

# RUBBERBAND POWERED CARS

## STATE ONLY EVENT

### I. PURPOSE

To allow students to demonstrate their ability to design and construct a vehicle powered only by a standard rubber band and propeller.

### II ELIGIBILITY FOR ENTRY

This event is open to Middle School and High School Chapters. Entrants are limited to **SIX** (6) per school.

### III. SPECIFIC REGULATIONS

- A. All entries must be designed and constructed before the conference.
- B. Cars must be turned into the event coordinator at the beginning of the conference to be displayed. Students may not pick up their cars until the end of the conference.
- C. Student must make car from scratch in the year it is raced. (No kits)
- D. Racers may use any commercial wheels, axles and props.
- E. Vehicle Specifications:
  - The car may not exceed 24 inches in length.
  - The car may not exceed 8 inches in width.
  - The car may not exceed 10 inches in height.
  - The car will be powered by no more than 2 – 12” loops of 3/16” wide rubber string loops.
  - The car must be designed so that an eyelet is placed at the front of the car, 1/4” from the floor.
- F. The track will be 20’ long x 15” wide. The surface of the track will be hotel-grade carpet.
- G. The cars will race against the stopwatch. Each car will race three times, and an average speed calculated.
- H. If the vehicle does not meet the specifications, it will have points deducted from the final score.

### IV. PROCEDURES

- A. Participants will turn in their car to the display area at the beginning of the conference.
- B. Participants must launch their own cars

### V. EVALUATION

The vehicle will be evaluated using the rubric on the following page. In the event of a tie, ranking will be determined by the most economically-produced model. The Event Coordinator will make this determination.



## RUBBERBAND POWERED CARS (RUBRIC)

### Rubberband Powered Cars - Evaluation Sheet

*NOTE: ALL DECISIONS BY THE JUDGE ARE FINAL*

Contestant ID: \_\_\_\_\_

	<b>TOTAL</b>		
<p>Time Trials -- Calculated by: Distance (in inches) traveled / Time (in seconds)</p> <p>Speed Trial 1: _____" / _____ sec. = _____ /second</p> <p>Speed Trial 2: _____" / _____ sec. = _____ /second</p> <p>Speed Trial 3: _____" / _____ sec. = _____ /second</p> <p style="text-align: center;">TOTAL = _____ /3 = ( _____ /sec) x 10 = <b>PUT TOTAL HERE &gt;&gt;</b></p>			
	<b>10 Points</b>	<b>8 Points</b>	<b>6 Points</b>
<b>Drawing</b>	Drawing is neatly prepared on 8.5" x 11" paper and accurately reflects the design of the vehicle. It is to scale. Measurements are included.	Drawing is neatly prepared on 8.5" x 11" paper and accurately reflects the design of the vehicle, but is not to scale. Measurements are included.	Drawing may not be on 8.5" x 11" paper and reflects the design of the vehicle, but may not be accurate. It's not to scale. Measurements are not included.
<b>Design Specs - Overall</b>	The vehicle meets design specs for length, width and height. It has an eyelet screw placed at the front of the car 1/4" from the floor.	Vehicle does not meet one of the specs for width, length or height, or it may not have an eyelet screw correctly placed at the front of the car.	Vehicle does not meet two of the specs for width, length or height or may not have an eyelet screw placed at the front of the car.
<b>Design Specs - Rat Trap</b>	The vehicle is powered no more than 2 12" loops of 3/16" rubber string loops.	N/A	N/A
<b>Design Specs - Appearance</b>	The vehicle is neatly constructed, using a proper amount of glue, tight fitting pieces, and cuts are clean. Vehicle is decorated/themed. Theme/ decoration does not interfere with the operation of the vehicle.	Vehicle is neatly done, but there is one need for improvement: glue usage, tight fitting pieces, and cuts are clean. Vehicle is painted or decorated. Theme is not clear. Theme/ decoration may occasionally interfere with operation of vehicle.	Vehicle has two needs for improvement: glue usage, tight fitting pieces, and cuts are clean. Vehicle is decorated, but quality is lacking. Theme is not clear. Theme/ decoration consistently interferes with the operation of the vehicle.
<b>Race Final Placement</b>	1st Place: 50 points 2nd Place: 45 points 3rd Place: 40 points	4th Place: 35 points 5th-6th Place: 30 points 7th-8th Place: 35 points	9th-12th Place: 20 points 13-16th Place: 10 points Did Not Finish = 0 points
<b>Rules Violation:</b>	Contest judge(s) can deduct up to 18 points for a rules violation.		
<b>GRAND TOTAL</b>		<b>PUT TOTAL HERE &gt;&gt;</b>	