

Egg Drop Project 2007-08

Who will build the softest landing zone?

Objective:

NASA is looking to design a space vessel that will transport a human to Mars and safely land on its surface. Your design team has been hired to build a model landing zone for the transport vessel. A jumbo egg will be used to simulate the Mars transport. Your goal is to design a landing zone that will keep the Mars transport from cracking when dropped from 3 different heights.

Mars surface building materials

1 aluminum roasting pan (provided by Mr. D)

Rules

- There are no restrictions on what materials you use to construct the landing zone.
- The materials you use must fit inside the dimensions of the pan provided.
- Your team will allowed 2 practice eggs.
- The egg will be dropped by you and cannot be altered in any manner.
- You are responsible for dropping the egg so it hits the landing zone. No third chances!
- Find the mass of your egg and measure the height of the drops.

Scoring (50 points for drop)

A – Egg survives the fall from the balcony intact 1st try

B+/A- – Egg survives the fall from the balcony intact 2nd try

B – Egg survives the fall from the ceiling intact

C – Egg survives the fall from the desk intact

F – Project not completed or done

Points will be deducted for rule violations.

Project Report (20 points)

In the newspaper article format discuss the success/failure of your tests. What worked in your design and what didn't? Would you make any changes in your design if you had to do this again? Also include the following data for the engineers. Explain how you arrived at your answers.

	Mass	Height	PEg	Vf	Fnet	a - acc	p – mom.
Balcony							

Timeline

We will spend 2 class days handing out materials and working on the design. Drop day will be announced at the start of the project. This project will require design and testing time outside of the classroom.