

*Drop Day : to be announced*

## **Eggcellent Eggceleration**

The 2012 PHS Egg Drop

*It ain't the fall that hurts; it's the landing!*

Eggs are very fragile and break easily... especially when dropped 10 meters onto a concrete parking lot! Your challenge is to design and produce an Egg Drop Capsule that will allow an unadulterated, raw egg to survive the impact 100% intact (ie: no cracking let alone spitting!)

### **The Rules:**

- ✓ Regulation eggs only: large size, no thick-shelled organic eggs allowed. Eggs will be provided on Drop Day.
- ✓ Your egg capsule must not exceed a total volume of 30,000 cm<sup>3</sup> or (30cm)<sup>3</sup>
- ✓ No single dimension can exceed 50 cm (except parachutes)
- ✓ It must have a mass of less than 2 kg (think 2 liters of soda) without the egg.
- ✓ It cannot contain anything toxic or dangerous
- ✓ It cannot create excessive mess (no goo, no stains, no blowing bits of litter)
- ✓ You may use your own raw egg so that you can encapsulate it before the competition, but you must give me your egg right after your drop so that I can crack it and make sure it is unadulterated.

### **What you will turn in:**

1. Make a to-scale sketch of your capsule with a brief paragraph that points out the features of your egg capsule and how and why you think it will work based on the principles that we have been discussing in class (Chapters 1-3). **Due the class before the drop.**
2. Build your egg drop capsule. It must be at school on the day of the competition, ready to weigh in and then drop.
3. A post-drop write-up that examines, in depth, why you think your capsule worked or didn't work and how you could improve it. If your capsule worked, improvements would be things that make it simpler, smaller, lighter, or less expensive. **Due the class after the drop.**

### **Prizes will be awarded for:**

- ✓ Best design that works
- ✓ Best design that doesn't work
- ✓ Coolest looking (doesn't need to work)
- ✓ Smallest design (least volume) that works
- ✓ Lightest design that works
- ✓ Most improbable design that works (looks sketchy but does the trick)

**Good Luck!!!!!!!!!!!!!!!!!!!!!!**