

## Description

Competitors will build their own Electric RC car either from their own design or from a kit. No store bought, already assembled RC cars will be permitted. The course will be a road race. The purpose of the RC race is to showcase the learning activities of students building radio-controlled cars and the components that make up this type of transportation system. All RC Vehicles must be electric/battery powered.

## Rules

- The race will be divided into heats by classification. Each heat will have between 2-4 cars each.
- The winner of each heat will advance to the next round. The number of teams entered will determine the number of rounds.
- Each round will consist of a five lap race.
- The final round will consist of an eight lap race.
- A car must be operational and on the track at the end of a race or it will be disqualified.
- All radios/controllers must be impounded, except when contestants are racing, until all races are over. Failure to return your radio/controller to the impound area will mean disqualification from the contest.
- Someone from your race team must act as a corner marshal at all times during your race.

## Specifications

- Scale: 1/10 or smaller
- Length: 15" (381 mm) Max
- Width: 12" (204.8 mm) Max measured from outside of tire to outside of tire
- Wheelbase: 10" (254 mm) Max
- Weight: 5.0 lbs (2.27 kg) Max
- Drivetrain: 2WD or 4WD allowed
- Motor: Brushed 540 Max
- Radio: 2.4GHz, 2 channel
- Batteries: 7.4v 1800mAh 6-C Ni-MH Max

## Documentation

- Student will provide an Engineering Portfolio that will be submitted in a three brad folder (no binders allowed). Place the State Contest sticker received at registration on the outside of the folder at the top right corner of the front cover. The Engineering Portfolio must include:
  - Cover page with Student ID#, Category #, and Category Name.
  - Table of Contents
  - Signed Liability Release Forms
  - Detailed list of all parts and components purchased. Also list any parts made using 3D printer, CNC machining and other equipment to make your own parts.
  - Part cutsheets that provide the manufacturer's data about the specifications for each part or component not made by the student. Do not remove product stickers from parts. This helps the judges identify that the correct parts listed and cut sheets were used. Removing stickers could result in disqualification of the vehicle.
- Student explanation of their build process

**2023**  
**RC Vehicle - Electric**



- Pictures documenting the process the build process
- MLA Cited Sources for Research

**Judging**

- 25% Appearance: Quality of craftsmanship and appearance. Awarded 1st through number of valid entries.
- 25% Engineering Portfolio: Completeness and detail level of the Engineering Portfolio. Awarded 1st through number of valid entries.
- 50% Race Results: Points will be awarded based upon race times.

Each racer will be awarded 1st through the number of valid entries for appearance, engineering portfolio and race results. The lowest combined score wins 1st Place, the second lowest combined score wins 2nd Place, and so on. In case of a tie, the car with the better appearance and engineering portfolio will place higher.