

# The Great Egg Drop Challenge!



## Objective:

The project is two-fold. First, YOU are to plan, design and build a vehicle that will protect a passenger (egg) from harm during a collision with the ground. Secondly, you are to produce a presentation about your project to present to the class.

## The Guidelines

- ✿ This is an individual effort.
- ✿ Research and design can be done at home.
- ✿ Construction **MUST** be done in school in the lab.
- ✿ Your vehicle's empty mass must be 200.0 grams or less.
- ✿ Your vehicle's **volume** must not be larger than 26.0 cm x 24.0 cm x 16.0 cm.
- ✿ The contest egg will be a **RAW** large Grade A chicken egg.
- ✿ You must supply your own test eggs. (Prepared properly they will make great omelets)
- ✿ You will be given **ONE** egg the day of the contest. (Guard it well)
- ✿ Nothing may be permanently attached to the egg.
  - No tape, no duct tape, no masking tape, no gorilla tape
- ✿ **No** foreign substance may be applied to the eggshell.
  - No glue, no epoxy, no paint, resin, no stickers etc.
- ✿ **No** substance may be molded to form a "pod" or capsule around the egg.
  - No peanut butter, no jelly, no gelation etc.
- ✿ Your vehicle **MUST** free-fall to the ground. No parachutes, wings or propellers of any kind.
- ✿ No **inflated** balloons, no bubble wrap, no Styrofoam, no popcorn or similar substances.
- ✿ Your vehicle shall be designed to withstand a fall from a **minimum** height of **one meter**.

## Attention

Egg shell **integrity** must be proven to be **uncompromised** after impact. So, you must remove the egg from the vehicle to prove it. There can be no cracks or holes of any kind.



## Materials for Construction:

### Choose ONE of the following:

Toothpicks (wooden only)	250 (standard 2 mm x 65 mm)
Soda straws (plastic only)	30 (standard size)
Paper cups (bathroom)	10 – 88.7 mL
Craft Sticks	30 sticks (11.30 cm x 1.00 cm x .20 cm)



### Choose TWO of the following:

Clothes hanger	1 regular size <b>wire</b> clothes hanger
Plastic wrap	1 30.5 cm by 30,5 cm sheet
String (no rope or twine)	No more than 62 cm
Balloons	4 - 4" or smaller
Cotton balls	10 regular sized white
Pipe cleaners	5 (30 cm each)
Rice	½ cup uncooked white rice

### Use ANY of the following:

Glue (including hot glue)	Glue sticks may NOT be used for structure
Newspaper as confetti	1 panel; may <b>NOT</b> be used <u>whole</u>
Rubber bands	10 Standard (no super bands)
Plastic bag	2 sandwich size

**No other type of material is allowed  
without prior permission.**

## Extra Credit

Extra credit may be earned in the following categories:

- 🌟 The lightest successful vehicle will receive five (5) points
- 🌟 Best aesthetic design (5, 4 and 3 points for 1st three (3) places)
- 🌟 Most spectacular crash (5 points awarded to two (2) vehicles)

***"Great things are NOT accomplished by those who yield to  
trends and fads and popular opinion."***

***- Jack Kerouac***