SPH3U **Mousetrap Car Race** 2008

Objective
To construct a mousetrap car, using any appropriate materials, to travel 2 m in the least time.

Equipment provided
A standard Victor small mousetrap.
A straight level track - basement hallway or classroom floor.

Rules
1. All energy **must** be from a single mousetrap (no modifications to the spring).
2. The mousetrap must be an integral part of the vehicle (and therefore must remain attached to the vehicle and must **not** be used as a catapult).
3. Vehicles **must** remain in contact with the ground and will start from rest.
4. A vehicle "spec" sheet must be provided to the judges prior to the event. This must include:
   a. the name of the vehicle,
   b. the manufacturer(s) (maximum 3)
   c. the raw materials used,
   d. a digital photo,
   e. the dimensions (w, l, length of lever arm)
   f. the mass (kg)
   g. the average distance (on a single "tank"),
   h. the average speed over 2 m*,
   i. the average acceleration over 2 m,
   j. the maximum speed,
   k. a graph of speed vs time and acceleration vs time for the 2 m,
   l. a graph of force vs distance for the 2 m.

5. The work must be shown on an attached sheet, clearly and concisely (with all raw data) showing how your specs were determined.

Judging

1. Eliminating heats will be held in the hall outside L18. *(one for each class)*
2. The 2 best vehicles in each heat *(class)* will compete in the finals. (The next lunch)
3. A prize will be awarded to the overall winner.

Marking (20 marks)

The winner will receive 10 marks. All finalists will receive 9 marks.

Placing in each heat will receive marks as follows:

3rd	8
4th	7
5th....	6

Completion of the spec sheet (5, 3, 0 marks)
Well organized, neat, attractive spec sheet (2,1,0 marks)

Vehicles performing within 10% of their published ratings* will receive 3 marks.
Vehicles performing within 20% of their published ratings* will receive 2 marks.
Vehicles performing within 30% of their published ratings* will receive 1 mark.

SPH3U **First Annual Mousetrap Car Race** 2008

Entry Form

Name:				
Manufacturers:				
length		width		
mass		length of lever arm		
Average Distance		Actual		
Average Speed		Actual		

Evaluation

Period ___	Place ____	Finals placing	Mark ___ /10	
Spec Sheet	unsatisfactory(0)	incomplete (3)	Complete (5)	
Design of Spec sheet	messy, no design (0)	neat & well organized (1)	neat, well organized & good graphics (2)	
Data and Calculations	little or no work shown (0)	hard to follow or missing data (2)	Clear, concise, complete data (5)	
Performance	within 30% (1)	within 20% (2)	within 10% (5)	
			mark out of 25	