



**Physics Egg Drop Project 2014** Due Block Day: Dec 10<sup>th</sup> & 11<sup>th</sup>, 2014  
 NO LATE PROJECTS ACCEPTED. See me if you have any questions.

Research the best structural designs for passenger compartments. Research how compartments are designed to protect their precious cargo in collisions. Keep track of all sources and submit a works cited with the design rationale.

Design a **protective encasing for a raw egg** using only regular **drinking straws**, plain old office **scotch tape**, **string**, and **small paperclips** to be dropped off the second and third floors of the A Building. No other forms of tape, string, paperclips or straws may be used. The project must be **within 12"x12"x12"** *before, during, and after* the fall.

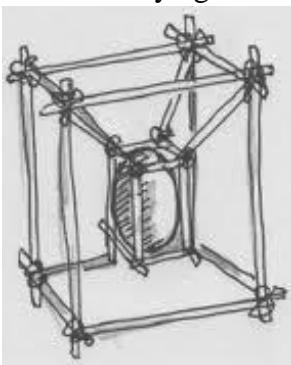
**Design Rationale:** Write a 1 - 2 page explanation and justification for your project's intentional design and modifications due on the egg drop day. Use your understanding of Physics and research of structural design and collisions to explain your design. The design rationale should be typed in 12 point font with 1" margins and include 2-3 small pictures or diagrams (*no larger than 1 square inch each*). Attach the works cited.

**Conclusion:** Explain what trends you noticed on egg drop day. What were the most/least successful designs? Why? What category was your device? What did you learn in designing, testing, researching, and refining your model? What did you learn in seeing the different designs dropped by classmates? What is one question you now have based upon this project? What test could you design to answer your question? The conclusion should be 1 to 1.5 page typed in 12 point font with 1" margins.

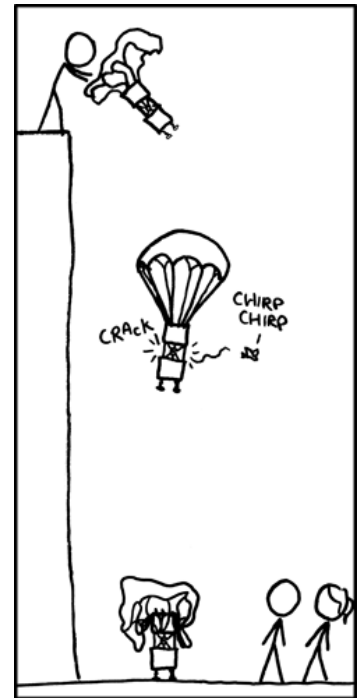
Conclusion Due: Friday, Dec 12<sup>th</sup>, 2014

- Any projects not meeting the design criteria (ie. larger than 12" cubed or improper materials) will automatically earn zero credit for their drops. Reminder: Project cannot expand beyond 12"x12"x12".
- Bonus points will be awarded to the lightest and heaviest egg drop designs to succeed from both drops.

- All projects will be dropped from both heights.
- Bring one medium size raw egg for your project. I will have extras in case any break.
- The teacher will inspect all eggs after each drop.
- Zero points are earned for cracked or broken eggs on the respective drop.
- The project must land directly below the release point on the tarp. (No sailing.)
- Student must be able to remove egg from project and hand to teacher within 20 seconds while staying on the tarp.



- Eggs cannot be directly taped. Eggs may not be hard boiled or tampered with in any way.



- Materials may be physically changed (cut, bent, etc.), but not chemically altered in any way.
- No late projects will be accepted.
- Use marker to label your name, period, and which way is up on your project.
- No Boba straws. No packing tape. No rope. See me if you have *any* questions regarding permissible materials.

**Points: 30 Total**

- DROP 1(Second Floor): 10 points
- DROP 2(Third Floor): 5 points
- Design Rationale: 10 points
- Conclusion 5 points

