

New Mexico Science Olympiad 2019-20 Fall Coach's Workshop

Mousetrap Vehicle B



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Mousetrap Vehicle

- Introduction
- [Science Olympiad Website](https://www.soinc.org/)
(<https://www.soinc.org/>)
- Review all Science Olympiad material for 2020, specifically related to Mousetrap Vehicle

Mousetrap Vehicle

[2020 Science Olympiad Rules Manuals](#)

- **Division B Rules Manual**, page 1- General Rules, Code of Ethics & Spirit of the Problem
(see hand-out, 4th page, Appendix A)
- **Division B Rules Manual**, pages 32-35, Mousetrap Vehicle Rules
(see hand-out)

Mousetrap Vehicle

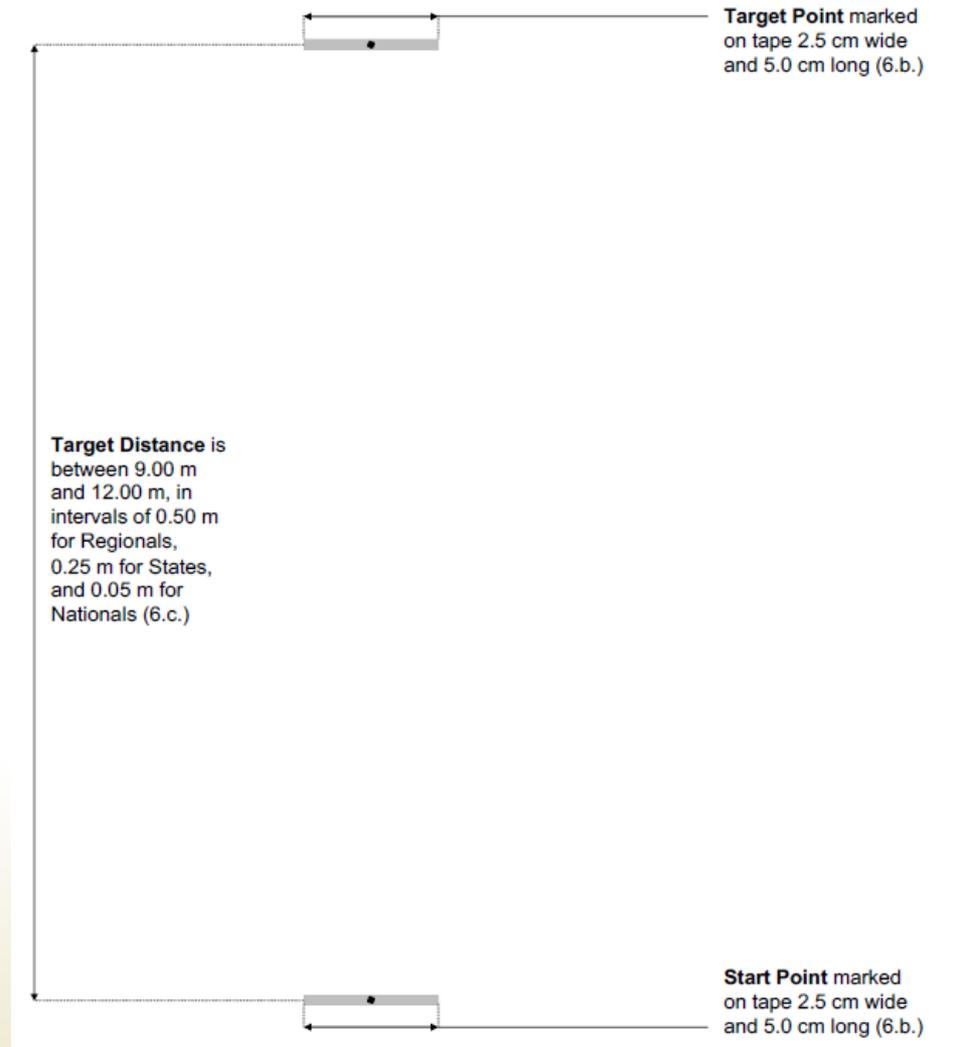
2020 Event Logistics Manual – see hand-out (more for Event Supervisor but good to know for Coaches)

- Page 37
- **Appendix A-** General Rules, Code of Ethics & Spirit of the Problem
- **Appendix B-** 2020 Science Olympiad Calculator Guide
- **Appendix C-** Eye Protection Guide
- [Indiana Science Olympiad 2019 Mousetrap Vehicle Judges' Guide](#) (YouTube)

(<https://www.youtube.com/watch?v=IMJOp9IBIPs>)

Mousetrap Vehicle

Track Layout for the Competition



Mousetrap Vehicle

Rules Clarification (<https://www.soinc.org/events/rules-clarifications>)-
MOUSETRAP VEHICLE, 10/29/19 (Division B)

7.f. Scoring, should read, edits in bold:

f. Tiers: The highest number Tier will be applied when more than one is applicable:

i. Tier 1: Runs with no violations

ii. Tier 2: **Runs with any competition violations**

iii. Tier 3: **Runs with any construction violations**

iv. Tier 4: Teams with 2 Failed Runs
impound period

v. Tier 5: Teams that did not impound their Vehicle during the

(Tier 2 and Tier 3 levels of violations were switched to be consistent with other Vehicle events)

Mousetrap Vehicle



MOUSETRAP VEHICLE B – 2020

Rank: _____

Team Number: B _____ Team Name: _____

Final Score: _____

Student Names: _____

1. T F 2.a. Team brings and impound one Vehicle, any alignment devices, a Practice Log, and Any additional/spare parts. (If false, tier 5)

2. T F 2.c. Participants properly wear eye protection at all time. (If false, do NOT run and team receives Participation Points)

Construction Parameters

T F 3.a. All propulsive energy comes from one snap mousetraps of base 6.0 cm x 12.0 cm or smaller with no parts of the jaw/hammer extending more than 1.0 cm beyond the base. The mousetraps retain all of their original parts and structural integrity. The structural integrity of the mousetrap is not altered. Any items added do not increase the potential energy of the unmodified mousetrap. If holes are drilled in the mousetrap, there are ≤ 4 holes in each mousetrap and they are only to attach the mousetrap to the vehicle.

T F 3.b. Any additional sources of kinetic energy are at their lowest states in the ready-to-run configuration.

T F 3.c. Electric/electronic components and devices (except calculators) are not used.

3. T F DOES THE VEHICLE MEET ALL OF THE CONSTRUCTION PARAMETERS ABOVE? (IF FLASE, TIER 3)

Run 1 Run 2 Individual Runs

T F T F 3.d. An approximately 1/4" round wooden dowel is attached to the front of the Vehicle. When the Vehicle is placed flat on the floor, the dowel is approximately perpendicular to the floor, extending to within 1.0 cm of the floor and extend at least 20.0 cm above the floor. The dowel is easily accessible by the Event Supervisor and no part of the Vehicle (except the drive arm and drive string) extend more than 0.5 cm beyond the front of the dowel.

T F T F 3.e. In the ready-to-run configuration, all wheels/treads (in their entirety) fit in a 40.0 cm x 40.0 cm space of any height and any orientation. Axles, drive arms, and other parts of the Vehicle may extend beyond these parameters.

T F T F 3.f. All parts of the Vehicle move as a whole with no anchors, tethers, tie downs, launching ramps, or other separate pieces. The only parts contacting the floor during the run are the wheels/treads, drive string(s), and any parts already in contact with the floor in the ready-to-run configuration. There are no pieces falling from the vehicle.

T F T F 5.h. If sighting/aiming devices are used, they are non-electric. If these sighting/aiming devices are placed on the track, they are removed before each run.

4. T F 11. T F DOES THE RUN MEET ALL OF THE CONSTRUCTION PARAMETERS ABOVE? (IF FALSE, TIER 3)

The Competition

T F T F 5.a. Once participants enter the event area, they do not leave or receive outside assistance, materials, or communication.

T F T F 5.d. In the ready-to-run configuration, the Vehicle's Measurement Point is over the Start Point. The Vehicle remains at the starting position without being touched.

T F T F 5.f. Only non-electric sighting/aiming devices are used. If placed on the Track, they are removed before each run.

T F T F 5.g. Team does not roll the Vehicle on the floor of the track on the day of the event without tournament permission. If permitted, only participants are present.

T F T F 5.h. Any substances applied to the Vehicle is approved by the Event Supervisor prior to use and does not damage or leave residue on the track and/or event area. The track remains dry at all time.

T F T F 5.i. Team starts the Vehicle using any part of an unsharpened #2 pencil with an unused eraser, supplied by the Event Supervisor, in a motion approximately perpendicular to the floor, to actuate a trigger. Team does not touch the vehicle to start it, hold it while actuating the trigger, or "push" the Vehicle to get it started. Once the run starts, participants do not follow the vehicle until called by the Event Supervisor to retrieve their Vehicle.

5. T F 12. T F DOES THE VEHICLE MEET ALL OF THE COMPETITION PARAMETERS ABOVE? (IF FALSE, TIER 2 OR 3)

Run Parameters

6. _____ 13. _____ 7.c. Vehicle Distance: point-to-point distance, in cm to the nearest 0.1 cm, from Measurement Point to Target Point.

7. _____ 14. _____ Timer 1 7.e. Run Time: Starts when the Vehicle begins to move and ends when the vehicle comes to a complete stop.

8. _____ 15. _____ Timer 2 Recoils are considered part of the Run Time. If the vehicle does not move within 3 seconds after coming to a stop, the run is considered to have ended (the 3 seconds are not included in the Run Time). Any action occurring after that time does not count as part of the run. Run Time is recorded in seconds.

9. _____ 16. _____ Timer 3
10. T F 17. T F 5.j. Failed Run: Any run that does not occur in the 8 minutes or if the time/distance cannot be measured for a vehicle (e.g., run starts before Event Supervisor is ready, the participants pick it up before it is measured, travels in the wrong direction)

18. Complete Incomplete Not impounded 7.e. Is practice log complete, incomplete or not impounded? (Circle one)
Complete means including the Target Distance, Vehicle Distance from Target, Run Time and one additional parameter for 10 or more practice.

19. T F General Rule: The team is disqualified (notify the team and their coach as soon as possible)

Team Check
List 2020

Mousetrap Vehicle

Event Logistics

- NMT Event Supervisor, Judges, and Scorers
- NMT Location- Gym Building, Room 1 (lower level at the bottom of the stairs)
- Impound
- Running the Event

Mousetrap Vehicle

Resources & Links

- Science Olympiad Store
(<https://www.soinc.org/mousetrap-vehicle-b>)
- Online- General Information
<https://www.youtube.com/watch?v=b7zWwo9dbiU>
- BUILDING AND TOOLS POLICY- <https://www.soinc.org/building-and-tools-policy>

Question & Answers Session

Thank you!

