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.

**The Effect of Nosecone Shape on Rocket Flight Distance**

By

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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\_\_\_\_\_\_\_\_\_*

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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.)

|  |  |  |  |
| --- | --- | --- | --- |
| Nosecone Shape | SHAPE 1FLAT  | SHAPE 2Trial 2 | SHAPE 3Trial 3 |
| Test 1 Flight (ft.) |  |  |  |
| Test 2 Flight (ft.) |  |  |  |
| Test 3 Flight (ft.) |  |  |  |
| Order test resultsfrom smallest to largest for each shape.  |  |  |  |
| Median Number(The number in the middle of the ordered numbers) |  |  |  |

Conclusion:  (A claim supported by data)

The results of the experiment shows \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

                 Claim

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

                         Data (measurement/observation)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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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

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_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”?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_