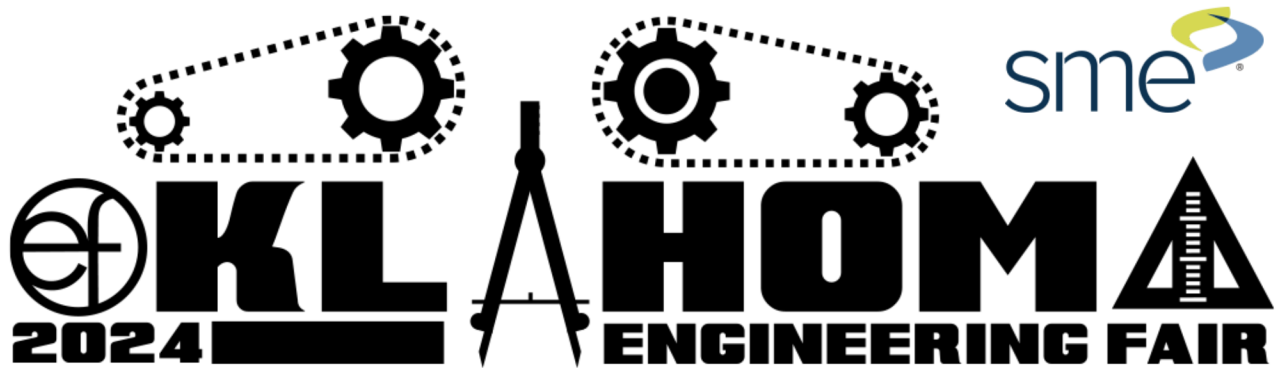




PING PONG LAUNCHER RULES

Sponsored by the SOCIETY of MANUFACTURING ENGINEERS, OKLAHOMA CHAPTER



FOREWARD

This contest is limited to five entries per school.

Each school MUST pre-register by February 16, 2024 or five days prior to the date of the Engineering Fair by visiting www.oef.org/2024-fair-registration. To expedite the check-in process, please complete the contest entry form prior to arrival, also found on the OEF website. Prizes will be awarded to winning entries from registered schools. Entries from unregistered schools will NOT be eligible for prizes.

Design Statement and Objective

Prior to the competition, each team will design and build a launcher which can catapult ping-pong balls at targets (#10 Cans 6 inches in diameter x 7 inches tall) located 12 feet from the launcher table. Launcher must shoot only one ball at a time and should be re-loadable in order to launch as many balls as possible within a three-minute time frame.

Materials (ALL MATERIALS ARE TO BE PROVIDED BY STUDENTS)

1. One standard household mousetrap. **NOTE: Rat Traps are NOT Allowed.**
2. Additional "add on" materials are permitted.
3. Sufficient quantity of ping-pong balls. **A MINIMUM of 3 dozen balls PER launcher.**

NOTE: Each team should have their OWN supply of ping-pong balls in order to keep the competition running efficiently; i.e., teams are expected to be ready to compete IMMEDIATELY when their entry number is called. If entries from a school must share the supply of ping-pong balls, please see following note.

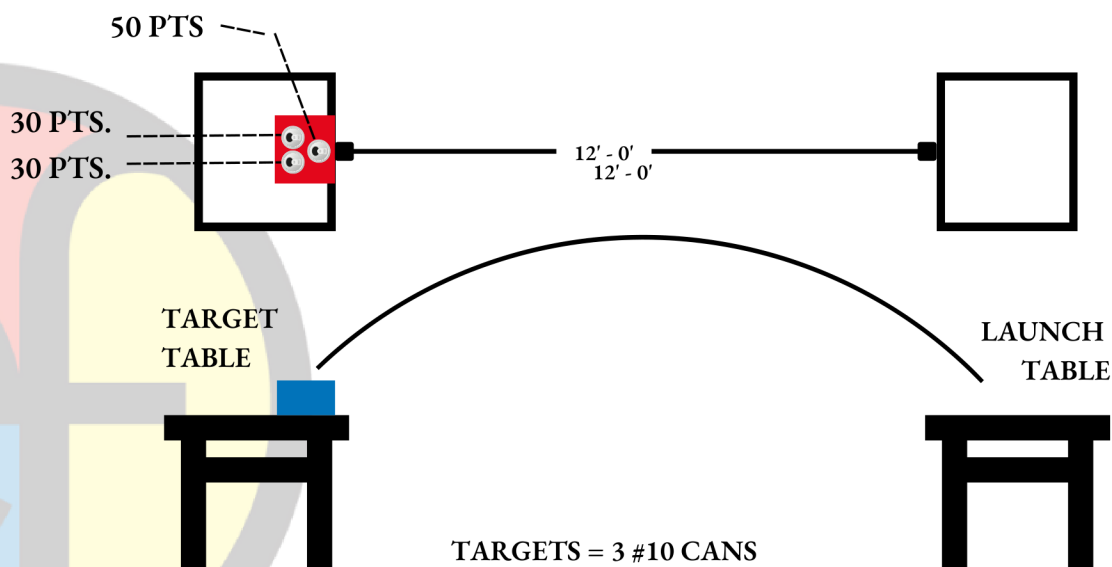
NOTE: Teams from the same school can share ping-pong balls if they are competing at different times. Please notify the volunteer at the contest registration desk so each entry may be placed in different competing "heats". If schools do not notify the registration volunteers they will not be allowed to share ping-pong balls during their competition "heat"

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RULES

1. Modify a mousetrap to launch ping-pong balls through the air. Only the tension of one mousetrap can be used as the force to shoot the balls. **ALL ORIGINAL PARTS OF A MOUSETRAP MUST BE VISIBLE, WHETHER FUNCTIONAL OR NOT.**
2. Targets will consist of three empty cans (size #10; EXAMPLE: cans; open end up, with an opening of approximately 6"). Cans are lined with a ¼" sheet of foam padding to reduce the bounce effect after the balls hit the inside of the target. Cans will be positioned side by side in a triangular configuration and placed at the edge of the target table closest to the launcher table. see diagram on following page.
3. **One team member** will operate the launcher (the "Shooter") while the other member (the "Catcher") retrieves stray balls, returning them to the launcher operator for additional launches. Team will earn points for each ball remaining in targets at the end of the three-minute time frame.
4. Launcher and targets will be on separate tables. Tables are 3' high and the facing edges of the tables will be positioned 12' apart. Table-top area will be at least 2.5' wide. The Launcher must fit on the table with no parts of the Launcher extending beyond the front of the table (towards targets).
5. Weight and/or size of the launcher should be heavy enough to remain stable during launches. Attaching launcher to the table is NOT permitted.
6. The launcher may be hand-held but must rest on the top of the table during launches. Distance between any part of the launcher and targets must be at least 12'. A "triggering" or "tripping" mechanism is optional.
7. Ping-Pong balls must enter the targets "on the fly". Balls that enter the targets after bouncing off the table, wall or backstop will **NOT** be counted.
8. Ping-Pong balls **CANNOT** be removed from targets during the three-minute time frame.
9. Multiple attempts and adjustments to the launcher are permitted within the three-minute time frame.
10. Each team must bring their own supply of ping-pong balls. Ping-pong balls cannot be modified to reduce their normal bounce. One thin coat of paint, to identify balls, is permitted.

DIAGRAM



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PROCEDURE, JUDGING AND SCORING

1. Teams will receive a Ping-Pong Ball Launcher Entry Form (PPBL-EF) at the competition site. Students must submit this form at the contest registration before Noon. Judges will then inspect the launcher and assign an entry number indicating students' turn in sequence of testing.
2. When your group number is called, you will need to promptly proceed to the assigned a launch table. Then proceed with competition when instructed to begin.
3. At the end of the team's three-minute time frame, judges will count balls remaining in targets (cans). Each ball in the rear two targets will yield 30 points; and 50 points per ball in the center front target (see diagram on page 2).
4. Team members must remain in the area until scoring for your launcher is complete
5. All entries must be registered at the contest location between 9:00 a.m. and 12:00 p.m. on Fair day. Competition will run until all registered entries have competed.
6. **Decision of judges, during all phases of the competition, is FINAL.** In the event of a tie, prizes will be equally distributed between winning entries.

CASH PRIZES AND DISTRIBUTION

Contest winners will be announced on the OEF website at <https://oef.org/2024winners> and on the BAND app, <https://band.us/n/a4ae73s2s3F7v> on or before March 1, 2024.

First, Second and Third place winners will receive medals.

The winning classrooms of the First, Second and Third Place entries will receive a cash award, which will be mailed on or before April 1, 2024.

CONTACT

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