

AP Physics 1 2018 Summer Assignment

Mr. Longhurst and Mr. Panzer

Your summer assignment consists of two parts:

1. **Webassign.** Your assignment will be to complete an assignment on a web-based program called Webassign. The assignment consists of introductory physics topics and is titled “Summer Assignment.”

To access the assignment, do the following:

- Go to www.webassign.net and click “Enter Class Key” on the top-right of the page
- Type in the class key: **johnjay.ny 4190 2249** and verify “yes this is my class”
- Create an account.
- You have up to 5 submissions for numerical questions, and just 2 submissions for multiple choice
- The assignment will go live on June 23rd, and is due on Thursday September 6th at 11:59pm.

There will be a quiz in class on this material on *Friday September 7th*.

For a reference, go to www.physicsclassroom.com/physics-tutorial and the first two topics listed, “1D Kinematics,” and “Newton’s Laws” should be of assistance for answering these questions. We encourage you to work with other students on this assignment.

2. **Experimental Design.** One expectation that you will have in class is to design experiments to find a pattern between two variables. This is done in labs, asked in questions on exams, and will be asked on the AP exam.

Your task: Design an experiment to determine the speed of a battery-power constant-speed buggy (as seen in the picture) and use this information to make an equation that allows you to determine the buggy’s location after traveling a certain amount of time.



- 1) First, outline a procedure for exactly how you will *collect* data to accomplish the task listed above. Include a list of equipment you will need. Indicate how you will use each piece of equipment. Include a well-labelled diagram as well. Be concise in your procedure.
- 2) Next, describe how you will *use your data* to find the buggy’s speed.
- 3) Lastly, make an equation describing how you will predict the buggy’s location after traveling a certain amount of time. This equation can be made using symbols or words.

Note: This entire write-up should be no more than the front of one page. Being concise is important.

(: HAPPY SUMMER :)