

NORTHSHORE SCIENCE LEAGUE EVENT  
NOVEMBER 2007

MECHANICAL BASKETBALL: ONLY SMALLER

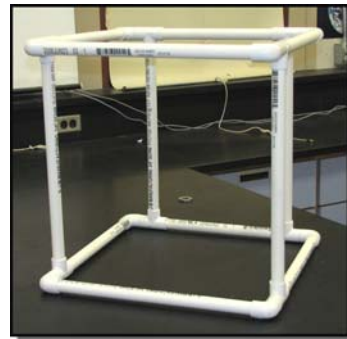
THE EVENT

For this event students have to design and build some apparatus that will shoot tennis balls into a container a certain distance away. Each team will have one minute to shoot up to 20 tennis balls into the container.

DIMENSIONS

**Size of Apparatus:** The apparatus must not have an overall dimension (at rest) greater than one meter, this is to say that at rest the apparatus should fit inside a box 1 meter x 1 meter x 1 meter. While throwing, the apparatus may have dimensions greater than the 1 meter limitations.

**Size of Arena:** Each team will shoot tennis balls at a container that will be 35 feet away, with dimensions of 18 inches by 18 inches on top and 21 inches high.



REGULATIONS/RESTRICTIONS

Each team member participating in this event must have safety goggles. These goggles must be presented at time of impoundment, and will be impounded with the apparatus. Any team not having safety goggles will have the standard 10 points deducted from their final normalized score. Teams may not borrow goggles from other teams to try to not lose points. Any teams that falsely presents safety goggles will have double the points deducted, and the team providing them with goggles will also have 20 points deducted from their score.

Your apparatus must have your schools name prominently displayed on it for identification purposes.

No chemicals, explosives, compressed air, electricity, or otherwise dangerous materials may be used in the apparatus. Materials such as bungees, springs, weights and levers, and magnets are fine to use.

The apparatus must do the shooting. The team may set it, but it must be the motion of the apparatus that does the shooting without any outside help from the students. For example, you cannot use something like a slingshot to shot the balls, as YOU are doing the aiming during the shooting. However you could build something like a stationary slingshot that a team could load and set, then push a button to fire without being continuously aimed by a student.

The tennis balls may not be modified in any way. They may not be glued, Velcroed, taped, tied or bound in anyway during shooting. Multiple tennis balls may be shot at once, but must be completely unattached to each other.

The apparatus may fire one ball at a time or up to 20 balls at a time, as long as its size and operation lie within the restrictions.

THE COMPETITION

When you get to the event your apparatus will be impounded. Order will be randomly chosen, and when a team is called they will have 45 seconds to set up and load. If space and equipment is available, there may be 2 teams going at once.

The ENTIRE apparatus (every single piece) must stay behind the start line throughout the competition. If it has an arm or lever that extends while shooting, it must be placed in such a way that no part of it crosses the start line. Any shot made when or as a result of the apparatus being across the start line will not count.

After 45 seconds, there will be a ready-set-go and each team will be allowed 60 seconds to shoot as many balls into the hoop as they can, up to 20 total made shots. Once a ball is made it cannot be taken out, but any missed balls may be collected by the other teammates and shot again. The apparatus may be adjusted in between shots, but the clock does not stop, and the apparatus must always be behind the start line.

SCORING

After 60 seconds the total number of balls in the container is counted and that is the team's score. The score will then be normalized as follows:

Most balls in gets 50 points, 2<sup>nd</sup> most 49 and so on under the normal NSSL scoring system. Tie number of balls will split the points, however if multiple teams make all 20 balls, the team to do so in the shorter amount of time will finish higher.