

Minimizing Negative Acceleration – The Egg Drop Assignment

Team Name or Device Name – You should come up a name for your team or device.

Task: Design and make a container/package that holds a single, large, uncooked egg that can be dropped from a height of 7-12 feet and will survive the landing. The teacher will provide an egg at the time of testing. This is a project to be done at home, alone or with one partner from the same period.

Scoring for the **Physical** Part

- 5 - Egg survives the fall fully intact
- 4 - Egg is cracked, but intact
- 3 - Egg is broken
- 0 - Project is not done or disqualified

The **Written** Part (each person does their own)

1. You need to have a written part with a diagram of your egg drop structure, and
2. You must describe how you have made acceleration less during the drop by **both**:
 - a. **decreasing the initial velocity** - as the egg hits the ground, and/or
 - b. how you **increased the time it took to stop** the egg once it starts hitting the ground.

Rules!

- Of course, the egg contraption must hit the ground! Mr. Keith will be doing the dropping.
- The project must weigh 1 pound or less, without the egg.
- Your egg project must fit on a regular size sheet of printer paper. No part can be longer than 11 inches. If you have a parachute or other attachment, that does not count in the 11 inches.
- You cannot use any materials that were manufactured to protect, or intended as packing materials.
- You may not use egg cartons, nerf balls, pillows, memory foam, popcorn, regular foam, peanut products, or stuffed animals to protect your egg.
- You may bring in your project early to weigh it just to make sure.
- If your project is overweight on **Drop Day**, then you will have a point deducted.
- Once a project is in school, it may not be touched by anyone other than its owner(s). Please have your name(s) and class period written on it.
- Once a project has hit the ground, it will be your responsibility to retrieve your egg and show it to the scorekeeper within 30 seconds.

One point will be deducted if the project is any of the following:

- Too large – does not fit on one piece of letter-sized printer paper.
- Too heavy – it is heavier than one pound.
- Forbidden materials
- Cannot take the egg out in 30 seconds