Afeefah Manzoor

Physics 1, P4

Egg Drop Engineering Report

Knowing that dropping an object the potential energy will convert to kinetic energy. To decrease the impact force, one may increase the time it takes to hit the impact object. Example of this are airbags in cars, pole-vaulting pits. They increase the time to stop the body of someone, decreasing the impact force and distributing the kinetic energy over a period of time. Another way to decrease the impact momentum is having something similar to a seatbelt by stopping the impact force to be very harsh or sharp stop.

I can incorporate both of these tactics by creating a cushioning for the egg, like a more comfortable seatbelt and creating a helicopter like top. Creating a cushioning will decrease the impact force that will affect the egg and absorb most of the shock. To distributing the kinetic energy over time I will need to create air resistance that will not drift too much. The helicopter like top will create a drag, air resistance, increasing the time of the egg in the air and may have less of an air drag compared to a similar idea of an parachute by not having as much as a parachute. Increasing the time in the air will reduce the force that will hit the egg and cushion underneath the egg a little barrier to the hard floor, softening the landing of the egg.

Sources

<http://www.physicsclassroom.com/class/momentum/Lesson-1/Real-World-Applications>

<https://thescienceclassroom.wikispaces.com/Seat+Belts>

<https://www.youtube.com/watch?v=nsnyl8llfH4>