

Catapults

Objective: Create a device to launch an eraser at a target on the ground located seven (7) feet away from the marked launch point on a standard 6-foot (6 ft long by 29 inches high) table to win a prize. There will be four prizes based on the initial landing spot of the eraser.

Participation: The prize competition will take place at three different locations on three different dates and time frames to comply with social distancing and CDC guidelines. MESA Advisors at individual school sites can decide on the in-class grading structure for the project. Participation at the Pacific MESA Center level is optional, but recommended. It will be fun!

Materials:

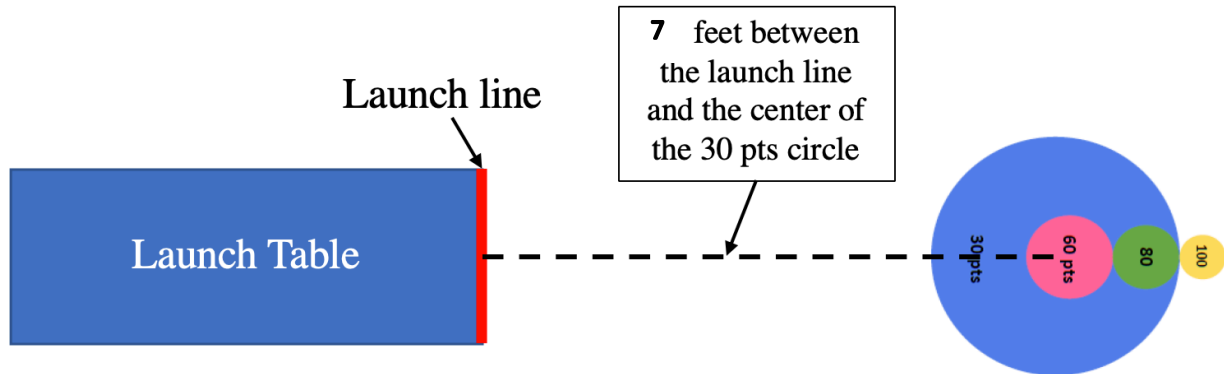
1. It is suggested that students use their own materials from home (recycled materials, purchased materials, etc.)
 - a. You have free range on what materials you use, but the device **must** follow the guidelines that will be listed below.
2. If students are unable to purchase or use their own materials, a set kit of materials can be provided.
 - a. You must come to only one of the three pick-up locations: University of the Pacific Parking Lot 4, Edison High School Parking Lot, Cesar Chavez Parking Lot on one the four pick-up days. Please join our @Pacificme remind group to stay up-to-date on pick up information.
 - b. Materials supplied:
 - i. Small paper cup
 - ii. 20 popsicle sticks
 - iii. 2 wooden pencils
 - iv. 25 rubber bands
 - v. 5 paper clips
 - vi. 1 plastic spoon
 - vii. 6 ft of string
 - viii. 1 pink eraser
 - ix. 1 – 4oz bottle of Elmer’s Glue

Guidelines:

1. The device must not contain any hazardous materials.

2. The device **must** be able to sit flat on a standard 6-foot long folding table.
3. The device must be able to launch a standard $2 \frac{3}{8}$ inch x $\frac{7}{8}$ inch x $\frac{7}{16}$ inch pink eraser that will be provided on the day(s) of the competition.
4. The device can be held down with one hand while the other hand operates it.

Launching and Target



1. You will set your device on the table with the front of it sitting on the launch line which will be marked with blue painter's tape.
2. You will have one minute to prepare for your launch.
3. Once ready, or at the end of one minute, the judges will give you a 5 second countdown and you will launch once they say "GO".
4. The first touch point of the eraser will be what will be counted as your landing spot.
5. You will have three launches in a row and can keep your highest score
6. The higher the points of where you landed, the better your prize will be!

Examples of catapults:

