

# Catapults

## The Project

In this experiment, we will make a simple catapult.

## Materials

6 craft sticks

3 rubber bands

Plastic spoon (or an additional craft stick and a plastic milk cap)

Small, soft objects to launch (a small pompom or marshmallow work great!)

## Steps

1. Stack 5 craft sticks together and wrap them together with a rubber band at each end.
2. Poke your last craft stick between the bottom craft stick and the four craft sticks at the top of the pile. You should now have a shape that resembles a cross.
3. Use your last rubber band to secure your spoon to the end of the single craft stick. This should now resemble a catapult.
  - If you do not have a plastic spoon, you can substitute a craft stick and a plastic milk cap. Simply use tacky glue or hot glue to secure the plastic cap to the end of the craft stick. It should somewhat resemble a spoon.

4. Place your pompom, marshmallow, or other small, soft object on the middle of the spoon. Push down on the spoon and then release to launch your object across the room!

## The Science

When the sticks of a catapult are pulled back, they collect potential energy. When you release the sticks of the catapult, this releases the energy quickly and with force. Force causes acceleration, and your object soars! For a variation of this experiment, adjust the angle and position of your spoon. See what causes it to launch the shortest and furthest distances.

## Reference

Miller, R., Homer, H. & Harrington, J. (2016). *The 101 coolest simple science experiments*. Page Street.