

# Flying 'Mini' Pumpkins! A Force and Motion Activity

A Force and Motion activity & with Halloween coming up why not have flying pumpkin races!

## What you will need

x6 Wooden Sticks

Rubber Bands

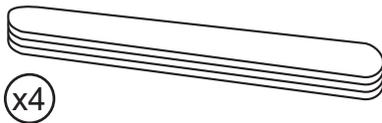
Bottle Cap

Glue Gun or Sellotape

Sweets / Marshmallow Pumpkins

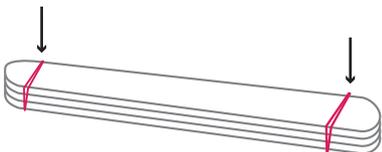
*For the flying pumpkins think of the materials you could use to test the force & speed of various weights e.g. screwed up paper balls, ping pong balls etc*

## Creating the Catapult!



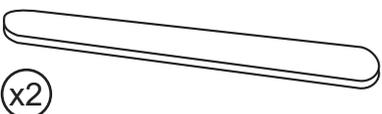
### Step 1

Position 4 of the wooden craft sticks on top of each other



### Step 2

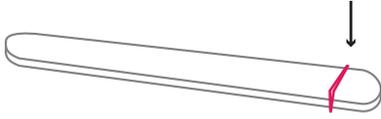
Use a rubber band on each end to secure together.



### Step 3.

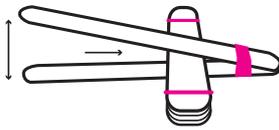
Take the 2 remaining wooden sticks & position together

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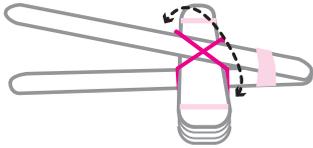
## Step 4

Use a rubber band to secure one side only



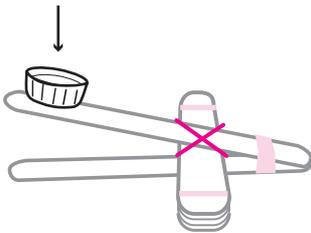
## Step 5.

Take the four banded sticks and wedge them between the two banded sticks.



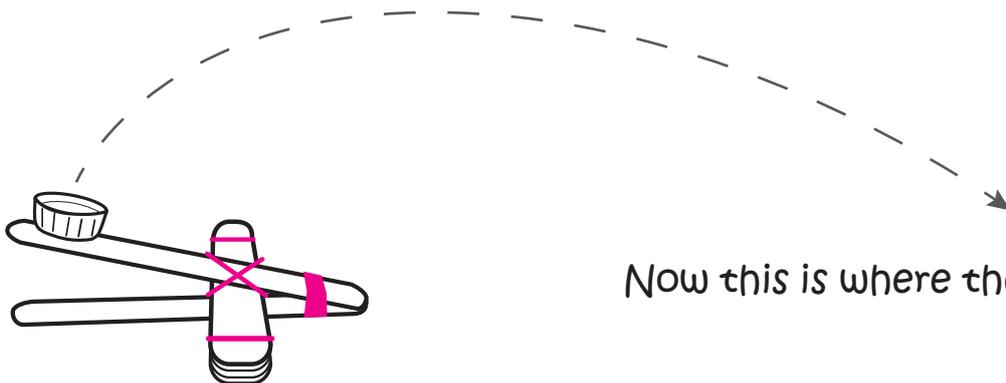
## Step 6

To hold it in place, place a rubber band in a criss-cross position around the two sections



## Step 7

Use the bottle cap to create the 'basket'. Use a glue gun or sellotape to secure on to the wooden stick.



Now this is where the fun begins!

# Flying your pumpkins

Your flying pumpkins can be made of a variety of materials.

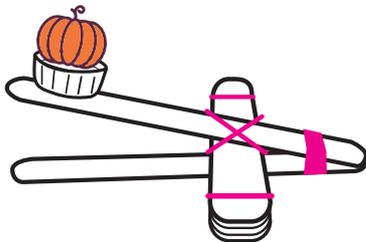
Here are some ideas:

*Pumpkin sweets or marshmallows*

*Ball of paper (colour in orange before!)*

*Ping Pong Ball*

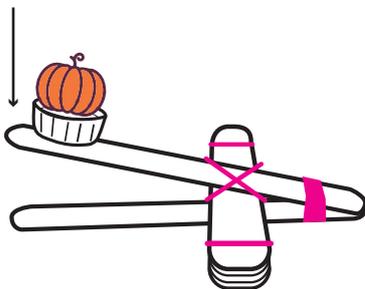
Why not try more than one material and compare how different weights effect the speed and distance effect the speed and distance!



## Getting ready

Place your pumpkin in the basket

*Small amount of force*



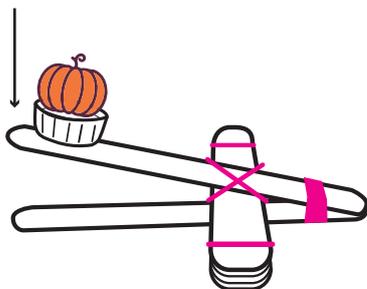
## Trial one - Small amount of force

Apply a small amount of force to your catapult for your first trial.

Lightly push it down and watch the pumpkin barely fly.

Record the amount of time on your record sheet and then measure the distance it traveled to determine the speed.

*Large amount of force*



## Trial two - Large amount of force

Apply a large amount of force to your catapult for your second trial.

Push it down with more force than your first trial and watch the pumpkin fly!

Record the amount of time on your record sheet and then measure the distance it traveled to determine the speed.

Learn the relationship between force and speed. The more force you apply, the farther it's going to travel and the more speed it will have. Compare your findings on your flying pumpkin record sheet.

Why not try various materials for your pumpkins and see how this effects your results!

Why not have flying pumpkin races too with your friends?

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## Testing Time!

Shoot your pumpkin in two different ways.

First with a small amount of force and the second with a large amount of force

Flying Pumpkin	Distanced travelled in cm	Time in seconds	Speed (distance $\div$ time)
Small Force			
Large Force			

What happened?

Based on your flying pumpkin test, what can you conclude about the relationship between force and speed?