Mouse Trap Car

Eligibility

3 teams of 1-2 members per chapter may participate, one (1) entry per team.

The mouse trap car is to be built on site.

Objective

The objective is to build a vehicle that is powered solely by a standard-sized mouse trap that will travel the greatest linear distance.
By definition, a vehicle is a device with wheels and/or runners. Launching a ball or another object from the mouse trap will be ruled illegal. The entire vehicle must leave the start line and travel as one unit.

Procedure

1. Participants report to the event area at the time and place stated on the conference map and program.
2. The event coordinator distributes the information, directions, and assigns each team a turn to race.
3. Each team will race the car.

Regulations

1. The vehicle must be powered by a single Victor brand mouse trap

measuring: 1 - 3/4 inches X 3 - 7/8 inches.

2. The mouse trap cannot be physically altered except for the following:

- holes can be drilled only to mount the mouse trap to a frame
- the mouse trap's snapper arm may be cut and lengthened

3. The vehicle may not start with additional potential and/or kinetic energy other than what can be stored in the mouse trap's spring. The vehicle must start from a stationary positon anywhere behind the starting line.

4. The spring from the mouse trap cannot be altered or heat treated.

5. The mouse trap's spring cannot be wound more than its normal travel distance or 180 degrees.

6. Vehicles must be self-starting.

7. The vehicles must steer itself and may not receive a push in any direction in order avoid a collision.

8. The greatest linear distance is not the total distance a vehicle travels but is defined as the displacement distance of the vehicle from the start line. [For example, if the car does a big half-circle then only the distance perpendicular to the start line counts.]

9. The greatest linear distance will be measured perpendicular from the front of the starting line to the point of the vehicle that was closest to the start line when released and will not "angle" to where the vehicle comes to rest.

10. The instructor has the final decision as to the appropriateness of any additional items that might be used in the construction of the vehicle.

11. No kits are allowed.

Evaluation

The course will be a smooth level floor such as in a gym or hallway. The winner will be the team with the highest points.
The linear distance traveled will be converted to your distance score. For example, 23.5 inches traveled equals 23.5 points. For each completed section of the design process, you will earn 1 point.

Design Process documentation that includes the following:

- Identify Problem
- Generate Concepts
- Develop a Solution
- Construct and Test Prototype
- Evaluate Solution
- Present Solution

Documentation must be submitted in a secured folder upon checking in the Mouse Trap Car.

Any ties will be decided by a single run off between the tied vehicles. **If a group does not have documentation of Design Process, the car can still race, but cannot win the contest.** Each vehicle will run three races, adjustments will be limited to **up to two minutes** between races. A team that is adjusting beyond the two-minute mark will forfeit their turn.