

# TREAT LAUNCHER

Catapults are another type of lever. The part of the catapult that does the launching is the arm, and the point where the catapult is attached is the fulcrum. Once you've made this catapult, you'll be able to use it again in later challenges.

**The Challenge Identified:** Create a catapult to launch marshmallows as treats to your friends.

**Brainstorm ideas and supplies:** Your catapult frame can be made of anything. Plastic spoons make a good launching arm, but surely you can think of other items if you don't have a plastic spoon. You will need rubber bands or elastic hairbands also.



<i>Other things that could be used to make a frame</i>	<i>Other things that could be used like a plastic spoon</i>

**Draw a plan:** There are many types of catapults, from very simple to large and complex. How complicated do you want your catapult to be? Use the materials to design your own catapult. Can't think of a design, borrow the design of one of the catapult on the cards provided.

**Build:** This will take a little time, plus some trial and error. But remember, failing is okay! Learn from your mistakes and try again. If using a card, build from the instructions!

**Test:** Chose a wall where you will not hit anyone and launch your marshmallows. Gradually move back from the wall to measure how far the launch spanned. Ask a friend to put on the safety goggles provided and launch a fresh unused marshmallow at a team mates mouth – take turns!

**Evaluate:**

Did your catapult launch the treat the way you expected it to?

Was the launch better than you expected? Worse?

What parts might you need to fiddle with?

How much did your team mate (marshmallow catcher) like this challenge?

**Redesign:** You may need to improve the catapult's launch. You might want to increase the launch distance or the accuracy. Or, you may want to make a completely new catapult out of different materials. Sketch any design modifications you would make below.