

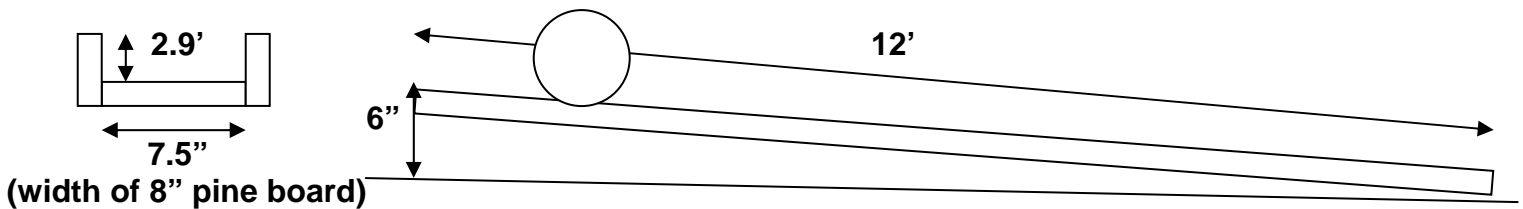
Slowest Roller

Duggan, Watertown HS, April 2009

The objective of the event is to create an object that relies on the distribution of mass about a fixed axis and rolls a set distance in the slowest amount of time.

Rules:

1. The roller must be 1 singular solid object with no moving parts.
2. The object must be made in the image of a disk, hoop, right cylinder, or sphere; i.e, have a continuous, uniform radius.
3. Minimum mass=0.25kg, Maximal mass=0.50kg
4. Maximum dimensions: $0 < \text{Radius} < 0.5\text{m}$, if in image of hoop, right cylinder, or disk, $0 < \text{thickness} < 0.15\text{m}$, Radius is from axis to edge of object.
5. The roller must move as one piece rotating about an axis at the center of the roller. The center of mass need not be the axis of rotation.
6. The object must have the intent of rolling straight down the ramp. Anomalies will be evaluated by and re-rolls are at the discretion of the judges.
7. Objects may not be coated in any substances that induce cohesion or increase friction.
8. Rollers must have a teams name displayed on the roller along with "A/B/C" for schools with multiple teams.



Event:

1. Time will be measure from release of roller until roller rolls off the board and hits floor; sound will make it easier for the judges to determine the end time of the roll. Composite rolls exceeding 120s will be dq'ed.
2. Each team will get two rolls. The average time will be used to rank teams. Teams must execute both rolls within a reasonable amount of time (determined by judges).
3. Objects will be rolled down a pine ramp that is a 1"x 8"x 12' piece of pine (actual dimensions are (0.75"x7.5"x12') that has 2.9+'' walls to keep the roller on the track and is 6'' above the floor at end of board (release side). Incidental contact between the roller and the walls is okay, intensional contact is not. If contact between the roller and the wall is determined excessive, a re-roll may be requested by the judges. Time measurements and re-rolls are completely at the discretion of the judges.

Scores:

1. Average times will be used to rank teams.
2. Scores will be determined in accordance with NSSL Charter.
3. Teams violating #3 or #4 of the rules will be ranked after all objects conforming to rules above plus an additional loss of 10 points from their scores.
4. Teams violating rules #1, #2, #5, or #7 will be disqualified. Teams purposely violating rule #6 will be disqualified.
5. Teams violating rule #8 will have 5 points subtracted from their score including "A/B/C" designation.