



ROCAME JAMBOREE COMPETITION CATEGORY

EGG DROP

Description: Students will construct a device that will contain one “Grade A” large egg and protect it from damage when the device is dropped from increasing heights. Accuracy of the drop is also a factor in determining the winner.

Number of Participants: 2 per team

Approximate Time: 50 minutes
20 - 30 Minutes for construction

Event Competition:

1. Students will be supplied with some or all of the following materials at the discretion of the event coordinator:
 - One “Grade A” large egg (raw)
 - One (1) “8 ½ x 11” sheet of goldenrod paper
 - 10 - 20 drinking straws
 - 10 - 20 popsicle sticks and/or tongue depressors
 - A limited amount of string
 - One (1) meter of masking tape. **NOTE:** No masking tape can touch or be wrapped around the egg in any way.
 - 2 - 5 rubber bands
 - Other simple construction materials (scissors, glue, paper clips, etc.) as determined by the coordinator
2. All teams will receive the same type and quantity materials. Only those materials should be used by students. Students do not have to use all of the materials.
3. Students will be given up to 30 minutes to complete the construction of their device and load the egg.
4. The egg must be enclosed in the goldenrod paper.

5. Once the construction time is finished, all students will take their device to the drop site.
6. The students will take turns dropping their device on a hard, flat, and level surface from a given height. Event leaders will work with students to make sure that the bottom of the device is at least the specified height above the target when it is released. A beginning height of 1- 2 meters is suggested.
7. After each drop, the distance from the center of the target to the farthest point of the device at rest will be measured. This factor will be used to break ties. The shortest distance wins.
8. Devices will be inspected to determine if the egg has broken*. **NOTE:** Goldenrod paper changes color upon contact with protein. All devices that successfully protect the egg will be dropped from the next height. A ½ meter increment is suggested.
9. Only minor repairs can be made to the device before the next drop. **NO NEW** materials will be added to the device. The team must be ready to continue for the next drop and the new height when their team is called.
10. The height will be increased until all places have been determined or until safety factors limit additional heights. In the later case, the tie breaker will need to be used.

SCORING:

The team with the device that can be dropped from the greatest height without breaking or cracking the egg will be the winner. Accuracy, as described in #7, will be used to break ties.

* “Broken” means that the egg is leaking fluid.

This competition assist in learning about construction, velocity and gravity. Can you construct a device that will safely secure an egg based on height and the rate at which it falls?