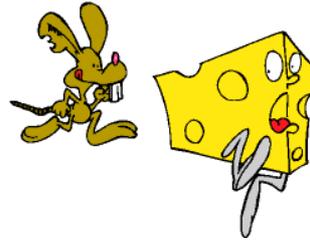


# Mouse Trap Racer PROJECT



A mouse trap racer is a vehicle in which the sole source of power comes from a common mousetrap.

## Objective:

The primary goal of this project is to have you demonstrate your understanding of linear motion in one dimension. The secondary purpose is to develop your research abilities by designing a vehicle, collecting certain data and analyzing that data. The final objective is to help you develop presentation skills by presenting your results to the class using either Keynote or PowerPoint.

## Assignment:

Each person will construct a mouse trap racer that is compliant with all rules and must work on its own. There will be two (2) competitions: speed and distance. Both contests will held in the Fieldhouse on the same day. You may only enter one racer but you may make changes between contests.

## Rules:

- You may NOT use a kit. You must design and build your OWN racer.
- The vehicle must be powered by a single mouse trap (1 3/4" X 3 7/8").
- The spring from the mousetrap cannot be altered or heat treated.
- The vehicle cannot have any additional potential or kinetic energy at the start other than what can be stored in the mousetrap's spring itself.
- The mousetrap cannot be physically altered except for the following:
  - the lever arm may be altered
  - the mousetrap's spring can be removed only to alter the lever arm.
- The spring cannot be wound more than its normal travel distance of 180 degrees.
- Vehicles must be self-starting. Vehicles may not receive a push in any direction.
- The vehicle must steer itself. Measurements of distance will not measure the total distance traveled only the displacement distance.
- Displacement will be measured from the front of the starting line to the point of the vehicle that was closest to the start line at the time of release.
- Mr. Causey has the final decision as to the appropriateness of any additional items that might be used in the construction of the racer.

## **The Speed Contest:**

- The race will be held in the gymnasium.
- There will be only one heat.
- The winner will be the vehicle that crosses the finish line first.

## **The Distance Contest:**

- The race will be held in the gymnasium.
- Each contestant will be given two attempts.
- The farthest straight distance wins. Curves will not be measured.

**NOTE: Any ties will be decided by a single run-off between the vehicles that tied.**

## **Prohibited Materials:**

Any type of hobby kit.

## **POWER POINT PRESENTATION:**

- Your PPT should explain the purpose of your project
- Describe how you did it.
- Your PPT should contain a minimum of 20 slides including title and ending slide.
- It should contain clipart, drawings and pictures.
- It should have pictures of your project.

## **Grade**

The mouse trap racer itself will be a test grade and the PowerPoint presentation will be a test grade. A working mouse trap racer will get you a minimum of 70%. A completed PowerPoint will get you a minimum of 70%. How much higher you go depends how well YOU design your project and presentation

**Due date:** \_\_\_\_\_

***“The foundation of scientific knowledge is experimentation.”***