

Activity #3 - Build a Catapult

This project will teach you to build a catapult that can launch a cotton ball.

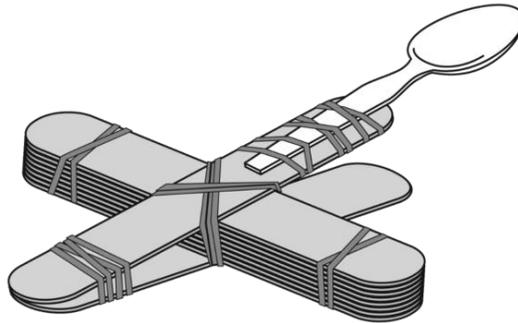
Materials Needed

- Eight craft sticks (*provided*)
- Five sturdy rubber bands (*provided*)
- Glue
- Plastic bottle cap to hold a cotton ball or a spoon
- Cotton ball (*provided*)
- Small open area

Please only use soft objects on your catapult. Hard or sharp objects could hurt someone.

Directions

- Put six regular craft sticks together. Put a rubber band on both ends.
- Add two large sticks perpendicular to the other sticks, one on top and one on the bottom. Put the rubber band around the bottom where the sticks are together and one in the middle making an x with the rubber band.
- Put your spoon on the end of the launching stick that sticks up and rubber band or glue it in place, or glue on your bottle cap.
- Wait until the glue is dry.



Procedure

- Place a cotton ball on the end of the spoon, push the spoon down and let it go.
- *What happened to the ball? Did it go high? What do you expect will happen when you push the spoon farther down? Will this make it fly higher, farther, both higher and farther or take the same path but maybe faster?*
- Perform a test: Put your cotton ball in the spoon, push the spoon down farther, release and observe. *Does your ball fly higher or lower?*

Try more launches. *Do you get similar results each time? Can you explain why?*

STEAM Connections

A catapult works by transferring one type of energy to another and transferring from one object to another. A catapult takes energy stored as potential energy when the stick is pressed down with something on it. When you let the catapult go, the potential energy changes to kinetic energy (motion). The object is launched from the catapult.

How can you make your cotton ball launch further? How can you make more potential energy?

Source: <https://www.scientificamerican.com/article/build-a-catapult/>