

# Egg Drop

## Description:

The objective of this event is to have a two-person team design, test, and compete a device to protect an egg from breaking when dropped from a given height.

Number of Participants: 2

Approximate Time: 15min

## The Competition:

### 1. Device Construction:

- a. The device needs to be pre-built and brought to the competition.
- b. The device must include an opening in which to load the egg at the time of testing.
- c. The device must be no larger than 30cm in any given dimension and must weigh less than 1 kg.
- d. Materials: Glass and Metal may not be used in the construction of the device. All other materials are permitted.
- e. The device may not use a parachute, helicopter rotor, or any other method to slow the descent of the device. The emphasis of is on the design of the impact protection device.

### 2. Design and Test Documentation:

- a. Teams are required to present documentation of **two** test drops made and any changes made to the design after testing. Documentation should include a picture of the design being tested (Illustrated or Photograph), result of the test (Broken or Un-Broken Egg), observations made, and the design change based on the result.
- b. Teams that **do not provide documentation** will be assessed a **100gram penalty**.

### 3. Device Testing:

- a. At the designated time, students will begin by checking in their device for measurement. Students will be given an opportunity to adjust their device if it does not meet the requirements.
- b. After measurement, the team will be given an un-broken, standard, grade "A" large egg to place inside of their device.
- c. The device will be dropped from a designated height by the supervisor on competition day. The height will be announced prior to the event.
- d. After the device is dropped, students must retrieve the egg from inside the device and present to the supervisor. An egg will be deemed to survive if it passes a paper-towel test. If a paper towel remains clean after wiping the egg, then the egg has survived.

### 4. Scoring:

- a. Devices that protect the egg will be ranked above those whose eggs are broken.
- b. The weight of the device will be the primary scoring measure with any penalties added to the weight. Lowest score wins. The height of the package in launch orientation will be the tie-breaker.