Name: _____

Egg Drop Lab Activity

SPH4C

Introduction

If an egg is held above the ground at some height, it has gravitational potential energy.

If the egg is released, that gravitational potential energy will be converted to kinetic energy as the egg falls.

When the egg meets the ground, negative work is done on the egg to stop it as the ground exerts a normal force on the egg opposite its direction of motion.

This force typically breaks the eggshell.

Your Task

Your task is to design a container that can protect an egg upon impact when it is dropped from a given height.

Containers can protect eggs by increasing the distance over which the work is done to stop the egg (since the container is usually larger than the egg), thus reducing the required force.

Containers can also protect eggs by absorbing some of the energy and converting it to other kinds of energy such as elastic potential energy or work done to deform the container.

Your Materials

Paper, tape, popsicle sticks (maximum 12), and elastic bands (maximum 8)

Your Restrictions

You have 45 minutes to construct your container. You must be able to get the egg into the container before the drop and out of the container after the drop within 15 seconds each time. The egg will be provided by your teacher right before the drop.

Your Results (must be initialled by your teacher)

Egg survived 1 m drop (75%) _____

Egg survived 2 m drop (100%) _____

Egg survived drop from top of stairs (110%) _____

Your Comment

Identify the most important element of your design and explain how it worked: