

2008 Physics Olympics

Ping-Pong Ball Launch

Rules

1. The device must have a bottom surface that will not harm the gym floor.
2. The only size limit is that it must have a base that will fit into a 0.5 square meter shooting box. This is the largest it may be.
3. The device must be hand made – no commercial catapults. The judge's ruling is final.
4. The only source of power must be present on the device at all times and must be able to store potential energy. (No compressed air tanks or electric motors)
5. There has to be a release mechanism or trigger on the device – **You must be able to arm the device and be able to walk away without it releasing the ping-pong ball.**
6. You cannot add or take off any part of the device between the 3 trials.

Competition

1. Each team will launch four ping-pong balls at the target on the floor at each of the three distances.
2. The distances will be 2 meters, 4 meters, and 7 meters, as measured from the center of the target to the front of the shooting box.
3. The device can be placed anywhere in the shooting box, the box will be a 0.5 meter square.
4. You may take practice shots for five minutes but once you tell the judge you are ready, you will have four shots at the target.
5. **There is a five-minute time limit to get your four launches off, any launches after five minutes will be counted as a zero.** The judges will have a stopwatch to time your 5 minutes, no time extensions!
6. You will be given **brief** time period to make adjustments between distances, you can try **two** practice launches but they will not count. **You must tell the judge when you are launching your four shoots.**
7. In case of breakage to your machine, you will be given a maximum of 15 minutes to try to repair the problem!

Scoring

1. The best three out of four launched will be counted for each distance.
2. The scoring is shown in the diagram.
3. The scores will be added from each distance and the team with the most total points wins.
4. In case of a tie, there will be a "shoot-off" using the following format:
 - a. 2 balls will be launched at the 4 meter, highest score wins
 - b. if there is still a tie, the target will be placed at the 7 meter position and 2 balls will be launched
 - c. if there is still a tie, the target will be placed at the 2 meter position

Grades

- A Must attain a total score of 250 pts. or more.
- B Must attain a total score of 150 pts. or more.
- C Must attain a total score of 100 pts. or more.
- D Must be able to launch a ball and be adjustable for the different distances.
- F Does not work or was disqualified.