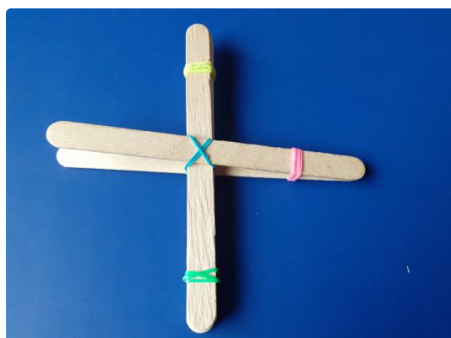


## MAKE A CATAPULT

Find out how to make a simple but effective catapult!

### Overview



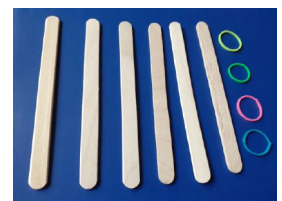
Make this simple catapult to fire paper balls, mini marshmallows or pom poms using just some lolly sticks and elastic bands.

 [Printable version](#)

This page will print, but looks a little funky. Click the button for a PDF version which looks a bit better.

[More STEM at Home](#)

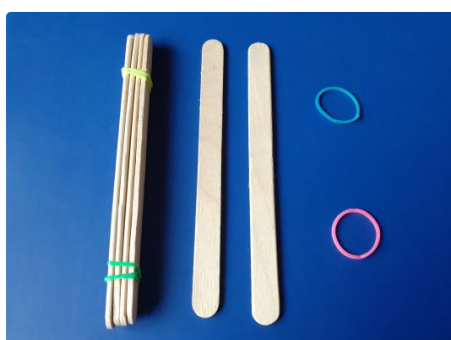
### What you'll need



- 6 lolly sticks
- 4 elastic bands
- Pom poms, paper balls or mini marshmallows
- A small spoon if you want to modify the design!

### What to do

#### Step 1



Take four of the lolly sticks and place them on top of each other. Hold them together using an elastic band at each end.

### Duration

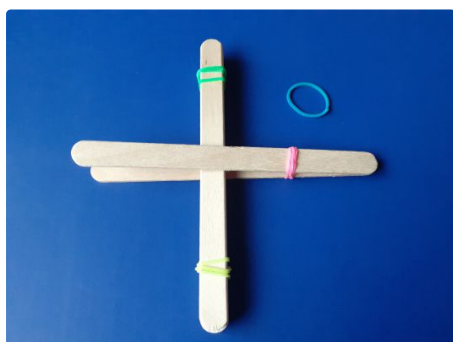
20 minutes or so.

### Suitable for...

Age 4 and up.

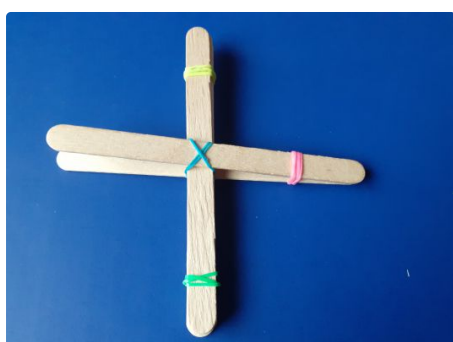
### Safety notes

### Step 2



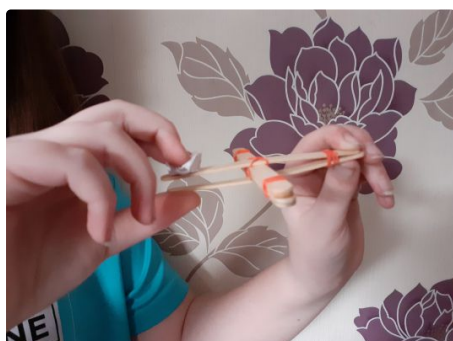
Join the two remaining lolly sticks at one end using an elastic band. Put the stack of four lolly sticks in between these two sticks.

### Step 3



Use the final elastic band to hold the stack in place. Your catapult is complete.

### Step 4



To fire your catapult, hold the closed end of your catapult with one hand and your paper ball, pom pom or marshmallow on the open end. Keep hold of the closed end and let go of the end with the ball, pom pom and marshmallow to fire!

## Things to discuss

- Measure how far you can fire different objects – you could use a ruler or tape measure, piece of string or even pieces of paper. Remember to always start from the same place!
- Find out which objects travel further – heavy or lighter? Small or bigger?
- Investigate whether changing the position of the 4 cross sticks in the catapult makes a difference to how far your objects travel. Does it make a difference if they

You know your children better than anyone, and you should judge whether they're ready for this activity. You might want to think in particular about:

- Supervision: the activity involves small parts, so there's a choke hazard.
- Never fire your catapult directly at anybody- particularly at their face or eyes.

### Careers link – Mechanical Engineer

Mechanical engineering jobs are all about solving problems and creating products to meet human needs. Work includes solving problems using machines or machinery by designing, testing and improving mechanical devices. Mechanical engineers use a wide range of tools, techniques and machinery in their jobs, which depends on the area of mechanical engineering they trained in and the industry they work in.

Mechanical engineers are **curious, self-motivated and hardworking**.

---

## How it works

Your catapult is a type of lever. A lever is a simple machine that is used to do work. It can make it easier to move objects.

When you press down on the end of the catapult you are applying a force which bends the lolly stick slightly. When you let go of the lolly stick, it straightens back up and pushes the object into the air.

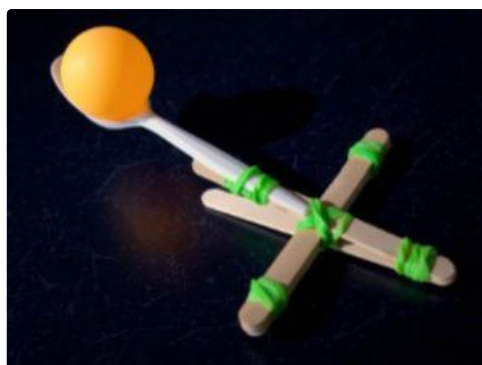
The more force that you apply to bend the stick, the further the object will fly when released.

Visit our [Levers, pulleys and gears page](#) to find out more about simple machines.

---

## Other things to try

Add a spoon to your catapult



Try attaching a plastic or wooden spoon to the end of your catapult.

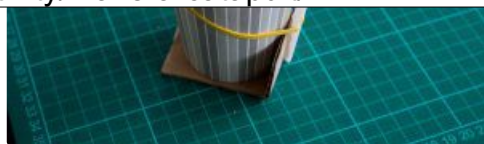
Can you fire objects further?

Can you fire larger objects?

What happens if you use a metal spoon?

Make a mini mangonel





You will need:

- 2 pieces of thick card (6 x 6 cm and 6 x 3 cm)
- A paper cup
- A disposable spoon
- An elastic band
- Masking tape
- Something to fire such as a ping pong ball

Download the [mini mangonel make instruction sheet](#).