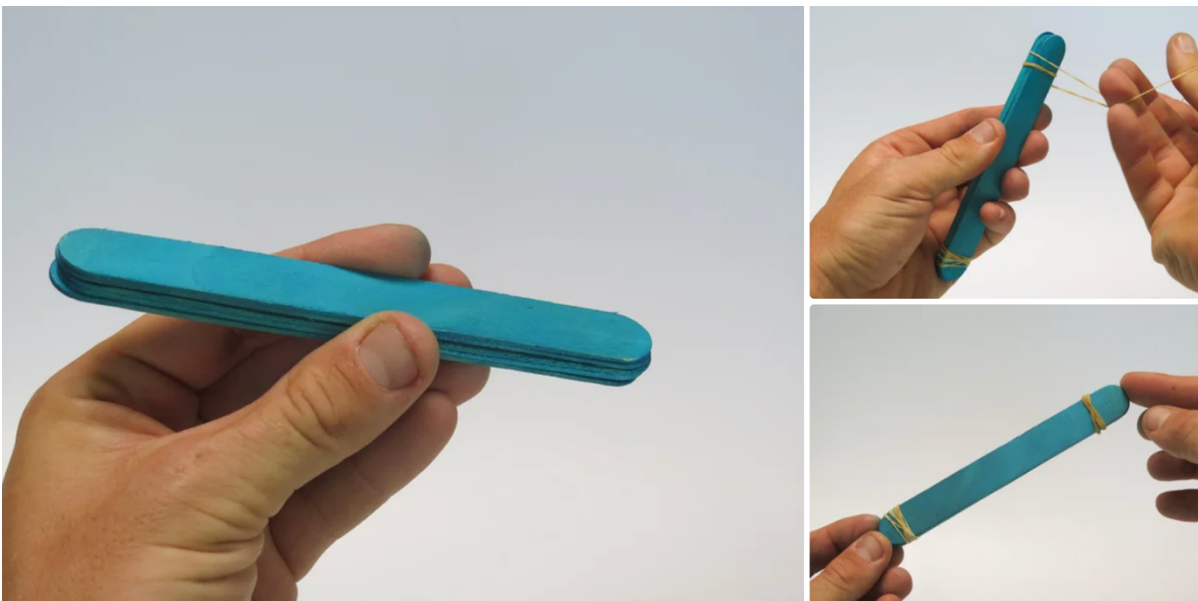# Science Week – HUB Lesson 2
# Craft Stick Catapult!

I can build a lever to launch items with force



Materials - You will need

- 6 rubber bands
- 7 craft sticks
- catapult basket (bottle cap, plastic egg, spoon etc)
- pom-poms or other projectiles

Method - What to do



Step 1 - Lay five craft sticks together and tie them at both ends with rubber bands until they are tight. This is the fulcrum!
(Add more or take some away later to test different build designs)
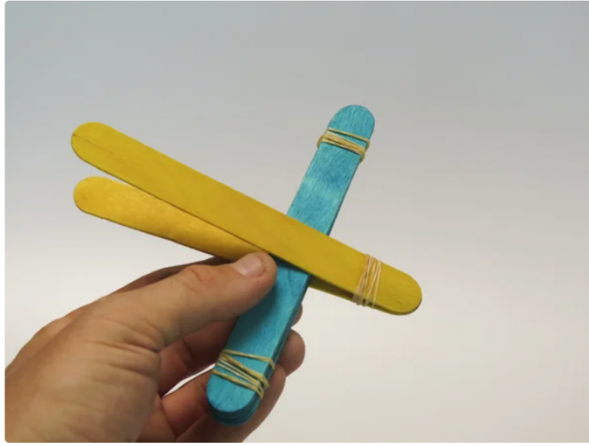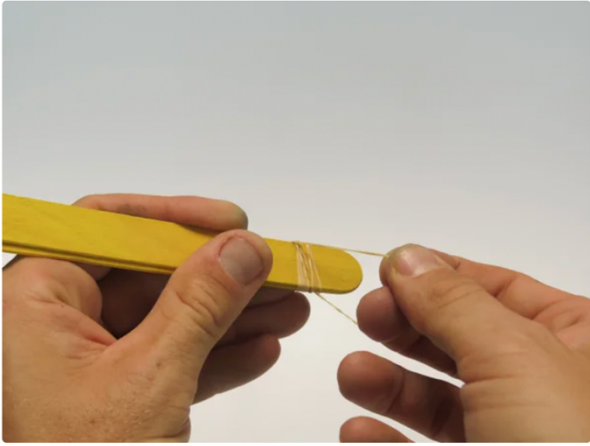
**Step 2** – Tie the two remaining craft sticks with rubber band at one end. Wedge the fulcrum in the middle so they splay apart.
(Change the lever length of your catapult by moving your fulcrum to different positions)
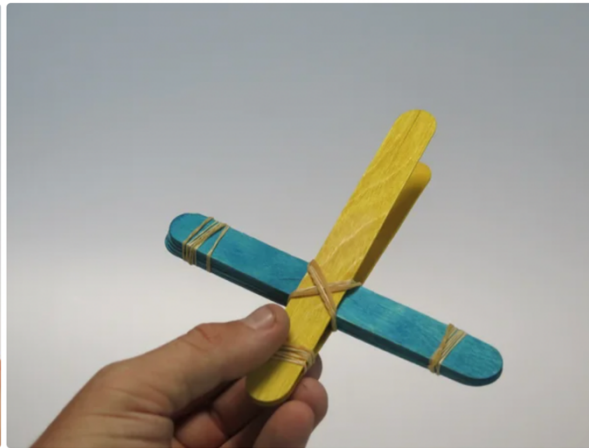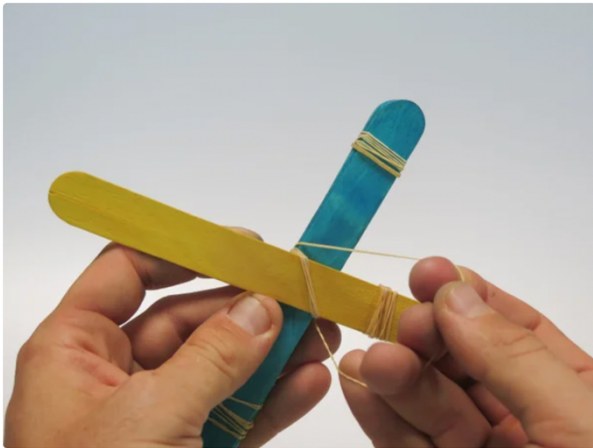


**Step 3** – Make an "X" with 2 rubber bands around the entire flinger and fulcrum.
(Leave it loose enough so that you can change the lever length when you want to.)
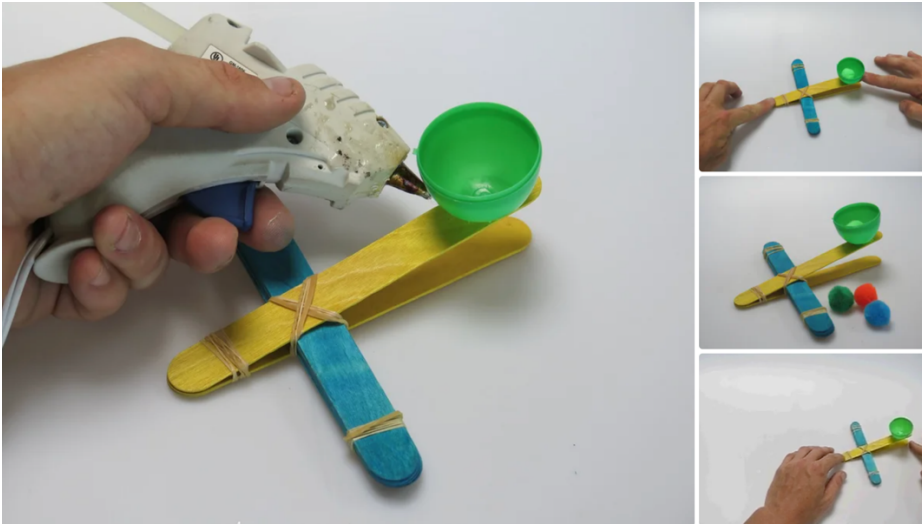
Step 4 – Attach basket to the end of the flinger.

Step 5 – Load up with projectiles, pull back, aim and fire away!

More to explore;



- Launch projectiles and compare distances, talk about longest and shortest distances.
- Talk about how using the same size projectile each time, and firing the catapults from the same point (or starting line), creates a "fair test".

- Try taking measurements and recording results in a table or graph. Can pupils come up with a way to measure the height reached as well as length?

- Develop own catapult designs. What happens if you make the arm of the catapult really, really long? Why? How do the different projectile designs impact the force? What can you knock over?

| Fun Science Facts |
|---|
| A catapult is a device used to launch a projectile, without the aid of explosives. |
| A catapult is a device used to launch a projectile, without the aid of explosives. |
| The trajectory is the path that the projectile takes as it flies through the air. It's influenced by the push force of the catapult, the angle of the release, the weight of the projectile, air resistance and gravity. |