

Data and Design Sheets

Your task is to design and build a straw rocket that will fly the farthest distance possible.

Original Design:

Draw Design Here: Number of fins, size of fins, size of nosecone, if nose cone is weighted or not. Also make sure to enter information onto data chart. Label and include measurements.

Rationale for design decisions:

Issues with Flight:

Redesign #1

Based on the issues you found and recorded above, revise your original design. Be sure to identify with a label the aspect of the original design you changed. (Only change 1 variable)

Draw Design Here. Make sure to include number of fins, size of fins, size of nosecone, if nose cone is weighted or not. Also make sure to enter information onto data chart.

Provide an explanation for the design change. Use evidence from your data collection and analysis to support your argument.

Issues with flight.

After meeting with your classmates to compare flight distances and discusses design components employed. Redesign your rocket one last time.

Draw Design Here: Make sure to include number of fins, size of fins, size of nose cone, if nose cone is weighted or not. Also make sure to enter information onto data chart.

Provide an explanation for the design change. Use evidence from the class results and discussion.

What aspects of the Nature of Science (NOS) were applicable to the design and redesign of your straw rockets?

	Number of Fins	Size of Fins	Size of Nose Cone	Weighted or Not
Original				

Data Table for Both Days

Tests	Distance Traveled in cm	Average	Evaluation of flight and possible scientific contributions	
1				
2				
3				

	Number of Fins	Size of Fins	Size of Nose Cone	Weighted or Not
1 st Redesign				

Tests	Distance Traveled in cm	Average	Evaluation of flight and possible scientific contributions	
1				
2				
3				

	Number of Fins	Size of Fins	Size of Nose Cone	Weighted or Not
Final Design				

Tests	Distance Traveled in cm	Average	Evaluation of flight and possible scientific contributions	
1				
2				
3				

Straw Rockets - Elaborate Phase Rubric

CATEGORY	4	3	2	1
Drawings	Student includes a detailed drawing of design including labels and measurements.	Student includes detailed drawing of design but has no labels or measurements included.	Student only includes minimal drawing.	No drawing included.
Evidence	Student discusses evidence in a detailed way stating how it factored in their design decisions.	Student discusses evidence with minimal details. Student ties the evidence to their design decisions.	Student discusses evidence but does not tie it to design decisions in any way.	Student does not discuss evidence at all.
Scientific Principles	A student clearly discusses at least 3 scientific principles involved and ties them to task in a detailed way.	Student clearly discusses some scientific principles and ties them to the task minimally.	Student discusses 1 scientific principle involved in task but does not tie it to the tasks in any way.	Student does not discuss scientific principles involved at all.
Nature of Science	Student discusses at least 3 NOS tenets applicable to the activity and states how they are involved.	Student only discusses 2 tenets and states how they are involved.	Student only discusses only 1 tenet but not how it applies to activity.	NOS not mentioned at all.