

Competition Category: Basketball Catapult Design 2019

Level of Competition: High School and Middle School

Objective: Design a catapult that can shoot the maximum number of foam golf balls into an elevated 5 gallon pail in one minute

<https://www.walmart.com/ip/PrideSports-Foam-Practice-Ball/46411810>

Layout- The court will be 6' x 10' wide. The bucket will be positioned at the back of the 10 foot and elevated to have the top at the height of 4'. You may move the catapult anywhere along the backside of the court as long as it is against the back 10' line.

General Rules:

- Teams will consist of one to four students.
- The catapult may be composed of any safe material.
- The catapult, in its entirety, must fit within a 2' x 2' x 2' box. When firing, parts of the catapult may extend beyond this volume, but may not touch the ground outside the launch area.
- The pocket (sling) of the catapult **MUST** stay attached to the throwing arm.
- Catapults must be safe and controllable. Participants are responsible for the safety of the operation of their design. Prior to competition, judges will disqualify any catapult that appears unsafe.
- All students firing catapults must be wearing safety glass. No safety glasses will be provide, make sure you bring your own safety glasses. If you don't bring safety glasses you will not participate.
- Crossbow/Slingshot/Ballista type of throwing devices will **NOT** be allowed.
- Your design must incorporate a rotating arm to "throw" the clay from the device.
- The energy source for your catapult can only be one or a combination of the following:
 - 5lbs of weight
 - Masonry Line or string of any type
 - Rubber Bands

- Surgical Tubing
- Catapults from previous STEM Wars cannot be used.

Competition Format:

- Each ball in the bucket will score 1 points, hitting the outside of the bucket will not score.
- Teams points will be based on adding the best 3 periods together.
- There will be no formal practice rounds, but if time allows, there may be an overtime shoot, that will replace your lowest period regardless of performance.
- Each team will need an assistant to retrieve missed shots and supply the shooter with balls.
- The catapult will receive zero points if the launcher travels over the line.
- Judges will supply each team with up to 10 balls.