

Engineer a Rocket to Test

In this activity, you will build and test straw rockets – just like a NASA engineer!

You'll be changing the shape of your rocket by varying the length of the nose cone. Your goal is to lessen the drag so your rocket flies farther.

1. Cut out the 'rocket body' rectangle (or draw your own). Curl the rectangle lengthwise around a pencil and tape it into a tube.
2. Cut out the two rocket fins (or draw and cut your own) and tape them to opposite sides of the tube so they form a + shape.
3. Remove the pencil, replace it with a straw and tape the end of the rocket closed. This rocket has no nose (*Control*).



4. Blow into the straw to launch the rocket.
5. Measure and record the distance travelled.

Now, see if you can build a better rocket...

1. Repeat Steps 1-2
2. Using the sharpened end of the pencil, twist the top of the rocket body into a nose cone.

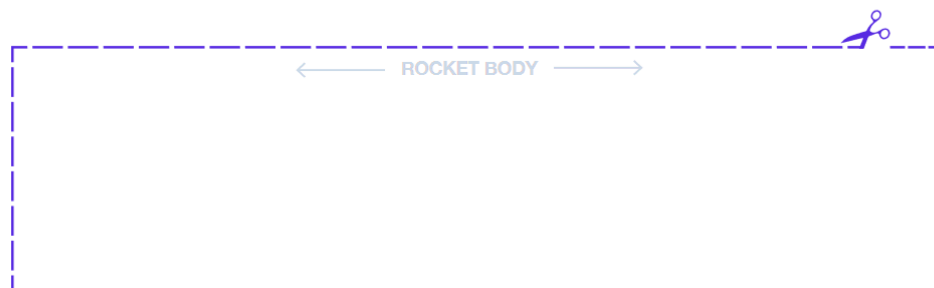
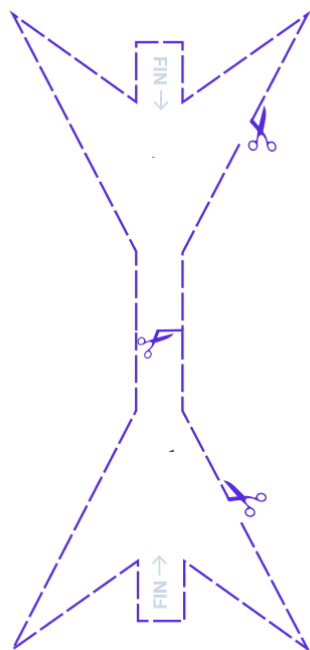
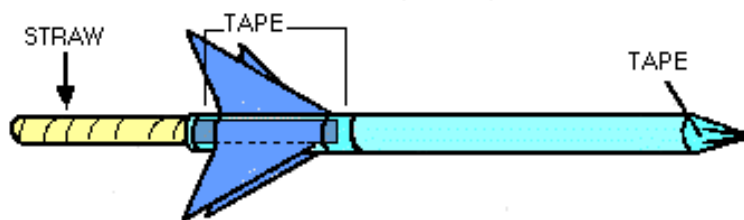


3. Measure the nose cone from base to tip and record the length on the data log.
4. Remove the pencil and replace it with a straw.
5. Launch: measure and record distance travelled.
6. Repeat - try cutting a nose cone from extra paper.

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- Try launching at different angles and see what makes it fly the farthest.
- Measure the distance flown on three flights and write the measurements.
- Make more rockets with different length nose cones and repeat the above...

Data log

Rocket Number	Nose Cone Length	Distance in trial 1	Distance in trial 2	Distance in trial 3
1. Control	0			
2.				
3.				

Which rocket travelled the farthest?

Why do you think this is?

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