Name:

AP Physics 1 Summer Assignment

The following summer assignment is designed to prepare students for the first few units of the AP Physics 1 course. It is required to be **completed by hand** and stapled together with this sheet on top and the rest in the order it is listed on the next page. **No typed work will be accepted.** You will need to checkout from the library:

1. The AP Physics 1 Textbook "*Physics:Principles and Practices"* by Douglas Giancoli
    *Note: We are a growing program! So, if there are no more textbooks available, check out the **"AP Physics 1 Summer Assignment" Booklet**. There should be textbooks available when we return to school.*
2. The "AP Physics 1 and 2 Lab Investigations: Student Guide to Data Analysis" Booklet

The due date for this assignment is August 21, 2017 (the first day of school). Failure to complete the assignment in part or in full by this date may result in disenrollment from the class.

1. Technology:
    a. Download the Kahoot! app to your device. We will use this for activities and review in class.
    b. Join the class Remind account by downloading the app, clicking on "Join a Class" and entering the code @ap-phys. You will then receive class notifications through the app and send messages to me directly. You may also join by texting the same code to 81010. You will receive notifications as text messages. Both students and parents are encouraged to join. You will not be able to message other students in the class through this app and no phone numbers will be available to anyone in the group.
    c. Join our Google Classroom account. We will be submitting a few assignments here. The class code is qblydygl. You need to join through your student Google account.
    d. Become familiar with the class website. Link below.
        https://sites.google.com/a/clovisusd.k12.ca.us/miss-olko-s-site/ap-physics-1

    Note: These are ways to make communication easier and more efficient. However, if you cannot or do not want to participate in any of these apps or accounts, you will not be penalized. Please let me know if you choose not to and we will set up alternate arrangements to get the same information to you.

2. Read Chapter 1, chapter 2.1-2.4, and chapter 3.1-3.4 in the text.
    On a separate sheet of paper or on index cards, define the following **bolded** terms from Chapter 1, Chapter 2.1-2.4, and Ch. 3.1-3.4.
    Chapter 1: Observation, theory, model, law, precision, accuracy, percent uncertainty, significant figures, meter, time, mass, SI System, derived quantities, conversion factor, dimensional analysis.

Chapter 2: Mechanics, kinematics, dynamics, translational motion, particle, reference frame, coordinate system, position, displacement, vectors, average speed, velocity, average velocity, time interval, instantaneous velocity.

Chapter 3: Vector, scalar, resultant displacement, resultant, parallelogram method, tail to tip method of adding vectors, components, resolving the vector into its components, and vector components.

3. Watch the following Khan Academy videos on Trigonometry. This should be review for you. Take **five bullet points per video**, for a total of **35 bullet points**.
   https://www.youtube.com/playlist?list=PLD6DA74C1DBF770E7&feature=plcp
   1. Basic Trigonometry I
   2. Basic Trigonometry II
   3. Radian and Degree
   4. Using Trig Functions Part I
   5. Using Trig Functions Part II
   6. Unit Circle Definition of Trigonometric Functions
   7. Graphing Trig Functions

4. There are three main sections of problems at the end of each chapter. There are **Questions** (general conceptual ideas), there are **Problems** (specific to each section), and there are **General Problems** (mixed or combined problems).
   Answer the following questions and problems
   Chapter 1: **Q**1, 2, 3, 4 (Q stands for the questions section at the end of the chapter)
   P1, 2, 4, 8, 9, 12, 13-18, 20, 22, & 36 (P stands for the problem section at the end of the chapter)
   Chapter 2: **Q**1-7, **P**2-18 even
   Chapter 3: **Q**2-8 even, **P**1-9

5. Experimental Design
   The ability to write a coherent procedure, identify independent and dependent variables, collect reliable data, and then communicate that data effectively is paramount to success in this class and beyond. In order to help achieve these goals, you must design an experiment and collect data in order to answer this question: "How does the angle of an incline affect the speed of an object at the end of it?". After writing a procedure, identifying the independent and dependent variables, collecting quantitative(number) data and organizing that data into tables, you will organize all of this into a partial lab report according to the AP Physics 1 Lab Report Guidelines that are attached. Required parts are the title page, purpose, introduction, materials/safety consideration, procedure and results. YOU DO NOT NEED TO COMPLETE THE ANALYSIS SECTION

Exam 1: The first exam will be given on Wednesday, August 30th. It will cover the material included in this assignment and will be timed.

If you need to contact me over the summer with any questions, the best way is through the Remind app or through e-mail at morganolko@cusd.com. I will do my best to reply to emails within 3 days.