

# **Mouse Trap Car Challenge**

## **Learning intentions:**

- Work cooperatively and collaboratively with others
- Generate potential ideas and choose an idea to pursue
- Construct and test a prototype
- Make changes, troubleshoot and test again

\*\* Evidence of these learning intentions must be collected and submitted at the end of the project. Evidence can be in the form of drawings, pictures, notes and reflections.

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## **OBJECTIVE**

The objective is to build a vehicle that is powered solely by a standard-sized mouse trap that will travel the greatest linear distance.

*By definition a vehicle is a device with wheels and/or runners. Launching a ball or another object from the mouse trap will be ruled illegal. The entire vehicle must leave the start line and travel as one unit.*

## **REGULATIONS**

1. The vehicle must be powered by a single Victor brand mouse trap measuring: 1 - 3/4 inches X 3 - 7/8 inches.
2. The mouse trap cannot be physically altered except for the following:
  - holes can be drilled only to mount the mouse trap to a frame
  - the mouse trap's snapper arm may be cut and lengthened
3. The vehicle may not start with additional potential and/or kinetic energy other than what can be stored in the mouse trap's spring.
4. The spring from the mouse trap cannot be altered or heat treated.
5. The mouse trap's spring cannot be wound more than its normal travel distance or 180 degrees.
6. Vehicles must be self-starting.
7. The vehicles must steer itself and may not receive a push in any direction in order avoid a collision.
8. The greatest linear distance is not the total distance a vehicle travels but is defined as the displacement distance of the vehicle from the start line.
9. The greatest linear distance will be measured perpendicular from the front of the starting line to the point of the vehicle that was closest to the start line when released and will not "angle" to where the vehicle comes to rest.
10. The instructor has the final decision as to the appropriateness of any additional items that might be used in the construction of the vehicle.

## **RUNNING THE CONTEST**

The course will be a smooth level floor such as a gymnasium or a non-carpeted hallway. The winner will be that vehicle that has obtained the greatest linear distance on any one of the three attempts. Any ties will be decided by a single run off between the tied vehicles.

# **Mouse Trap Car Challenge**

## **You may:**

- do research on mouse trap cars
- collaborate with others
- piggyback on ideas

## **You may not:**

- use instructions or plans created by others
- Use pre made parts such as wheels from other toys
- You may bring in materials of your own

## **You must:**

- Detailed plan with as much information as possible regarding materials, measurements, dimensions, etc.
- Get approval from a teacher before starting to build

## **Awards**

**Long Range Rodent:** Farthest Distance

**Lightning Mouse:** Fastest over 10 m

**Mighty Mouse:** Farthest distance with 200g weight

**Cool Mouse:** Most Creative Design