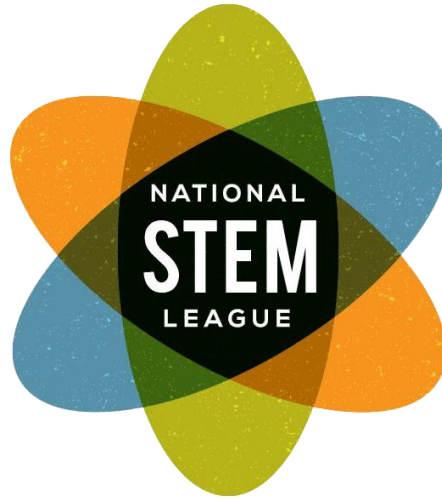


Ten80 Student Racing Challenge: STEM League™

# 2014 Carolinas Region Carolinas Invitational Event Guide



## Lower Richland High School

2615 Lower Richland Boulevard, Hopkins, SC 29061  
Friday, October 31, 2014 • 9:00 AM – 2:00PM

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## Location & Dates

### Lower Richland High School

2615 Lower Richland Boulevard, Hopkins, SC 29061  
 Friday, October 31, 2014 • 9:00 AM – 2:00PM

## Registration & Special Needs

### Participation Waiver - Required for Every Individual

Please distribute the Participation Waiver to all teachers and students. Every individual must submit a signed document upon entering the event. The waiver is the last page of this document.

### Special Needs – Food and/or Access

Please work with Ten80 staff to ensure access for all individuals in your party and for hospitality needs. No special hospitality is provided.

## Competition Schedule Summary

Subject to change, final version will be distributed during check-in. A sample schedule with more detail will be sent out closer to the event date.

### Friday, May 2, 2014

<b>Start</b>	<b>End</b>	<b>Event</b>
9:00 AM	9:30 AM	Check-in, practice
9:30 AM	9:45 AM	Ten80 Team Meeting
9:45 AM	9:50 AM	Stations!
9:50 AM	10:00 AM	Road Race: Best Lap
10:00 AM	10:10 AM	Reset
10:10 AM	10:20 AM	Road Race: 10 min.
10:20 AM	10:30 AM	Reset
10:30 AM	11:10 AM	Endurance Race: 40 min.
11:10 AM	11:45 AM	Reset/Lunch/Pit Stop Setup
11:45 AM	12:30 PM	Pit Stop Challenge
12:30 PM	1:30 PM	Scoring, Clean up & Visit Displays
1:30 PM	2:00 PM	Awards

## Team Responsibilities

Waiver / Agreement: All participants, adult and youth, must hand-deliver the Participation Waiver during event check-in.

Arrival & Departure: Check in begins at 9:00 AM and ends at 9:30 AM. Contact Ten80 staff if you are running late or need assistance.

Tools & Equipment: Each team must bring its own sanctioned Ten80 SRC car and everything required to race including controls, batteries, chargers, tools and spare parts. One plug-in will be provided to you. Should you want additional charging stations, you must bring an extension cord and power strip.

Schedule: A detailed event schedule will be provided to you upon arrival and check-in. Your team is responsible for understanding when and where to be at all times. **Nobody will remind you.** If you miss a planned event, a score of zero will be entered for that event. If the schedule shifts, the Sanctioning Body will make an announcement to modify your version. Pay attention and check in periodically with the Ten80 event staff. It is your responsibility to BE ON TIME.

Car Specifications: You are responsible for ensuring your team car and equipment is within specifications as outlined in the Race Events section of this guide and the National STEM League Handbook.

# Competition Events

## Team Score = Sum of points from seven (4) events

High School teams are scored on their top 3 events, Middle School teams are scored on their top 2 events. All teams are required to compete in the Superspeedway Endurance Race and Pit Stop Challenge. If you compete in more than 2 categories, your top 4 scores are counted.

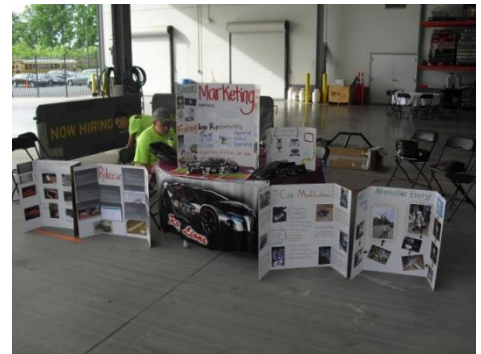
Most middle schools compete in both Race Events, 1 Team Presentation, 1 Graphic Design.



## Race Events

Scoring for race events is based on placement. 1st place earns 100 points, 2nd place 85 points, etc.

1. Superspeedway Endurance Race  
*Winner = most laps over 40 minutes on oval track*
2. Pit Stop Challenge  
*Winner = first to finish*  
*Earn bonus points from analysis activity*



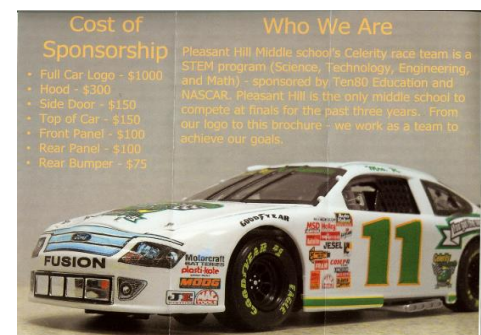
## Non-Engineering Projects & Presentations

3. Team Presentation \*\* REQUIRED

Score based on rubric that judges evaluate only during the 10 minutes you are given in a separate (private) presentation area.

4. Graphic Design - Car Decal & Team Identity

Score based on rubric. No presentation is allowed; your graphics and products must speak for themselves.



# Scores & Awards

## Competition Scores

There are a total of 4 events at the Carolinas Invitational. **High School teams must compete in 3 out of the 4 events to yield a team score.** Middle school team scores are the sum of the top 4 events.

**Team Competition Score = Sum of points from seven events**

Teams are required to compete in the Super Speedway Endurance Race (#1) and Pit Crew Challenge (#3). If you do not compete in the minimum number of events, a score of zero is assigned to those missing events.

#	Event	Possible Points
1	Road Course Races	(200 total)
	Race Event A: Single lap time, 5 min on track	100
	Race Event B: 10 minute race	100
2	Road Course Endurance Race: 40 minutes	200
3	Pit Crew Challenge	100
4	Robo RaCeCar	200
5	P.I.T. NOW! Renewable Energy Project	200
6	Aerodynamic Design Project	200
7	Creative Engineering Project	200
8	Team Presentation, 8-min	200
9	Graphic Design	(100 total)
	• Car Body Decal Design	50
	• Team Identity / Logo	50
<b>Total Points Possible</b>		<b>1600</b>

←  
←  
←  
← Middle  
Choose One  
←  
←

**Choose SEVEN events.** Middle school teams choose numbers 1, 2, 3, 8, 9 and ONE of the projects (4, 5, 6 OR 7).  
  
Arrows show this plan.

## Scoring in Race Events (#1-3)

Teams earn points based on their final ranking in each event as shown in this table. The 1<sup>st</sup> place team earns 100 points, 2<sup>nd</sup> place 85 points, etc.

Race Ranking	Event Points
1 <sup>st</sup>	100
2 <sup>nd</sup>	85
3 <sup>rd</sup>	70
4 <sup>th</sup>	60
5 <sup>th</sup>	50
6 <sup>th</sup>	45
7 <sup>th</sup>	40
8 <sup>th</sup>	35
9 <sup>th</sup>	30
10 <sup>th</sup> +	25

## Scoring in Engineering, Non-Engineering Projects & Presentations (#4-9)

Projects and presentations are scored by judges that assign points based on rubrics or informal evaluation criteria. Those rubrics and criteria are listed in this document. In some events, you can earn bonus points so read carefully.

## Carolinas Invitational Awards

The following awards will be given:

- 2014 Student Racing Challenge Invitational Winners: 1<sup>st</sup> Place, 2<sup>nd</sup> Place, 3<sup>rd</sup> Place
- Race Event Winners: 1<sup>st</sup> Place, 2<sup>nd</sup> Place
- Team Presentation: 1<sup>st</sup> Place, 2<sup>nd</sup> Place
- Graphic Design; Points are added together for Team Logo & Car Body Decal: 1<sup>st</sup> Place
- Excellence in teamwork: Top team

## 2014 Ten80 Student Racing Challenge

### Carolinas Invitational PARTICIPATION WAIVER and Agreement

To participate in the 2014 Ten80 Student Racing Challenge Carolinas Invitational, complete and bring this signed agreement to the event. Every attendee must turn in a PARTICIPATION WAIVER to attend the event.

Please Print Very Neatly			
<b>Participating School/Org:</b>			
<b>Participant Name:</b>		<b>On-Site Chaperone</b>	
<b>Participant Age:</b>		<b>Relation to Participant</b>	<input type="checkbox"/> Self <input type="checkbox"/> Parent-Guardian
<b>Parent or Guardian Name:</b>			
<b>Home Address:</b>			
<b>Emergency Phone</b>		<b>Home Phone</b>	
<b>Email:</b>			

**WAIVER AND RELEASE OF LIABILITY.** In consideration of being permitted to participate in the Ten80 Student Racing Challenge: STEM Initiative 2014 Carolinas Invitational on Friday, October 31<sup>st</sup> at Lower Richland High School in Hopkins, SC (the "Events"), I, \_\_\_\_\_ ("Participant") agree to the following on behalf of myself and my heirs, successors and assigns.

I confirm that I have legal authority over myself as a Participant or as a parent or guardian for the Participant. I request that my child be permitted to participate in the Events. I, the Participant or Parent/Guardian of Participant, agree that the Participant will follow all instructions of Event organizers and to assume all risks associated with a failure to follow instructions. The Participant will inspect the Event site, all related facilities, and all equipment and advise Event personnel of any unsafe conditions.

I, the Participant or Parent/Guardian of Participant, agree to release and discharge 1080 Education Inc. ("Sponsors"), Ten80 Foundation ("Sponsors"), vendors and exhibitors and their respective affiliates, employees, representatives and agents ("Released Parties") from any and all injuries (fatal or non-fatal), losses, causes of action, liabilities, damages, expenses or claims (collectively, "Claims"), whether foreseeable or not, that might arise from the negligence of the Released Parties in connection with the Event or the condition of the property, facilities or equipment used for the Event, regardless of when such Claim may arise. I agree to indemnify, defend and hold harmless the Released Parties from and against any and all Claims arising from my acts or omissions in connection with the Event.

I, the Participant or Parent/Guardian of the Participant, understand the Event may include hazardous activities including but not limited to riding in a car at highway speeds and that this type of activity can be dangerous and can, and sometimes does, result in serious, permanent bodily injury (fatal or non-fatal). I also understand that my participation in the Event may involve risks that may or may not be foreseeable and may expose me to the possibility of injury as well as damage to personal property. I acknowledge that such hazards may result from my own acts or omissions or those of others, the rules of play or the condition of the premises or equipment. I knowingly assume all risks associated with participation in the Event regardless of how such property damage, injury or death might arise. I understand that it is my responsibility to obtain any insurance needed to cover personal injury, death, property damage or any Claims arising from my participation in the Event.

**VIDEO/PHOTO RELEASE** I, the Participant or Parent/Guardian of the Participant, hereby grant Sponsors the right to use the Participant's name, likeness, voice, biographical information and any other indicia of his/her identity in connection with the Event, and publicity, advertising and promotion for the Event and future editions of the Event in all forms of media throughout the world in perpetuity without compensation. I waive any right that the Participant may have to inspect or approve any materials that may use such rights in connection with the Event. I acknowledge that Sponsor shall own all rights to photos, video imagery, sounds or other recordings made in connection with the Event.

**MEDICAL AUTHORIZATION:** To the best of my knowledge, I, the Participant or Parent/Guardian of the Participant, have no physical condition which would interfere with the Participant's ability to participate in or attend the Event or would endanger the Participant's health or any other participant's health. Should the Participant need to have medical treatment while participating in this event, I hereby give the Event Sponsors personnel permission to use their judgment in obtaining medical service for the Participant and I give permission to the physician selected by Sponsor personnel to render medical treatment deemed necessary and appropriate by the physician. I understand that the Sponsor has no insurance covering such medical or hospital costs incurred for the Participant and, therefore, any costs incurred for such treatment shall be my sole responsibility.

This waiver and release will be construed broadly to provide a release and waiver to the maximum extent permissible under applicable law. Any provisions found to be void or unenforceable shall be modified or deleted to the minimum extent necessary to make them enforceable, and shall not affect the enforceability of any other provisions.

**I have read this Waiver and Release of Liability, I fully understand its terms, and I recognize that I have given up rights by signing it in consideration of being permitted to participate in the event. I sign it voluntarily and without any inducement OR DURESS.**

<b>Signature:</b>		<b>Date:</b>	
<b>Parent or Guardian Signature (if under 18)</b>		<b>Date:</b>	