

SHPE SAC Chapter Mini-Trebuchet (Catapult)

Competition

Competition organizers:

- Society of Hispanic Professional Engineers Santa Ana College Chapter, MESA, Engage in STEM, and Book of the Year Committee

Time and Date:

- 13:00-16:00, April 29, 2016

Venue and Room Location:

- Santa Ana College, room I-201

Eligibility to participate in the competition:

- All Santa Ana College students are encouraged to **COMPETE!!**
- Teams of 2-4 people must be assembled

Competition format:

- Each team will build a trebuchet following the specifications provided in the attached documents.
- A group of judges will check the compliance prior to launching of objects
- A score sheet is prepared based on creativity of design, distance, and accuracy (A bullseye target and golf balls or a similar shaped mass will be used)
- The top three teams with the highest point accumulation will receive a trophy and the team with the highest score will receive a cash prize
- In case of a draw, the competition will move into a sudden death match where each team will attempt to hit a smaller bullseye from a distance to be determined by judges

Guidelines

Each team shall build their Trebuchet using their own design. It is important that the Trebuchet follow the specifications mentioned below. Violation of each specification will conclude in a penalty of a loss of points. Each team must also provide their own material and tools since the building will be done on personal time. Material for Trebuchet can be found at Home Depot for \$15 - \$30.

Overall

1. Teams will launch 10 shots within 5 minutes (or whichever comes first).
2. The team final score will be the sum of all of their “launch scores”.

Scoring

1. “Target score” is based on where the projectile strikes the target (see figure below).
 - a. The projectile must strike the target directly, and not off of a carom or bounce.
2. Launch distance
 - b. Must be at least 10 feet
 - c. It is measured from the front-most position of the trebuchet.
 - d. Distance values are based on 5 foot increments (the next lowest 5 foot increment).

- e. Launch scores – is the product of the launch distance and the target score

Launch Score = sum of: Distance (in feet) x Target score (for each throw)

Rules

1. The Trebuchet shall be created as a unique design, no kit Trebuchets will be allowed (this will result in immediate elimination of the team).
2. Since it is a mini-trebuchet, your design cannot exceed the maximum dimensions of 2”L x .5”W x 3”H. (The height is measured from ground to the launching arm’s most vertical position)
3. Once a team has set up to begin launching, the judges will announce, “Fire at will!” and start the timer.
4. The team is then free to launch as quickly as they can.
5. Teams must announce each launch, “**FIRING FROM XX FEET**”, where “XX” is the distance they are launching from (e.g., “Firing from 30 feet!”). If a proper announcement is not made, then the judges may decide to deduce points or not account any points for that launch.
6. A launch is only counted if the projectile moves beyond the front of the trebuchet.
7. Teams may adjust their distance to target any time.
8. If the judges announce “cease fire!”, then the team **MUST NOT** launch! This may occur if a “civilian” walks into the firing range (or any other reason). Failure to cease fire may result in immediate elimination or deduction of points. (Decision made by judges)
9. The team may launch up to 10 times in the time period. If the time expires, before the total number of launches, then the team will receive points obtained to that point.



