

Golf Ball Barrage 2016

Objective: To project a golf ball over a barrier and accurately strike a target on the floor.

Materials

- 1) Competitors will build a device of specific materials and dimensions that will project a regulation golf ball accurately over a barrier and onto a target on the floor.
- 2) The device may be made from the following list of materials only:
 - wood, cardboard, paper, rubber bands, bungee cords, tape, string
 - No metal or plastic can be used in the construction of the device except that metal nails and screws may be used as fasteners only. Metal hinges may not be used. Glue may be used to fasten parts of the device.

Competition

- 1) The device must be constructed to fit inside a box that is 1.00 meters x 1.00 m x 1.00 m. At no time during the competition can the device exceed these dimensions. The device must not exceed 4 kilograms.
- 2) Each team will be allowed 3 minutes to set up their device before each of their two trials.
- 3) Two students will be allowed in the competition area. One will be allowed to hold the device in place so that it does not move. The device cannot be glued, taped or attached to the floor in anyway. Ramps, catapults, sling shots are some examples of allowable devices.
- 4) The device will be placed on the floor behind a Start line. The bull's eye of the Target will be placed on the floor 2.00 meters from the Start line (for location A. Location B target distance will vary as described below). A barrier (board) 55 cm tall and $\frac{3}{4}$ inch thick will be placed 1.00 meters in front of the Start line and between the Target and the Start line. The entire device and all its parts must remain behind the Start line at all times. The device may be placed behind the start line any distance up to three meters.
- 5) The competitors must complete two trials: Trial one with the target at Location A and Trial two with the target at Location B. The device should be able to hit both target distances without being moved. The device may not be moved to a new location for the second trial.
- 6) All energy for projecting must come from gravitational or elastic potential energy stored in the ball or the device in their starting positions. The competitors may not aim or supply energy to the ball or the device after it is released.
- 7) The golf ball must be in contact with the device and released by the competitor at the start. The ball can reach any height after leaving the device.

For grades 5 – 7

The ball may bounce once between the Start line and the barrier before going over the barrier and striking the target.

- Location A is 2.00 meters from the Start line and 1.00 meters beyond the barrier.
- Location B is 2.50 meters from the start line and 1.50 m from the barrier.
- A different device may be used for the second trial.

For grades 8-12

The ball may not bounce once between the Start line and the barrier.

- Location A is 2.00 m from the Start line and 1.0 m from the barrier.
- Location B is a distance between 3.0 m – 4.0 m from the start line selected by the judges
- A different device may be used for the second trial.

Judging

The impact distance will be measured from the target to the first point of impact with the floor beyond the barrier.

The impact distance for Trial one and Trial two will be measured and added together giving the Total Impact Distance.

The score will be derived by the formula: 1000 divided by Total Impact Distance

Score = 1000 / Total Impact Distance

**For grades 8-12, the second trial score will be based on error distance/target distance to compensate those teams that draw greater distances (i.e. 4.0 meters instead of 3.0 meters).

Judge: [Wilson Bascom mwbascom@earthlink.net](mailto:Wilson.Bascom@earthlink.net)

website:

<http://www.montgomeryschoolsmd.org/schools/woottonhs/academics/finalfront/finalfront.aspx>

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