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

Shape 2. ____________

Shape 3. ____________

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 ____________________________

______________________________________________________________

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

<table>
<thead>
<tr>
<th>Nosecone Shape</th>
<th>SHAPE 1</th>
<th>SHAPE 2</th>
<th>SHAPE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHAPE 1 FLAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test 1 Flight (ft.)</td>
<td></td>
<td></td>
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</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>
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<tr>
<td>Median Number (The number in the middle of the ordered numbers)</td>
<td></td>
<td></td>
<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 ________________________________

______________________________________________________________________________.
Stomp Rocket Worksheet
By

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.