

## MOUSETRAP POWERED CAR CONTEST

### Description:

You are to design and build a mousetrap-powered car to compete in a maximum distance competition. In this contest, the car that goes the farthest wins. The judges' determination as to winners and other places will be final.

Number of participants per team: 2

### The competition:

#### 1. Materials

- a. The shell of the body of the racecar can be made of any material you choose.
- b. Since the gym floor is polished, give special attention to the wheels. While the mousetrap has a considerable burst of energy, making it go on the gym floor can be your biggest challenge. In most cases, contestants will wind string or fishing line around the rear or front axle so they do not wobble (unless you intend this as part of the braking or steering mechanism.)
- c. While usually more difficult, it is possible for you to design your propulsion system to strike a fixed or stationary object as a means of initiating take off. You may not use an inclined ramp of any type to start your car.

#### 2. Construction

- a. The body of the car must be made from scratch homemade from wood, plastic, or metal. You may cannibalize pieces from toys or any source you like. The engineering trade off of building a very light car so that it can go far and fast can lead to a car that is literally torn apart by the thrust or surge of your motor.
- b. To assure fairness, the motor is to be one **VICTOR MOUSE TRAP**. This is not to be confused with the much larger and more powerful Victor rat trap.
- c. The Victor mouse trap is to remain on its 4.5 x 10 cm wooden base when it is mounted to the car.
- d. Because this is a mousetrap- powered car contest, the mousetrap must be attached to some other device that has the semblance of a car.
- e. Be sure to identify car with name of team members and science period. Be sure to write legibly.

#### 3. Testing

- a. The mousetrap motor is engaged by the participant by dropping a quarter coin onto the cocked mousetrap. The participant must supply his/her own quarter.
- b. No other energy source may be used in the powering of the car. This includes, but is not limited to, any potential or kinetic energy source.
- c. If the springing of the mousetrap puts some other energy into the movement of the car, this is permissible.

- d. Any altering of the mousetrap from its original dimensions will disqualify the participants.
- e. To meet minimum requirements, the mousetrap race car must travel a distance of at least **1 meter**. It must stay within the lane boundaries during this time. leaving either lane boundary stops the distance measurement at the points of egress.
- f. A team may make one trial run *before* their assigned time, but they must notify judges it is a trial run. Distances for trial runs will not be considered as part of the competition. At the assigned time for the team, two (2) measured runs may be made. The best distance will be counted.
- g. The race cars will be checked for compliance with rules of the competition. Any car that does not comply with all the guidelines will be returned to the students for modification. The students may resubmit a car if it is before the final deadline.