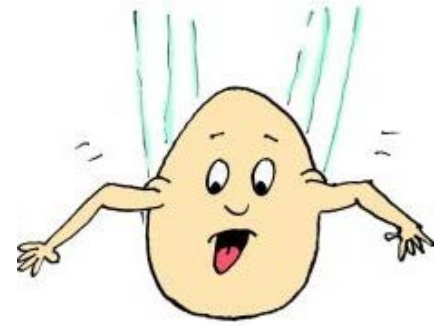


# Egg Drop Challenge - RULES

Barclay Science and Engineering Expo – May 5, 2022

## Competition Information:

- Read through the Criteria/Constraints and Restricted Materials section to make sure that your product meets the requirements.
- Complete a design packet with your family team and bring your product and packet to the Science and Engineering Expo for testing.
- Check in at the Egg Drop Testing Area starting at 5:30pm.
- The top three winning family teams will be awarded prizes! A parent must pick up and sign for their family prize.
- In the event of a tie, the total mass of the product will determine the winning team.



## Goal:

**Your family team will design and build a container that will allow an uncooked chicken egg to survive a free fall drop! *The egg must survive without any signs of cracking.***

## Criteria/Constraints:

- Your product should be a self-contained, free falling device.
- Your product must be constructed by your team (pre-made/purchased devices are prohibited).
- Your product must fit on a size of regular size copy paper (8.5 x 11"). This measurement must include any wing width.
- Your product must be no larger than 1ft tall. This measurement must include any parachute at full height.
- Your product must have an opening to insert/remove the egg (you may secure the opening once the egg is inserted). If your egg breaks during insertion or removal it is considered a non-survivor.
- Your product must not include any items from the Restricted Materials list.
- Your product will be weighed at check-in. The weight of the device will be used in the event of a tie (the devices with the lowest weight will win in the event of a tie).
- Your team name must be clearly written on your product!
- Your design packet must be complete.

## Restricted Materials List:

- Food items
- Powdered, liquid, or fluid (i.e. gels) substances (exceptions: dried glue)
- Bubble wrap or air pouches used for packing/shipping.
- Glass or pyrex
- Metal (exceptions: aluminum foil, staples, paperclips)
- Wood (exceptions: toothpicks, craft sticks)

**ALL ENTRIES MUST BE SUBMITTED WITH A  
COMPLETED DESIGN PACKET!**

# Egg Drop Challenge – DESIGN PACKET

Family Name: \_\_\_\_\_ Team Name: \_\_\_\_\_

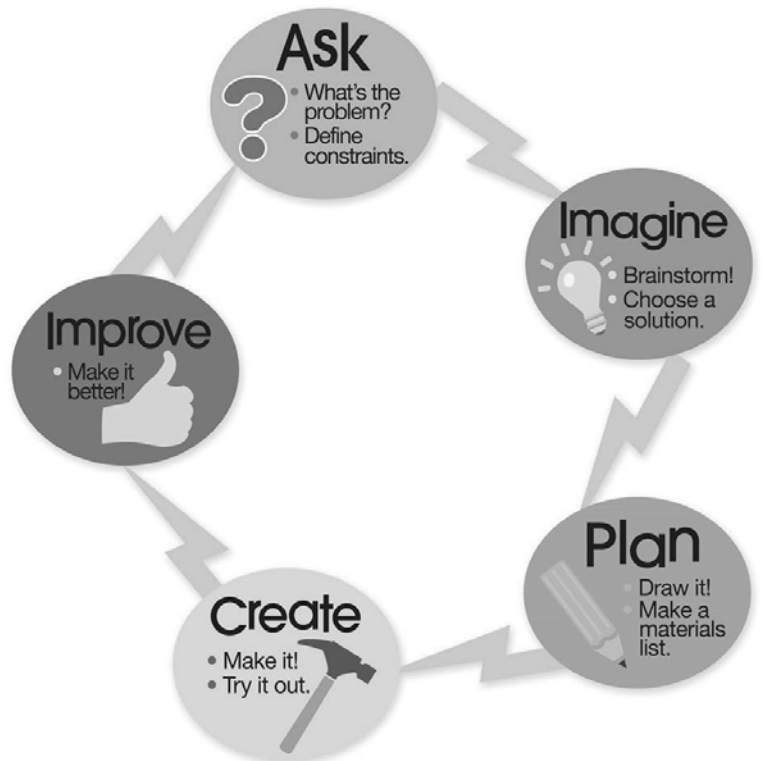
Team Members:

Name	If student, include grade. If adult, include relationship.

The Engineering Design Process refers to the steps that engineers use to solve problems. This design packet will lead your team through all five steps. **A complete packet is required at the time of testing!**

## STEP 1 - Ask!

What is the problem that you're trying to solve?



## STEP 2 - Imagine!

Come up with up to four different ideas on how to solve the problem. You can use words or drawings to brainstorm your ideas. If using drawings, please label your materials.

Idea 1	Idea 2
Idea 3	Idea 4

## STEP 3 - Plan!

Your team should vote on one your ideas. Below, create a technical drawing of your plan! Please label the materials in your drawing and create a materials list in the space provided.

Drawing	Materials List
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#### STEP 4 – Create!

Begin building your product! Include your team member contributions below. Possible roles include *materials managing, technical drawings, lead builder, idea generator, task manager, note taker, encourager, project planner, etc.*

Team Member Name	Contributions

#### STEP 5 – Improve!

What kind of improvements did you make to your product?

Draw your final design and include a materials list in the space below.

Drawing	Materials List
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