

# Catapulted Egg Catcher

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Your mission is to build a catapult that will launch a fresh/raw/naked chicken egg (temp range: 60-75°F) and an egg catcher to catch the egg without the egg breaking. The farther the egg is launched and subsequently caught, the better the score.

## CATAPULT

ANY catapult type (typically thought to be a rigid arm that rotates around a fixed axis) is applicable. The catapult can launch the egg “overhand”, “underhand”, “sidearm”, or any combination of the above or by other methods not mentioned but observed to be under the definition of a catapult. The size limitation of the catapult is (1m x 1m x 1m) in the uncocked position (rest position with no forces acting on the arm except residual friction, residual tensions, and the weight of the arm). There is a maximum mass limitation of 5kg (not including counter weight if used). For each 0.250 kg increase over this amount, there will be a 3-point reduction. Catapults that use a counterweight must be able to remove the weight for massing purposes (penalty: disqualification). Teams should bring the catapult without the weight attached and then add to the catapult after massing and measuring.

## EGG CATCHER

The catcher can be made of any materials. The size limitation is (0.3m x 0.3m x 0.3m) and has a minimum mass limitation of 2.5 kg. Masses under this value will be discounted 3 points per each 0.1kg. The catcher must catch the egg without cracking or breaking the egg. Eggs cannot touch the ground at any time or will be considered a non-catch. Teams must bring a large piece of plastic to put under their catcher to maximize clean up ability (penalty 5 points).

## LAUNCH

The distance between the launcher and the catcher will be measured by the (least possible) direct linear distance between the bases of the two devices. Students must provide all of their own eggs and must clean up all launched eggs. Failure to clean up will result in a reduction of 10 points. Each team will get 2 minutes to fire a maximum of 6 different eggs once. The best trial will be accepted for the team’s score.

It is expected that multiple teams will be launching at the same time to ensure that the event finishes at a reasonable time.

## SCORING

Teams will be ranked in the following order: (1) longest to shortest distance caught unbroken, (2) eggs launched and caught with cracks or breaks (longest to shortest), (3) eggs not caught with the catcher will be ranked by distance (longest to shortest) but after caught eggs (broken or not). Disqualifications receive 15 points per the league charter.

**IF INCLIMATE WEATHER IS A PROBLEM AND THE EVENT IS FORCED INDOORS, WE WILL LAUNCH TENNIS BALLS WITH SAME RULES EXCLUDING CRACKS AND BREAKS. TEAMS SHOULD COME PREPARED EITHER WAY WITH BOTH EGGS AND TENNIS BALLS AND THE ABILITY TO MODIFY THEIR CATAPULT FOR EITHER EGGS OR TENNIS BALLS.**

Weather conditions are what they are which means that if it is windy, humid, or other conditions exist that are less than optimal, the event will continue in the outdoor setting and teams will be expected to demonstrate their catapult under the existing conditions with NO recourse for unexpected results. Judges will have the ability to evaluate situations on a case by case basis with the expectation that rulings will be applied as equally as possible.