

physics

To: My Beautiful Physics Class

From: Ms. Skinner

RE: Light bulb Drop Challenge

Remembering all that you have learned about impulses and changes in momentum, you are invited to participate in the annual NCS Physics Light Bulb Drop Challenge. Your mission is to design a package for a standard size, non-heavy duty incandescent light bulb that will protect it from a fall from the balcony. Please note that the "fall" may include an upward toss and/or flip. After the bulb is dropped, it will be tested (plugged into a lamp) to see if it still works.

At the time the light bulb is "dropped" you will be asked to present a brief one page paper (typed, double spaced) explaining the design of your package and how it was used to protect your light bulb. (Include concepts involving impulse, momentum, Newton's laws, etc.)

Additional information about the light bulb project:

- You must supply your own standard size light bulb(s). The use of any type of heavy duty, outdoor, etc., light bulbs is prohibited.
- We are not testing the effects of air resistance here, instead the effects of good packaging as it relates to changes in momentum. Therefore, you may not use designs that are meant to increase air resistance such as parachutes, gliders, etc.
- You may not use any commonly used packing materials such as packing peanuts, bubble wrap, etc.
- The lightest and smallest package will receive a five (5) point bonus. Also, a five (5) point bonus will be given to the most creative package.
- Light bulbs that survive the fall (in other words light up) will automatically receive a grade of C with additional points added for creativity, your explanation, etc. If your light bulb fails to survive the crash, however, so will you.

I love you!

Ms. Skinner

P.S. The invitation is not optional.