

## Challenge

# DESIGN A LAUNCHER

Design and build a tool that can “launch” a pom-pom.



### What you'll need:

- |   |  |
|---|--|
| <input type="checkbox"/> 10 craft sticks        | <input type="checkbox"/> Optional: masking tape; |
| <input type="checkbox"/> 8-10 rubber bands      | other recyclable materials                       |
| <input type="checkbox"/> Plastic spoon          | such as plastic bottles, lids                    |
| <input type="checkbox"/> Pom-pom                | or cardboard                                     |
| <input type="checkbox"/> Bouncy ball (optional) |  |

## What to do:

1. Think about tools that can launch, or propel, an object—like a catapult, diving board, pinball machine, or trampoline.
2. Gather your materials. Are some items stretchy or springy? How could this be helpful?
3. Start designing! Many different designs can work to solve this challenge. One option is pictured here. You can try **this design**, create your own, or do both.
4. Test your launcher tool. How does it work? Can you make improvements that will help the pom-pom go farther?



## Keep on Engineering!

Launch a small ball or a ball of aluminum foil. How does it compare to the pom-pom?

Create targets using cups, tape circles, cardboard tubes, or other objects.

# A TOOL FOR THROWING

The atlatl is a hunting tool designed to improve strength and distance when throwing a dart. By doubling the length of a hunter's arm, an atlatl can launch a dart six times farther than if it were thrown.



Photo: Hannah Schwalbe/ National Park Service

The atlatl is a technology that was invented and used by Native peoples prior to the later invention of the bow and arrow.

