

Project Overview and Assessment: Franklin Littaua, Brandon Mulrooney, Adrien Perez, Dmitri Washington

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Abstract

This was a thorough demonstration of Newton's Laws that included discussions of drag forces. The experimental design was especially entertaining, keeping an egg from breaking after a five story drop using homemade systems. I especially enjoyed the fact that forces of impact (change in momentum multiplied by change in time) were derived. Although the time used was the time of descent and not the time of impact, this error did not impact the predictions that the smallest forces of impact would lead to the preservation of the eggs. The time of impact is likely similar for all the egg drop systems. The hypothesis, in that sense, was confirmed, and potential improvements and systematic errors were discussed. The participants did a nice job of explaining the experimental procedure in the presentation, which made the results clear to all.

Score - 10 of 10 points.

Project Assessment

1. Introduction of Concepts, Hypothesis
 - (a) This was done thoroughly, both qualitatively and later in the presentation, quantified.
2. Explanation of the Experiment, with Diagram or Picture
 - (a) There were plenty of pictures that served as a diagram of the experiment.
3. Presentation of Data and Systematics
 - (a) The data was shown; it was first presented mixed with the predictions (times, forces, weights, etc). The movies served as the results.
4. Conclusion
 - (a) The hypothesis was confirmed in agreement with the data. The one note I have here is that the final data was whether something broke or did not break. The next level of detail would be to determine what force of impact leads to egg break. An attempt to quantify this was made by sacrificing one egg with no protection, however.