Discovery Cube
Egg Drop Contest Parameters

Design Objective
Design and build an egg transport vehicle (ETV) to safely withstand the punishing effects of gravity and accurately land an uncooked large grade A egg traveling through vertical space of up to 7.62 meters. Entrants will compete to design the device with the lightest weight, the fewest number of parts, and egg integrity factor.

Awards will be given for the three ETV’s with the bottom three non-zero point totals. Lowest non-zero total takes first place, second lowest non-zero total takes second place and third lowest non-zero total takes third place. Ties will be handled according to the competition and scoring rules listed below.

Materials and Design
There are no restrictions on materials used or the shape and design of the ETV with the exception the ETV cannot exceed 15 inches in any diameter or diagonal dimension. This means the ETV must be able to fit inside a sphere with a 15 inch diameter. If the ETV has wings or a parachute, the longest length will be measured with the wings or parachute fully expanded.

The ETV must be built so that an egg can be loaded or unloaded in less than 1 minute. Eggs will be loaded into the device just before the drop. Discovery Cube will provide large grade A eggs.

Competition and Scoring
- Each device entered will be weighed at the contest and assigned a number. The weight will be measured in grams with no egg inside.
- The number of parts used for each device will be counted on the day of the contest. Each individual piece will count as one part. For example, if the egg is cradled in 100 Styrofoam peanuts glued together the device will have 101 parts, 100 parts peanuts and 1 part glue. **Gases, other than air, will be considered a part.**
- A panel of judges will be responsible for tallying parts per ETV, ETV weight and Egg Integrity Factor after each drop. Judges decision is final. DC reserves the right to change the rules of the competition.
- All drops will be conducted by a representative of Discovery Cube. All drops will be conducted identically.
- ETVs will be hand dropped over the target. Judges will carry out the drop identically for each ETV.
- If there is a tie, a drop-off contest will begin. All of the entrants that tied will continue to drop their device until one device has a clearly winning score.
- No repairs are allowed once the contest begins.
- The event takes place rain or shine.
- The score will be calculated using the following formula. If the egg cracks, your score is zero. The lowest non-zero score wins.

Scoring Formula
\[
[30(W/31) + 30(N/18)] EIF
\]

Where
- \(W\) = Weight of the Device in Grams
- \(N\) = Number of Parts
- \(EIF\) = Egg Integrity Factor