

The Great Mousetrap Car Project

DUE THURSDAY, OCTOBER 5, 2017

NO LATE PROJECTS WILL BE ACCEPTED!

You, (and up to 2 partners, if you choose) are to design and build a mousetrap vehicle to travel a flat, linear distance. The vehicle may be any device that can travel along a smooth, level surface. Bouncing as a mode of travel or initiating movement by launching a ball or object from the mousetrap will be ruled illegal. The trap does NOT have to be "set" to start the vehicle.

THIS RUBRIC MUST BE INCLUDED WITH YOUR PROJECT!

Official Rules and Regulations

- (10) 1. The device must be powered by a **single standard-sized mousetrap** (1 $\frac{3}{4}$ " x 3 $\frac{7}{8}$ ").
- (10) 2. The mousetrap and/or spring **cannot** be physically altered except for the following: holes can be drilled only to mount the mousetrap to the frame; and the mousetrap's spring can be removed only to adjust the length of its lever arm.
- (10) 3. The device **cannot** have any additional potential or kinetic energy (such as elastic cording or a gentle nudge) at the start other than what can be stored in the mousetrap's spring itself.
- (10) 4. Each member's first and last name must be written in visible permanent ink on the vehicle.
- (10) 6. Vehicles must be **self-starting and self-steering**. Vehicles may not receive a push in any direction. Measurements of distance will not measure the total distance traveled, only the displacement distance.
- (10) 7. No materials that are manufactured expressly for propulsion may be used in the vehicle construction (e.g. toy car/truck wheels, pre-fab gears, motors, etc).

Only vehicles that meet all acceptable criteria will be considered for the "Win Bonus" described below.

The Grading Criteria

Category	Explanation	Points
Construction	All official rules and regulations above must be followed.	60
Design Diagram	Each vehicle will be accompanied by a detailed, labeled diagram drawn to scale showing both a top (overhead) view and a profile (side view) of the vehicle.	20
Quality	The vehicle should be of the most robust construction (i.e. not fall apart after one run). It should also function (it MUST move at least 1 meter) properly.	10
Appearance	Your vehicle should be a work of art, a transport in which any miniature person would be proud to ride.	10
	TOTAL	100

Win Bonus: The vehicle will be given two opportunities to win a contest -- longest distance traveled or fastest travel time. **10/7/5 pts** for 1st /2nd /3rd

Websites: <http://www.mousetrapcar.com.au> <http://www.instructables.com>
<http://www.scienceguy.org/Articles/MousetrapCars.aspx> <http://www.docfizzix.com/>