

Egg Drop Rules & Guidelines

Challenge

Participants will design and build an apparatus that will protect a jumbo egg from breaking as it freefalls from a height of approximately 11 feet. This is an individual event. – **We will hold our class competition on Thursday, Nov. 7th.** Your final Egg Drop Journal will be due the following Friday, Nov. 8. The school-wide competition in Nov 14.

Materials/Guidelines

- **Materials:** The apparatus may be constructed of any material except metal, glass or other shatterable material (for safety reasons). Failure to use approved materials will result in automatic disqualification from possible participation in the school competition and will cause you to lose points on your final grade. Shatterable devices will not be tested.
- **Mass:** The apparatus (without the egg) shall not exceed 250.0 grams in mass. Designs weighing more than 250.0 grams will result in automatic disqualification from possible participation in the school competition.
- **Volume:** The apparatus must fit completely inside of a 20 cm x 20 cm x 20 cm box. Designs that do not fit in within the prescribed space will result in automatic disqualification from possible participation in the school competition. (Apparatus drops independently of any other material)
- The apparatus must freefall without contacting humans or other objects; no strings, chutes, etc. may be used. **Tethers, parachutes and other air resistance devices are prohibited.**
- Containers must be designed so that the egg may be inserted easily before competing, and easily checked after the drop test.
- The egg must stay inside the apparatus throughout the drop test. (This includes after it has hit the ground)
- Unique and innovative design will be an important part of the competition. A “minimum dimension” measurement will be used to help determine the designs that move on to the school competition.

Note: To determine the "minimum dimension," participants will place their apparatus on a flat horizontal surface in whatever orientation they choose. The judge will measure from the ground to the highest point on the device while the measurement is occurring. After the measurement, the device may not be modified before the drop. This rule should favor unconventional designs

Egg
The egg will be provided by Mr. Sprayberry at the time of the competition. It will be a grade A raw jumbo egg. Any manipulation of the egg to alter its physical properties will result in automatic disqualification. Egg condition is the responsibility of the student upon receive until it has been check and returned to the teacher.

Height of Drop

The apparatus will be dropped by the participant from a height of approximately 11 feet on to concrete

Grading

Students will be graded using the following rubric:

Materials List (20 points) – list all materials you used to build/test your apparatus.

Procedure (20 points) – describe in detail the process you carried out to build/test/revise your apparatus.

Trial Results (20 points) – explain the results of each of your trials, including changes you made to your design after each trial.

Result of drop (10 points) (after November 1) – describe the results of your test day drop, including variables that could have contributed to your result (weather, drop mechanics, landing angle, etc...).

Reflection (20 points) – reflect on your apparatus' success or failure. Be sure to address the following questions:

- 1) What would you do differently if you were starting over from the beginning?
- 2) What are some ways you could improve your design?

Success/Failure (10 points) – did your egg survive the drop on test day?

Final Grade Rubric

You will not receive a grade until you turn in this rubric!

Student Name _____

Egg survived drop: Yes / No

Materials List _____ / 20

Procedure _____ / 20

Trial Results _____ / 20

Result of drop _____ / 10

Reflection _____ / 20

Success/Failure _____ / 10

Final grade: _____ / 100