-193)
- Ck12.org - Ch. 6

Unit 6: Torque and Rotational Motion

- Online PDF - Ch. 9 (pg. 375-408), Ch. 10 (409-458)
- Hardcopy (White) - Ch. 8 (pg. 194-225), Ch. 9 (pg. 226-254)
- Ck12.org - Ch. 8

Unit 7: Oscillations

- Online PDF - Ch 16 (pg. 697-746)
- Hardcopy (White) - Ch. 11 (pg. 286-321)
- Ck12.org - Ch. 11

Unit 8: Fluids

- Online PDF - Ch. 11 (pg. 459-508), Ch. 12 (pg. 509-548)
- Hardcopy (White) - Ch. 10 (pg. 255-285)
- Ck12.org - Ch. 10