

Instructions (shown before students start the test)

For this test you will need: paper, paper clips, linear measuring device, timer

Introduction (shown after students start the test)

You are to design and conduct an experiment which demonstrates the relationship between the mass of a paper airplane and its performance. The parts of the write-up are included in this exam. Answer thoroughly. You will have to email me your diagrams for your procedure at Kathy.mso.email@gmail.org. You may use any program you wish to create your graph and data tables. Please try to copy and paste them into scilympiad. If that does not work do not panic, simply email them to me. They are due at the end of the exam. BE SURE TO PUT YOUR SCHOOL NAME ON ANYTHING THAT YOU SEND ME.

GOOD LUCK

1. (2.00 pts) State the Problem:

2. (6.00 pts) Hypothesis:

3. (4.00 pts) Independent Variable

4. (4.00 pts) Dependent Variable:

5. (8.00 pts) Controlled Variables and Constant:

6. (4.00 pts) Experimental Control (standard of comparison):

7. (4.00 pts) Materials:

Blank response area for question 7.

8. (14.00 pts) Procedure:

Blank response area for question 8.

9. (6.00 pts) Qualitative Observations:

	Before	During	After
Procedure	a.	b.	c.
Results	N/A	d.	e.

Blank response area for question 9.

10. (10.00 pts) Quantitative Data--Data Tables

Blank response area for question 10.

11. (12.00 pts) Graph:

Blank response area for question 11.

12. (26.00 pts) Statistics: Central Tendency and Variation with sample calculations. Make sure you use appropriate significant figures.

Blank response area for question 12.

13. (6.00 pts) Analysis and Interpretation of Data:

Statistics
a. Claim
b. Evidence
c. Reasoning

14. (6.00 pts) Analysis and Interpretation of Data Continued:

Outliers
a. Claim
b. Evidence
c. Reasoning

15. (6.00 pts) Analysis and Interpretation of Data Continued:

Data Trend
a. Claim
b. Evidence
c. Reasoning

16. (8.00 pts) Possible Experimental Errors

	Specific Error Identified	Specific Effect on Results
Error 1	a.	b.

Error 2	c.	d.
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17. (8.00 pts) Conclusion:

a. Hypothesis restated:

Hypothesis is Evaluated
b. Claim (Acceptance or rejection of hypothesis)
c. Evidence
d. Reasoning

18. (6.00 pts) Recommendations for Future Experimentation:

19. (16.00 pts) Abstract:

Make sure you have emailed me your diagrams, graph, and data tables at Kathy.mso.email@gmail.com. I will send you a reply so that you know I have received them. BE SURE PUT YOUR SCHOOL NAME ON ANYTHING THAT YOU SEND ME!