

## SPECIFICATIONS & RULES FOR TREBUCHET CONTEST

Only 1 machine will be allowed for the competition on Sunday October, 17th, 2021.

### Inspection Upon Arrival:

- All catapults will be inspected upon arrival for qualification.
  - Catapults that do meet the required specifications – see rule 6.
  - 2 Volunteers along with our staff will inspect and verify the following points of inspection:
    1. 2 Arm Locking Mechanisms required (1 for release and 1 for safety)
    2. Frame Dimensions
    3. Length of Arm
    4. Weights – no more than 800 lbs.
    5. Crank or Winch is optional (NO electric)
    6. Axle (Must be steel or metal)

### Catapult Specifications:

- Frame Height 6', Length 8', Width 6' – the Trebuchet can be smaller than the profile but not larger.
- Trebuchet arm not to exceed 10' (Wood portion not to exceed 8')
- Counterweights – secured steel plates or sand. Limit of 800 lbs.
- Axle **MUST** be steel or metal – no plastic or wood axles allowed.
- The sling, release mechanism and sling ropes are left to the design of the teams. Slings may either stay affixed to the arm during launch or leave the arm with the projectile.
- No mechanical devices, such as, but not limited to, springs and hydraulic rams are allowed on the trebuchets. No mechanical advantage such as springs, shock cords, air cylinder, etc. can be used. No electrical winches may be used to load or set the arm for launch.

The following **RULES** will be in place for our competition. Since this is a non-sanctioned event, all decisions concerning rules will be determined by the staff of the Great Pumpkin Farm.

1. Each team **MUST** be accompanied by a faculty representative at all times.
2. **SAFETY FIRST.** Any machine that is deemed unsafe or any unsafe or reckless actions by team members may lead to disqualification. **NO PARKING BEHIND THE CATAPULT AREA.**
3. Each team will be allowed to launch six pumpkins. The pumpkin must leave the machine intact; however, one (1) re-throw will be awarded for a pumpkin that breaks on launch. The Great Pumpkin Farm reserves the right to grant any team an extra throw due to machine malfunction.
4. Firing order will be on a first come basis. Each team will be allowed to choose their pumpkins from a supply provided by the Great Pumpkin Farm. The pumpkins will weigh between 6 and 8 pounds. Time and weather permitting, teams may be allowed one (1) practice throw before the competition on Sunday.

5. Teams are limited to eight members and no more than 2 faculty advisers in the firing box. However, teams may freely substitute members for each launch. SAFETY FIRST. Only Great Pumpkin Farm Staff are allowed on the scoring field during the competition.
6. All machines must be ready to fire within 5-10 minutes of notification by the event staff. Teams may not be in a firing box while another team is shooting. Teams, therefore must be aware of their firing status, and be prepared to enter a firing box when called by the event staff. **Catapults that do not meet the required specifications** will have up to 15 minutes after the last team has shot to make their catapult compliant. If they are not able to make their catapult compliant but can still shoot their catapult safely, they will be allowed to shoot but their shots will not count in the competition.
7. All machines must have 2 Arm Locking Mechanisms (1 for release and 1 for safety) to hold the throwing arm while loading and to prevent a premature launch. The faculty advisor will designate team members as the launchers. Gloves and safety glasses are highly recommended for team members releasing the firing mechanism. Teams may remove weights from their machine to facilitate cocking and loading of the trebuchet. No electrical devices may be used to load the machines. Hand cranks or winches are optional. Wheels on the catapult are also optional.
8. In the unlikely event of a tie for longest distance thrown, winner will be determined by distance of their 2<sup>nd</sup> shot and/or 3<sup>rd</sup> shot if necessary. If this results in a tie teams will be allowed an extra throw to determine the winner.

#### **Awards and/or Prize Money:**

- Every Team will receive a participation plaque.
- 3 Shots for Longest Distance.
- Total of longest distance of all shots.
- 3 Shots for **Target Points** – target will be set at 150 ft. Shot must be ON THE FLY – if the pumpkin hits the ground first and then the target the shot will not count. Target to be revealed at the competition.
- **Additional prizes will be awarded for Best decorated Trebuchet and Most School Team Spirit.**
- **NEW this Year: A representative from your school must be present to receive prize money and/or trophies otherwise they will be forfeited.**

**Prize money to the schools totals approx. \$2800 - no school can win more than one monetary prize (highest possible will be awarded) for single and combined throws only. In other words, we want to share the wealth and help more classes to continue with their technology education. Although the monetary prizes are limited to one, the trophies will be awarded to the schools with the actual record.**