

## MSE Egg Drop Contest Rules

1. The competition is sponsored by the Department of Materials Science and Engineering and the Materials Research Society with the intent that the entries focus on materials selection. The objective is to design a device with a focus on the materials used that will protect a “free range” grade A egg from breaking when dropped.
2. The score will be calculated using the following equation. The lowest nonzero score wins. As can be seen from the equation below the goal is to design a device with the lightest weight, the fewest number of parts, and the most accurate drop to the Drop Zone target.

$$score = \left[ \frac{30}{31}W + \frac{30}{18}N + 20DZ \right] EIF$$

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W	Weight in grams
N	Number of parts
DZ	Drop Zone
EIF	Egg Integrity Factor (1 is not cracked or 0 if cracked)

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3. Eggs will be provided on the day of the contest
4. Each device will be weighed at the contest with no egg inside
5. The number of parts used for the device will be counted on the day of the contest. Each individual structural component will generally count as one piece, and the official number of parts will be decided by a judge at the contest.
6. The Drop Zone will be comprised of three concentric rings: two, four, and six feet in diameter. A land entirely within the innermost ring will be one point, in the second ring will be two points, in the third ring will be three points, and outside of all the rings will be four points. The device will receive points based on the outmost ring in which any part of the device lies.
7. **Materials which are not allowed in construction include gases (other than air), gels, pastes, liquids, any food item, overly messy materials, pvc pipe, and any potentially dangerous materials.** A judge will decide if any questionable devices are allowed to drop. Examples of restricted materials include peanut butter, rice, shaving cream, and helium. Please be mindful of those cleaning up after the event.
8. First, second, and third places will be announced on the Engineer’s Day website following the event
9. The entire device must be above the drop plane (even with the top of the railing) when released. It cannot be in contact with the ground, a person, or a structure. For example, a long slide may not be used to transport the egg from the balcony to the ground.

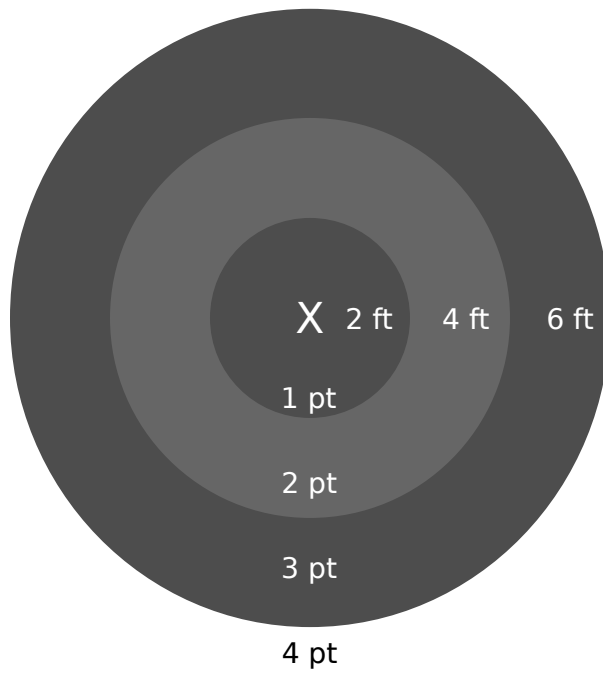


Figure 1: Drop Zone

10. Safety is a high priority, so anyone dropping their device before the drop zone is clear and their O.K. is given will be disqualified.
11. Anyone or Team may enter multiple devices as long as each design is unique.
12. Up to three modified drops will be allowed, if time permits.
13. A judge will determine if each entrant follows all contest rules
14. Drop height is approximately 32 ft.
15. Score sheets must be returned to the registration desk after the drop. Failure to return the sheet prevents scoring, and so the team cannot be ranked.