

# Egg Protector

## **Objective:**

To build a protective enclosure for a raw egg. The enclosure will protect the uncooked egg while dropped from a height of approximately 20 feet.

## **Background:**

The egg drop event is an excellent way for students to show their applications of science and mathematics in creative and fun ways. Acceleration, impulse and momentum, structural design, and materials are just a few of the concepts needed.

We will have two categories for the participants:

A) Air Drag Devices (those enclosures that utilize parachutes, wings, propellers, or other devices to slow the enclosure as it falls)

B) Non-Air Drag Devices (those enclosures that fall freely to the ground without trying to slow their descent with the use of air drag)

The rules for both categories:

1. The maximum weight of the entire assembly is 1 kg.
2. The dimension of the entire assembly, must be less than 20 cm x 20 cm x 20 cm.
3. No balloons allowed – That is the only restriction to the materials allowed.
4. Eggs will be supplied to the participants at the time of the contest.
5. Participants will have 10 minutes to secure the eggs in their protective enclosures.
6. The protective enclosure, with egg, will be dropped from a height of approximately 20ft.
7. Immediately after the landing the egg will be judged as undamaged or damaged (contains visible cracks or worse). Protective enclosures with damaged egg will be disqualified.
8. The enclosures that successfully protect their eggs will be weighed, with all materials included except the egg. The one with the lowest weight is the winner.

## **Materials:**

Supplied to the participants:

- Egg (raw)

Supplied by the participants:

- Protective egg enclosure