

Student Scientists Build Gravity Based Race Car



Above: 2014 Ecotek Lab Gravity Racing Team members- left to right: Malik Bassett, Chandler Harris, Demarius Clemons

On May 17, 2014 student scientists Chandler Harris and Malik Bassett (both attend Detroit Edison Early College of Excellence) along with Demarius Clemons (Renaissance High School) participated in the 5th Annual National Gravity Racing Challenge in Akron, Ohio. The event was made up student racing teams from around the United States. This was the first time that students from the City of Detroit had ever participated in the event.

The students spent countless hours at Ecotek Lab designing, constructing and testing their gravity based car. This project required them to apply a broad set of skills. For example, some of the challenges that they worked through included calculating the car's center of mass, moment of inertia, rolling friction factor, potential energy and expected kinetic energy. Additionally, they had to develop solutions for reducing wind resistance along with integrating the racer's braking and steering systems.

To ensure that the gravity racer was built to specifications the car was inspected the day before the race and given a good bill of health by engineers at the event. To make sure that the racer was track worthy, the team took it out for a spin on the official Derby Lane track. The racer's top speed during the trial runs was 40.2 Km/hour (25mph). On the day of the race the Ecotek Lab Racing team (Chandler Harris was the driver) competed in two highly contested heats against a racing team from Cleveland, Ohio.

Both races were decided by a tenth of a second with the Ecotek Lab Racing team coming out on the losing end. Even though the team did not win or place at this year's Gravity Racer Challenge they learned some important lessons about team work, applied physics and project management. They also learned that they have the talent to do what ever they set their minds to.



Malik, Chandler and Demarius assembling front axle.in Ecotek Lab



Chandler Harris sitting in gravity racer during official weigh-in at Derby Lane



Malik, Chandler and Demarius working on gravity racer in garage at Derby Lane

About the Ecotek Science Program

Ecotek is a science research lab program for young inventors and researchers in grades 5 thru 12. Student scientists work on projects aligned with the issues being addressed by world leaders at the United Nations. To learn more about Ecotek Lab go to <http://www.ecotek-us.com>