

### Rocket Project - An Exercise in Technical Writing

#### DUE DATES:

*NOTE: Due to limited time, there isn't much flexibility in these due dates. Choose a partner you can work with outside of class, if needed. Missing class? You need to find a way where you contribute YOUR FAIR SHARE! A large part of your grade will be whether or not you fully contribute. As a hint, since seniors will be leaving before the end of the year, you should strongly consider pairing with other seniors.*

- \* Wednesday, May 8: Rocket # 1 assembly {part day} and May 9 {as needed}
- \* Friday, May 10: Rocket # 1 launch (weather permitting)
- \* May 13, May 14, & possibly May 15: Instruction writing for rocket # 2 → instructions due by 3:00 PM on May 16 (No exceptions!)
- \* May 17, 20, 21: Rocket # 2 assembly days (not for seniors) – assembly and analysis of other group's instructions due by end of day on May 21
- \* Tues., May 22: Tentative rocket # 2 launch day (alternate of May 23)

#### Background:

Technical reading and writing are areas that many students have difficulty with in college and (later) on the job. It is very important to be able to communicate properly with others about specific, technical projects. This project is designed to help you do just that.

#### PART 1:

Working with a partner (a must - the rockets are too expensive) you must assemble a simple US Aerospace (or similar type) rocket using the enclosed directions. You will have one day to work on this in class, but may need to finish it outside of class - so know your partner!! We'll have some glue and razor blades (or widgets) available for you to use in class. While you and your partner are assembling the rocket, you should pay careful attention to how the manufacturer wrote the instructions - are they good? Too detailed? Not enough pictures? Etc.

After assembly, we will launch the US Aerospace-type rockets to confirm your abilities as engineers.

#### PART 2:

Working with your *same partner*, you will be given a completely different rocket kit in a large Zip-Lock bag. You will not be given instructions with this rocket, but will instead have to write them – note that the instructions you write should be in your own words, not copied from a company brochure. You may use the instructions from your first rocket as a guide, but remember the rockets are completely different, so be VERY careful. You should include diagrams or sketches to help. You will be given 1-2 days in class to do this, and I'd encourage using a Google Doc shared with each other so both of you can work on it together or apart. After this, your instructions (**WITHOUT YOUR NAMES ON THEM**) will be given to a completely different group (**quite likely in a different A.P. Physics 1 class**) and they will need to assemble the rocket using your instructions.

At the same time you and your partner will be assembling a third rocket (different from the first two) using the instructions of some other group (also likely from another A. P. Physics 1 class), whose identity will remain a mystery (ooh..) to you. You should be able to answer the following questions (and others) in the form of a summary that is due when you complete building this rocket on.

- Were the instructions clear and complete?
- Could the vocabulary and terms be understood easily?
- Did the group "trouble shoot" areas that could be potential problems?
- Did the group list all the parts that should be included and materials needed for assembly?

### PART 3:

We will launch the rocket made by the second group (*the group that read your instructions*). How well both your first rocket and this rocket perform will have an effect on your grade.

*NOTE: Since time is of the essence, and other groups will be depending on you to get parts of this project done for their group to proceed, no parts of this project can be late for any reason. (However, due dates for the parts are spaced in a way so that you should have to complete all the parts without undo stress – just plan ahead). I strongly recommend writing your instructions on a Google Docs so they can be shared with me by the due date in case you miss class that day. If you decide to finish some parts of the project outside of class, both you and your partner are responsible for getting directions and rockets to me at the required time – some way, somehow. (This is one reason why I've had us make a Phone Tree and Remind, so you can communicate with your peers and me to avoid bad surprises)*

### Rocket Project Grading/Rubric:

LB1	I can communicate and represent the details of an experimental procedure clearly and completely	
LB2	I can design and carry out experiments based on the task at hand using a working hypothesis and selecting appropriate lab equipment that is used correctly	
HM1	I actively participate in labs, small group discussions, and whole class discussions to increase my own understanding as well as that of my peers	
HM5-1,2	I demonstrate competence in material learned from previous quarters, thus showing I am preparing for the AP exam and reviewing content that may have been difficult for me earlier in the year	

Because there is some uncertainty in rocket launches, if they all go well, I'll put a 10/10 in category HM5-2, which will otherwise be left blank. In a way that's like extra credit.

## Rocket Project - An Exercise in Technical Writing

Mr. Forrest

A. P. Physics 1: 2019

Your Names \_\_\_\_\_

-----  
Type of rocket: \_\_\_\_\_ Assembling rocket #/letter: \_\_\_\_\_

### **Analysis of the instructions given to you (you only need to turn in one of these sheets per group):**

During this time you should take down detailed notes and write comments about the other group's instructions. You should be able to answer the following questions (and others) as well as an overall summary that is due when you complete building your second rocket.

\* Were the instructions simple for the novice rocket builder? Were they written in general terms? For example, instead of "shock cord", this could have been referred to as "string". Give examples.

\* Did the group write in its own words to make things as understandable as possible, or did they essentially copy the company's instructions? Explain.

\* Did the group list all the parts that should be included and materials needed for assembly? Give examples.

\* Were the instructions clear and complete (typed or very neatly written)? Give your rationale.

\* Were drawings or digital pictures included with the instructions? Were they good? Did they help? Explain.

\* Could the vocabulary and terms be understood easily? Give reasoning.

---

\* Did the group "trouble shoot" areas that could be potential problems? Explain.

\* Was the layout of the instructions done in an eye-appealing way? Did the layout help or hurt the instructions' clarity? (For example, were diagrams on the same page as the instruction referring to the diagram?) Explain.

\* Did you need to modify your assembly from what the instructions said? Why, and what did you change?

OVERALL SUMMARY: