

**Cowley College Math and Science Day**  
**February 10, 2010**

**Ping-Pong Ball Launcher Contest**

**Foreword**

Each Entry is a team project, conducted by two students.

A registration entry form must be completed by each competing school and returned to the Cowley College Natural Science Office by January 29, 2010.

**Design Statement and Objectives**

Prior to the competition, each team will design and build a launcher which can catapult ping-pong balls at targets (coffee cans) located **twelve feet** from the launcher table. The launcher must shoot one ball at a time and should be re-loadable in order to launch as many ping-pong balls as possible in a **three minute** time frame.

**Materials (ALL MATERIALS SHOULD BE SUPPLIED BY THE STUDENTS)**

1. One standard household mousetrap.
2. Additional “add on” materials are permitted.
3. Sufficient quantity of ping-pong balls- a minimum of 3 dozen balls per launcher.

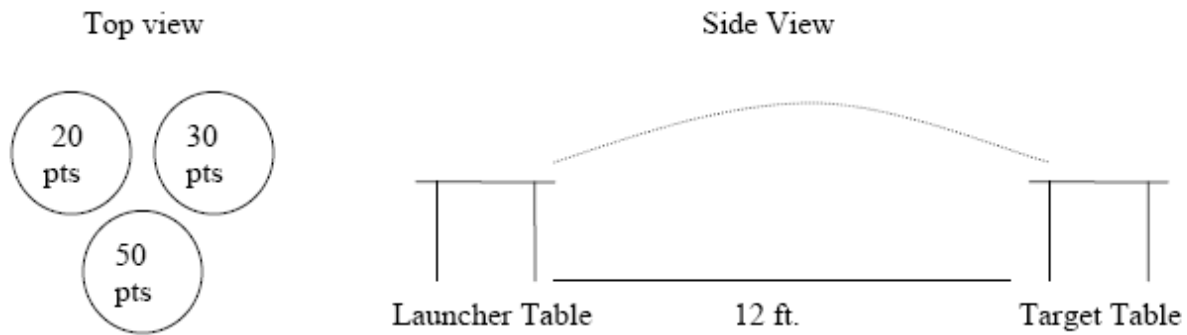
**Rules & Remarks**

1. Modify a mousetrap to launch ping-pong balls through the air. Only the spring tension of the mouse trap can be used as the force to shoot the balls. All original parts of the mousetrap must be visible, whether functional or not.
2. Targets will consist of three empty coffee cans (open end up with an opening of approximately 5 inches). The cans will be lined with a thin layer of bubble wrap to reduce the bounce effect after the balls hit the targets. Cans will be placed in a triangular configuration and placed on the edge of the target table closest to the launcher table (see diagram on back).
3. One team member will operate the launcher while the other member retrieves stray balls, returning them to the launcher operator for the maximum number of launches. Teams will earn points for each ball remaining in targets at the end of the three minute timeframe.
4. Launcher and targets will be on separate tables. Tables are approximately 3 feet high and the facing ends of the table will be placed 12 feet apart. The table-top area will be at least 2 ½ feet wide. The launcher must fit on the table with no parts of the launcher extending beyond the front of the table.
5. Weight and/or size of the launcher should be heavy enough to remain stable during launches. Attaching the 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. The distance between any part of the machine and the targets must be at least 12 feet.
7. Ping-pong balls must enter the targets on the fly. Balls that enter the targets after bouncing off the tale, wall or backstop will not count.
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 may not be modified to reduce their bounce other than a thin coat of paint for identifying the ping-pong balls.

**Procedure, Judging and Scoring**

1. Teams will receive a Launcher Contest Entry Form at the competition site. Team members must complete and return this form to the judges. Judges will inspect the launcher and assign an entry number indicating the students turn in the competition.
2. When your number is called, proceed to the assigned launch table and be prepared to launch.
3. At the end of the three minute time frame, judges will count the balls remaining in the targets- 50 points for a ball remaining in the center can, 30 points for remaining in the back right and 20 points for each ball remaining in the back left.
4. Team members will remain in the area until scoring of your launcher is complete.
5. Competitors will register their entry at the prescribed time. The completion will proceed continuously until all entrants have competed.
6. Decisions of the judges during all phases of the competition are final. In the event of a tie, a shoot off will be required.



Front of targets

Please direct any specific questions about this competition to Scott Layton at [laytons@cowley.edu](mailto:laytons@cowley.edu) or 620-441-5331