

Short Duration Collision Felt Force increase
Long Duration Collision Felt Force increases
" Hint:Long Duration Protects the Egg"

Impulse = Force X Duration

CCG-Understand the interactions of energy & matter. McCauley 2003

Egg Drop Pre-Lab

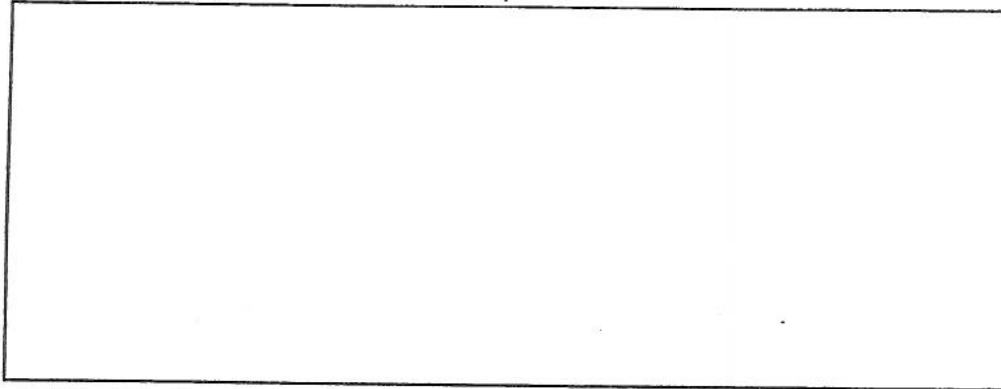
Name _____ Period _____ Due _____

YOUR TASK: Your task is to produce a craft which an egg (egg must be inside of the craft) can be dropped from a height of 2 meters or higher and not break. The goal is for each student to use their knowledge of potential and kinetic energy to keep an egg from breaking or cracking when dropped.

REQUIREMENTS: Each craft can be built with a maximum of 10 pieces of paper and 10 pieces of tape 1 inch in length. Students may also make 20 staples on each craft. The craft can reach a maximum height of 40 inches and no other materials are allowed.

MAKE A PLAN: Put together your ideas on how to build the egg drop craft and make a plan. All the work to build the craft must be done in class. The student can test ideas at home, but the student must bring own paper (I'll supply the tape and staples) and rebuild the craft in class.

1. Draw the craft below and label the diagram parts with approximate measurements (don't forget the units) off to the side of the picture.



2. What is the name of your craft? _____

3. Identify all the materials you plan to use to build your craft.

4. Explain the set up of the craft and describe how it will work to protect the egg from the impact of hitting the ground.

5. Describe how the egg will survive the fall in the craft from the stairs in terms of kinetic and potential energy.

Egg Drop Laboratory v3.1 Updated 2006-07)

ANALYSIS AND RESULTS:

1. Did the egg survive the fall from the ladder? (Observation/Literal)

2. What was successful in the design of the craft? (Evaluative)

3. What would you change about your craft if you did the experiment again? (Evaluative)

4. As the egg drops, what type of energy conversion is taking place?
(Inferential/Word Meaning)

CONCLUSIONS AND EXPLANATIONS: (In 4-5 sentences, summarize what you did in this laboratory and what you learned in this laboratory. Explain what parts were successful and how you could improve your craft in the future. Sign and date the laboratory at the bottom of the paragraph).