

Introductions to IB HL 2 Physics Summer Assignment

Welcome to Mrs. Zeek's IB Physics course! I am thrilled that you are here and I am prepared to take you on a journey to learn concepts that are central to physics and formulas that illustrate these concepts.

Expect to be challenged! This is a college level course where you will be using your knowledge and understanding of everything you have learned in all of your classes to solve problems, analyze situations, arrange materials, compare data, and design labs.

You cannot expect to acquire the understanding you need to do well in the class and on the IB Exam by merely attending class and listening to the teacher. You have to become INVOLVED. You have to PARTICIPATE. If you get stuck, see ME, or other students. Ask for HELP. Your classmates will be your new best friends. You must study regularly. Students who study regularly have a good foundation to build on for new topics. This will pay off! If you are unorganized or inconsistent, things may start to fall apart - and nobody wants that to happen.

This first assignment is intended to Introduce you to the Physics Guide, The Data Booklet, the Syllabus and get a head start on our "Astrophysics Unit" (Option D).

This assignment is posted in Google Classroom and is due the first day of school. Aug 14th 2023

1. Join Physics HL2 Google Classroom:

<https://classroom.google.com/c/NjExMDY0MzQ4MTg2?cjc=bx4lu5q>

Class-code: **bx4lu5q**

2. Take a look at the *IB learner profile* in the "Physics Guide". Located in Google Classroom.

Pick 3 characteristics that best describe you as a learner and explain your choices. In which three would you like to improve? **Explain**

3. Take a look at the *IB Physics syllabus* outline on **page 19 in the "Physics Guide".**

Under the "Core and/or Higher Level subjects" what are you most excited and interested in learning about?

4. What is your previous experience with any of these subjects before?

Starting at page **28**, get acquainted with the format of the **Physics Syllabus**. (It reads sideways sorry). For each topic, I will give you a copy of the *Physics Syllabus* that includes detailed notes and sample problems.

5. TOK (Theory of knowledge): p 30 "Science is not about authorities, but about falsifiable facts". At the beginning of sub-topic 1.2 in Nature of Science (NOS), Richard Feynman is quoted as saying "*All scientific knowledge is uncertain...*". By giving concrete examples, discuss reasons why the statement gives a false general impression of scientific knowledge. **Give examples supporting the statement.**

6. Open up the **Data Booklet found on in Google Classroom. We will be using the Data Booklet a lot and you should become very familiar with it before the end of the year tests.**
- a) What are some **Fundamental Constants** that you are familiar with?
 - b) What are some **Constants** that you have never heard of before?
 - c) Do you know your metric prefixes? What is the value of **mega (M), micro (μ), nano (n) and pico (p)**? (You will need to be able to convert units quickly).
 - d) Notice in **Sub Topic 2.1** “Motion” the symbols may not be what you are used to. What is the symbol that the IB Program uses for **displacement**? And what is the symbol used to denote **initial velocity**? You will need to know these symbols used in IB Physics.

Please read the **Syllabus (Course Outline) for Physics HL2 – Located on Google Classroom.**

- a. What is the Name of the required Textbooks for the course?
- b. According to the Syllabus, what is the Internal Assessment (IA)? Is it required for all students?
- c. What percentage of your grade is the IA worth (second semester)?
- d. What are the 5 Criteria that will be used to assess and grade your IA?
- e. How many “papers” are given at the end of the year?