

Rat Trap Racer Project – Jan 2011



GOAL: To build a “vehicle” using a single rat trap as the only power source.

I. Teams

Each team will consist of one or two individuals. (2 pts extra for alone)

II. Rules

- 1) The Rat trap is your only source of power. No other springs, rubber bands, etc...
(Rat traps are very dangerous so please **BE EXTREMELY CAREFUL!!!**)
- 2) The rat trap must be kept intact. You may drill, glue, tape or nail but no cutting the trap.
- 3) The vehicle must have wheels and remain in contact with the ground at all times.
- 4) All entries are allowed only 3 runs as part of the project. The traveled distance will be measured from the starting line by Mr. Hughes room forward to where the vehicle stops or hits the wall.
- 5) The design must fit into a 12” X 12” X 24” box when loaded for the start.
- 6) All entries must be ready on race day 1 or will receive a 5 point penalty.

III. Ideas

- 1) Don’t wait until the day/night before to build and test!!!!!!
- 2) Check out previous year’s vehicles on the website. Make sure the wheels are straight and move easily.
- 3) If the vehicle is too heavy, it will not move. If it is too light, it will not go in a straight line.
- 4) Try your idea at home or in the hallway after school before race day.
- 5) I do have materials such as balsa wood, CD’s, and tray’s. First come, first served.

IV. Grading

This project will be part of your test grade and is worth 70 pts.

Workable Design	35 pts (2 pts extra credit max for looking like a rat)
Distance traveled	1 pt for each 4 feet traveled first 3 runs, then 6 feet/pt any extra runs if time
Journal	1 pt for each entry, Mr. Duhrkopf will give you the entry days.
Project Report	20 pts (Website format add link to your homepage)

Be sure to include the following information in your web report: construction methods; discuss the success/failure of your tests; what worked in your design and what didn’t; would you make any changes in your design if you had to do this again; results of your runs; applications of Physics that were used in the design. Please include a link to your journal on your rat trap home page.

V. Timeline

Dec 2010 – Project introduction, group choices (1 or 2), Rat traps handed out, 1st journal entry
Each M/Th until in class design days, then everyday – Journal entries
Jan 10th & 11th – design and testing days
Jan 12th – One race day
Jan 17th – Google website report due.

Good luck and have fun, but be SAFE!!!!!!