Minimizing Negative Acceleration – The Egg Drop Assignment

Task: Design and make a container/package that holds a single, large, uncooked egg that can be dropped from a height of 7-10 feet and will survive the landing. The teacher will provide the egg at the time of testing. This is a project to be done at home, alone or with one partner.

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

1. You need to have a written part with a diagram of you egg drop structure, and
2. You must describe how you have made acceleration less during the drop by:
    a. **minimized the 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 and its contraption must hit the ground! Mr. Keith will be doing the dropping.
- The egg and the project must weigh 2 pounds or less.
- Your egg project must fit on a regular size sheet of printer paper. (note that it may be 3 ft high and still fit on the paper)
- You may not use egg cartons, nerf balls, pillows, 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 when it is to be dropped 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 your responsibility to retrieve your egg and show it to the scorekeeper within 1 minute.

One point each 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 two pounds.
Using materials that are not allowed.
Cannot be unloaded within one minute.