The Effect of Nosecone Shape on Rocket Flight Distance

By

We will be investigating 3 different nosecone shapes to determine how the shape affects the rocket flight distance. The first shape we will investigate is a Flat Nosecone.

Choose 2 different nosecone shapes your group will investigate and record below.

Nosecone Shape:

Shape 1. Flat Nosecone

Picture:

Shape 2. ____________

Picture:

Shape 3. ____________

Picture:

Controls: Variables that will not be changed

_paper_type_________/___copying paper________

_paper_size_________/____8 1/2_x 11 inches____

________________________________________/__________________________________

________________________________________/__________________________________

________________________________________/__________________________________

________________________________________/__________________________________
**Prediction:** We predict the flight of the rocket will be longest on with the 

_________ nosecone shape because __________________________.

________________________________________________________________________________________

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**Results Data: Nosecone Shape and Rocket Flight Distance (ft.)**

<table>
<thead>
<tr>
<th>Nosecone Shape</th>
<th>SHAPE 1 FLAT</th>
<th>SHAPE 2 Trial 2</th>
<th>SHAPE 3 Trial 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1 Flight (ft.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test 2 Flight (ft.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test 3 Flight (ft.)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Order test results from smallest to largest for each shape.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median Number (The number in the middle of the ordered numbers)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Conclusion: (A claim supported by data)

The results of the experiment shows ______________________________

Claim

______________________________________________________________

because_____________________________________________________

Data (measurement/observation)

______________________________________________________________

______________________________________________________________

Diagram of Recommended Design based upon Rocket Flight Distance:

Engineering Recommendation:
Based on the data I collected, or that has been reported collaboratively, as an engineer, I recommend

______________________________________________________________

______________________________________________________________

______________________________________________________________

because_____________________________________________________

______________________________________________________________
Discuss these questions with your group and record your responses on the lines.

1. Why doesn’t the rocket appear to be moving prior to the “stomp”?

2. Why types of energy does the Stomp Rocket possess after the “stomp”?

3. Where did the energy come from when the rocket blasted off?

4. Describe what type of energy each object has from human to the end of the rocket flight.