



# MESA DAY CONTEST RULES 2011 - 2012

## Mousetrap Car

<b>LEVEL:</b>	Grades 9 - 10
<b>TYPE OF CONTEST:</b>	Individual/Team
<b>COMPOSITION OF TEAMS:</b>	1 - 2 students per team
<b>NUMBER OF TEAMS:</b>	3 teams per Center
<b>SPONSOR:</b>	Vonna Hammerschmitt, Director, CSU Fullerton MSP Center
<b>OVERVIEW:</b>	Students will design and build their own vehicle which must be solely powered by a standard "Victor" mousetrap and will stop closest to a specified target. Kits are not allowed. <b>Project must be the original work of the student(s).</b> <b>Judges may ask questions to verify.</b>
<b>MATERIALS:</b>	One standard-sized, single spring "Victor" mousetrap is required; All other materials to build the vehicle are legal and optional

### **RULES:**

1. Students must design and build their own vehicle which must be solely powered by the mousetrap and activated by tripping the original mousetrap trip mechanism. **Kits will not be allowed.**
2. NO other energy source may be added. (e.g.CO<sub>2</sub> Cartridge, batteries, elastic strings rubber bands, etc.
3. The standard mousetrap must be mounted to the chassis AND must NOT be painted or decorated.
4. Hardware may be added to the mousetrap, but the original hardware and mounting block may ONLY be altered to attach it to the vehicle. The mousetrap

- may not be disassembled and then reassembled.
5. The springs on the mousetrap may NOT be cut, bent, over-wound, heat-treated or altered in any other manner.
  6. No part of the vehicle may be attached to any part of the track.
  7. Vehicle must roll or coast along the track. All wheels must stay in contact with the surface of the track.
  8. The target may not be modified.
  9. Car **must** be clearly labeled with student(s)' name, school, grade and MESA Center. Cars without proper labels will be assessed a 10% point deduction.
  10. Vehicle must have an identified RED "dot" 1/8 inch in diameter from which to take measurements. Placement of the dot is at the discretion of the builder.

### **JUDGING:**

1. Vehicles will be checked for specifications and impounded prior to the performance event. Vehicles will be released for trials but will remain impounded between runs.
2. Vehicles must be in testing condition prior to check-in for vehicle performance. If vehicles are disqualified during specification check, design changes will not be allowed.
3. Each vehicle will be allowed 2 non-consecutive runs.
4. Repairs are only allowed with replacement parts and materials. All repairs must be done in the official repair area and vehicles must be ready when called for the next round.
5. Each vehicle must be ready for competition when called or forfeit that trial.
6. Each vehicle must be in a "ready, stationary, hands-off" position prior to the start order from the judge.
7. "Start" or "Ready Position": vehicle resting behind the Start Line
8. One team member will be responsible for launch and will indicate to the judge that the vehicle is in the ready position.
9. The team member must wait until the judge gives the "START" order. If the vehicle moves prior to this, a "False Start" will be declared by the judges.
10. Only one "False Start" will be allowed per run. Two "False Starts" during run attempt disqualifies that run.
11. Students may not touch or interfere with the vehicle once the lever has been tripped.
12. The order of competition will be randomly selected.
13. Distance will be measured from "red dot" on vehicle to "target" on track

### **AWARDS:**

1. Medals will be awarded for 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place based on the distance where the vehicle stops in relation to the target.
2. Ribbons will be awarded for Creativity and Engineering Design
3. Only teams placing in the accuracy category will advance to Regional MESA Day.

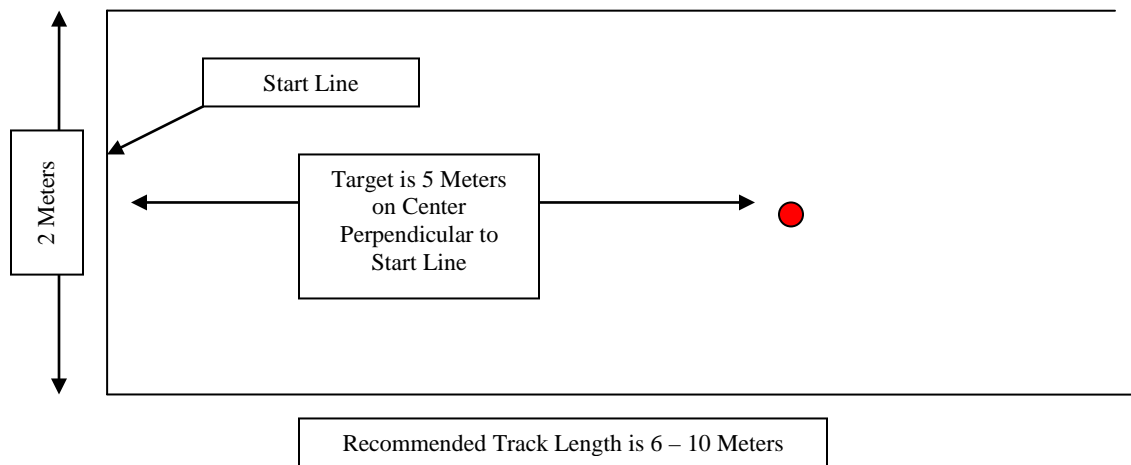
**Appendix:**

Track/Target Specifications and Recommended Equipment  
Judging Guidelines

**Track Specifications:** Arranged on a smooth, level gymnasium floor or non-carpeted area, a ¼” “Finish Target” located 5 meters along a center line marked perpendicular to the “Start Line”, “Start Line” is defined by a 2 m line across the start of the track and centered on the “Target”. The “Start Zone” is anywhere behind the “Start Line”.

**Recommended Equipment & Supplies:** 10-30 meter reel-type measuring tape, painters tape, 2 meter measuring tape (craft or sewing style)

**Measurements:** Distance will be measured from vehicle “dot” to “Finish Target”, after vehicle has stopped.



**MOUSETRAP CAR  
Specification Check  
2011 - 2012**

Standard-sized “Victor” Mousetrap was used

Mousetrap Car Kit was NOT used

2011 – 2012 Rules were used

Car is properly labeled with student(s)’ name, school, grade and MESA Center

Mousetrap was the only energy source used

Mousetrap has NOT been painted or decorated

Mousetrap springs have not been modified in any way

Car is activated by tripping the original mousetrap trip mechanism

Mousetrap can be “set” and car can sit in a hands-off “ready mode”

Car has 1/8 inch diameter red “dot” to be used for measurements.

# MOUSETRAP CAR COMPETITION DISTANCE

## OFFICIAL SCORING SHEET

NAME	SCHOOL	CENTER	SPEC. CHECK - Yes/No; Give reason for DQ/ point deduction	1ST RUN (distance from target)	2ND RUN (distance from target)