



Make a Catapult

(recommended for ages 6-11)



Watch the instructional video at www.librariesni.org.uk or www.ni.sciencefestival.com.

You will need:

1. 7 Craft/lolly sticks
2. 6 Elastic Bands
3. Pom poms
4. Spoon
5. Foil trays (or anything to use as a target)

Method:

1. Take 5 craft sticks and stack them one on top of the other.
2. Take an elastic and tie it around one end of the 5 craft sticks to secure them in place. Repeat with the other end of the sticks.
3. Take the two remaining craft sticks and secure one end with an elastic.
4. Open the two sticks as if you are opening the mouth of a crocodile. It will look like the letter 'V'.
5. Place the stack of 5 sticks into the "mouth" of the crocodile, all the way to the back, as far as it will go. Careful not to snap any of the sticks.
6. Secure everything in place by wrapping an elastic band around all the sticks, looping it around to hold everything into place. You should now have the frame of the catapult made.
7. Attach the plastic spoon to your catapult, on the top of the alligator's mouth. Fasten it to the stick with an elastic, both at the top of the spoon (at the top and bottom of the spoon arm). This should be nice and secure in place.
8. Your catapult is now ready. Place a pom pom inside the spoon, pull back on the spoon and then release and see how far your pom pom flies.
9. Set up some cups or lids or any sort of target and see how well you do. Investigate how to make it go higher, further, both higher and further at the same time. What did you have to do?

The Science:

When you push down on the spoon, the elastic stretches, storing **potential energy**. When you release the spoon/stick, the potential energy gets converted into **energy of motion**, causing the pom pom to go flying through the air. The further down the stick is pushed the more force is used, which gives the stick more energy to transfer to the pom pom, which means it should travel further. Why not set up a few cups or lids, and challenge a friend to see who can get the most pom poms into the cups/lids.

****Caution: Choking hazard. Keep out of reach of children under 3.****

