

HONORS PHYSICS
Final Project Checklist

Group:

Documentation	
Annotated overhead photo of final design* + / ++	
Video of Sphero traveling through course* + / ++	
Video explanation of which physics being demonstrated where and how +	
CoSpaces link shared ++	

Screen Captures and Data	
Block code +	
JavaScript +	
Exported CSV file +	
Graphs (individual) + / ++	

Data	
Appropriate data selected + approved ++	
Appropriate data analyzed ++	
Data represented in appropriate table ++	
Data represented in appropriate graph ++	

- * Post on Instagram
- + Upload to Dropbox
- ++ In your lab report

Compiling Your Lab Report

Collaborative Part

1. Create a Google Doc named **19HPhysPartner1LastNamePartner2LastNameFinalProject**. Share the Google Doc with me.
2. Use this heading.

HONORS PHYSICS
May 23, 2019

Mr. Walters
Cousin Will

Final Project **Lab Report**

3. Write an introduction. What is the goal of this lab? What are the objectives?
4. List your materials.
5. Create a data section.
6. All data tables must be appropriate formatted.
7. All graphs must have labeled axes, and an appropriate title.
8. All graphs must be annotated to show which data is being analyzed.
9. Do not include graphs that you are not analyzing.
10. Print out two copies.

Individual Analysis

Your data analysis and conclusion questions must be completed individually. You may use your notebook, textbook and Internet as resources. You may not work together and you may not get insights from anyone else.

1. Complete your calculations on white unlined paper. Show all work, including formulas used and substitutions with units.
2. Indicate your final answer for each calculation with a box.

Then create a Google Doc named **19HPhysLastNameConclusionQs**. Share this doc with me.

3. Use the following heading:

Final Project
Conclusion Questions

4. Copy and past the conclusion questions below into that Doc.
5. Your answers must be in complete sentences.
6. Print your Google Doc. Staple your Lab Report, Calculations and Conclusion Questions, in that order before you arrive in class.

Conclusion Questions

1. The motion of the Sphero tends to be influenced by ridges in your cardboard, paint and/or the presence of a nubby cover. Select one variable you measured and describe how variations in that variable would influence your calculations using that variable. You must use **increase, decrease or stay the same** and give an appropriate explanation for this change.
2. Describe a mathematical process by which you could calculate the coefficient of kinetic friction between the Sphero and the surface. (Note: the surface is immaterial)
3. When analyzing rotation, how can you ensure that the Sphero is recording not its own angular velocity but an angular velocity around a specific point?
4. How would you, in general, code to demonstrate conservation of angular momentum? You need not write the code.

Reflection Questions

1. What is the most valuable thing you learned during this project? Why?
2. What challenges did you face and how did you solve them, both as a pair and individually?
3. If you were me, what comments would you make about your project?
4. How did completing the project demonstrate your understanding of “how to solve problems when faced with situations for which you were not specifically prepared?”
5. How did completing this project demonstrate your ability to “represent your knowledge and understanding in ways that are meaningful to you?”
6. How did completing this project demonstrate your ability to respond to “authentic feedback about your work?”