

Final Exam- Mouse Trap Car- Spring of 2008
(75 Points)

Your Objective:

Build a vehicle powered only by use of one provided standard-sized mouse trap that will travel the greatest linear distance. The vehicle must remain on the ground, so it can take the general form of a car or sled, but not be launched into the air.

Your Limitations:

1. The device must be powered by the energy stored up in the spring of a single provided mouse trap.
2. The mousetrap may not be physically altered except for the following: up to 4 holes can be drilled only to mount the mousetrap to the frame. (can't heat treat the spring on the mouse trap)
3. All structural components on the car has to be made out of metal.
4. The spring cannot be wound more than its normal travel distance of 180 degrees.
5. Vehicles must be self-starting. Vehicles may not receive a push in any direction.
6. The vehicle must have accurate steering. Measurement of distance will only be taken in one direction.
7. Distance will be measured from the front of the tape at the starting line to the point of the vehicle that was closest to the start line at the time of release.
8. The design of the vehicle must be safe, which means no flames or projectiles.
9. Any decals, logos, decoration or other ornaments must be appropriate.
10. The vehicle must remain in working order, so no replaceable components.

Conditions:

1. The race track will be located on a smooth level floor- most likely the construction lab or gym due to final exams.
2. Each contestant will be given three attempts and the furthest distance will be scored.

Grading:

Documentation- 25 pts

cover sheet with name and title- 2 pts

eight thumbnail sketches (doesn't have to include the whole vehicle)- 8 pts

final and accurate scale drawing- 4 pts

list of materials- 2 pts

list of building procedures- 2 pts

weight measurement- 2 pts

three paragraphs explaining how the design achieves distance- 5 pts

Design- 25 pts

design meets the limitation requirements (see above)- 10 pts

design appearance (from a bad duct tape job with adhesive showing to a vehicle that might be purchased as a cool toy in a store)- 10 pts

design shows thought to achieving distance- 5pts

Distance- 25 pts

every six inches of linear travel- 1pt