

Engineering project

Follow the procedures below

1. Choose an engineering project that will be shooting or projecting an object to a certain distance. Use the following website <http://www.instructables.com/id/Project-Based-Engineering-for-Kids/>
 - a. Or you can choose other projects from other websites, as long as you present all the requirements for this project
2. Construct the model that will be projecting an object to a distance
3. Test your model to make sure is working
4. Run your experiment (5 times) and measure distance, time, and direction with appropriate tools
5. Record your data in your data table (below is an example) using appropriate units of measurements for distance, time, direction, speed and velocity
6. Calculate speed and velocity following the 3 steps (formula, substitution, and answer) and using proper units. Show all your work
7. From the website, print or create a bar graph representing your data for **Speed only** (every trial and averages). Use proper titles and units in your X and Y axis.
8. Write the procedures used to build your model in numerical order and write one paragraph analyzing your results
9. Please follow the rubric to maximize your points.
10. Staple, tape, or glue all your data tables, Graphs and written information in your composition books

	Distance (cm)	Time (sec)	Direction	Speed	Velocity
Trial 1					
Trial 2					
Trial 3					
Trial 4					
Trial 5					
Averages					

Rubric for evaluation

	Not Done 0 points	Poor 10, 11, 12, points	Fair 13, 14, 15 points	Good 16, 17, 18, points	Excellent 19, 20 points	Total
Project Model		Model is very messy and doesn't work	Model was not neatly glued and model works inefficiently	Most part are neatly glue and working ok	All parts are neatly glue, model works perfectly	
Data table		Missing column titles. Missing most measurement and most units. Missing some trials and most averages	Columns have titles. Missing some measurements and missing some units. Has 5 trials, averages and totals	Columns have titles. Measure distance, time, speed and velocity. Missing some units. Shows 5 trials, totals, and averages	Columns have titles. Measured distance, time, speed, and velocity. All units are shown. Shows 5 trials, totals, and averages.	
Calculations		Most calculations done incorrectly, the 3 steps were not used and most units are missing	Most calculation were done correctly, one step is missing, and some units are missing	All calculations were done correctly, it has the 3 steps but some units are missing	All calculation were done following the 3 steps.. Formula, substitution, and answer. All units were used correctly	
Graphs		Graph is messy, is missing information and units	Graph is neat but several mistakes and is missing some units	Graph done correctly, and neat. One or two units missing	All graphing done correctly, neatly, and properly labeled. All units are there.	
Writing		A lot of incomplete sentences and the information presented is vague	Some incomplete sentences. Some procedures missing and results is not very clearly explained	Some incomplete sentences. All procedures are written and results are clearly explained	Complete sentences were used. All procedures were written and results are clearly explained.	