



# Arizona Student Solar Competition

for Middle School Students

P.O. Box 30954, Tucson, Arizona 85751

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## 2011 Committee

Stacey James  
206-426-7176  
stacey.james@swe.org

Georgia Armstrong  
619-339-1036  
armstronggeorgia@  
hotmail.com

## 2011 Sponsors

Arizona Department of  
Commerce – Energy Office

Metropolitan Energy  
Commission

Tucson Electric Power

Raytheon

The Solar Store

Arizona Electric Power  
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Association of Energy  
Engineers

Association of Facility  
Engineers

February 25, 2011

Solar Competition Teachers  
Re: Student Solar Competition

Greetings!

The 20<sup>th</sup> Annual Student Solar Competition is fast approaching – mark your calendars for the upcoming event on April 16<sup>th</sup>!

I am enclosing all of the materials you will need to enter students into the competition:

Pre-registration form

Model Release

Schedule of events

Map to Reid Park and layout of the event area

Instructions for testing vehicles and applying guide hooks

Notification to parents with students in the competition

In addition, we are sending a “Certificate of Participation” for you to complete and award to each student who built a car or house this year. There will be two versions, one in color and one black and white. We will also be awarding ribbons to those students who participate in person at the competition.

NOTE: Additional kits will be available for purchase at the price of \$30 per car or house.

Please encourage your students to register for the parade, or enter as a group!

<http://www.tucsonearthday.org/2011/docs/Parade%20Flyer.pdf>

Last year’s event was a great success and we expect this year’s competition to be even better. If you have any questions prior to the competition, please call me at the number listed. We look forward to seeing you and your students on April 16<sup>th</sup>.

Sincerely,

Stacey James  
Event Co-Coordinator

Georgia Armstrong  
Event Co-Coordinator





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## Society of Women Engineers Tucson Section

Media Creations, Photographic/Video Resources  
Model Release

To Whom It May Concern:

I hereby consent that all photographs/video/audio taken of me at Reid Park, Tucson, AZ  
On April 16<sup>th</sup>, 2011 may be used by Society of Women Engineers, Tucson Section with  
this, my consent, for purpose of illustrations, advertising, media use or publications in any  
manner.

\_\_\_\_\_  
Name (please print)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Street address

\_\_\_\_\_  
City, State, Zip

If your child is under 18 years old, a guardian's signature is required.

\_\_\_\_\_  
Guardian (please print)

\_\_\_\_\_  
Guardian signature

\_\_\_\_\_  
Date



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## Schedule of Events for April 16, 2011

Registration: 9:30 AM - 10:00 AM

Parade: 10:00 AM - 10:45 AM

House Judging: 10:45 AM - 11:00 AM

Car Judging: 11:00 AM - 11:15 AM

Races: 11:15 AM - 1:00 PM

Awards Ceremony: 1:00 PM - 1:30 PM

All awards will be given out at the Awards Ceremony, including House and Car Judging awards.

Please plan to stay until at least 1:30 so your students can receive their awards!

NOTE: The Earth Day celebration will be from 9am to 2pm if you want to enjoy the other festivities going on. More details are at: <http://www.tucsonearthday.org/>



# Arizona Student Solar Competition

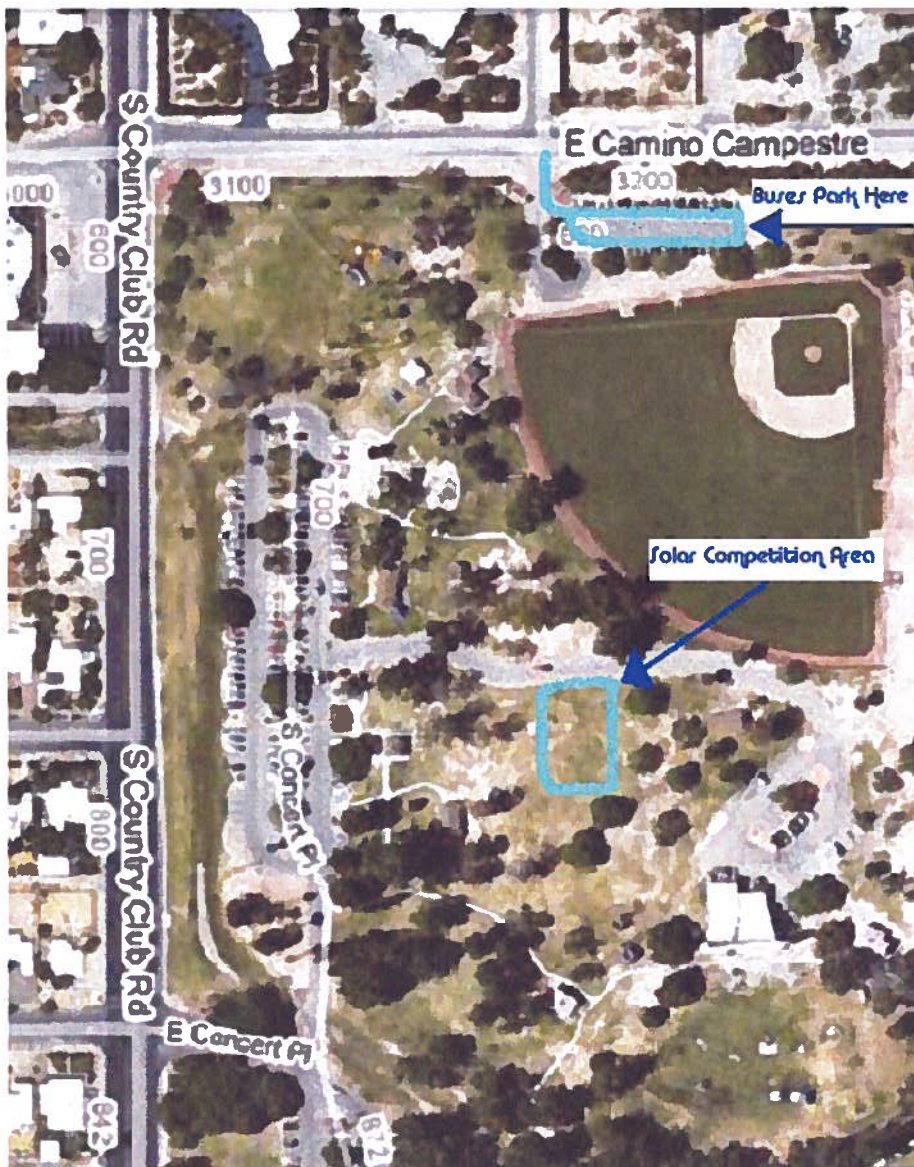
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To get to Reid Park (from Tucson) enter off of Country Club Road, onto Camino Campestre (3<sup>rd</sup> entrance traveling N on Country Club from 22<sup>nd</sup> St, or 1<sup>st</sup> entrance approaching park heading S on Country Club from Broadway).

To get to Reid Park (outside of Tucson) take I-10 to Kino Parkway North (exit 263B), turn R (going East) onto 22<sup>nd</sup> St from Kino, then L (going N) onto Country Club from 22<sup>nd</sup> St. Take the third right turn into the park (Camino Campestre).



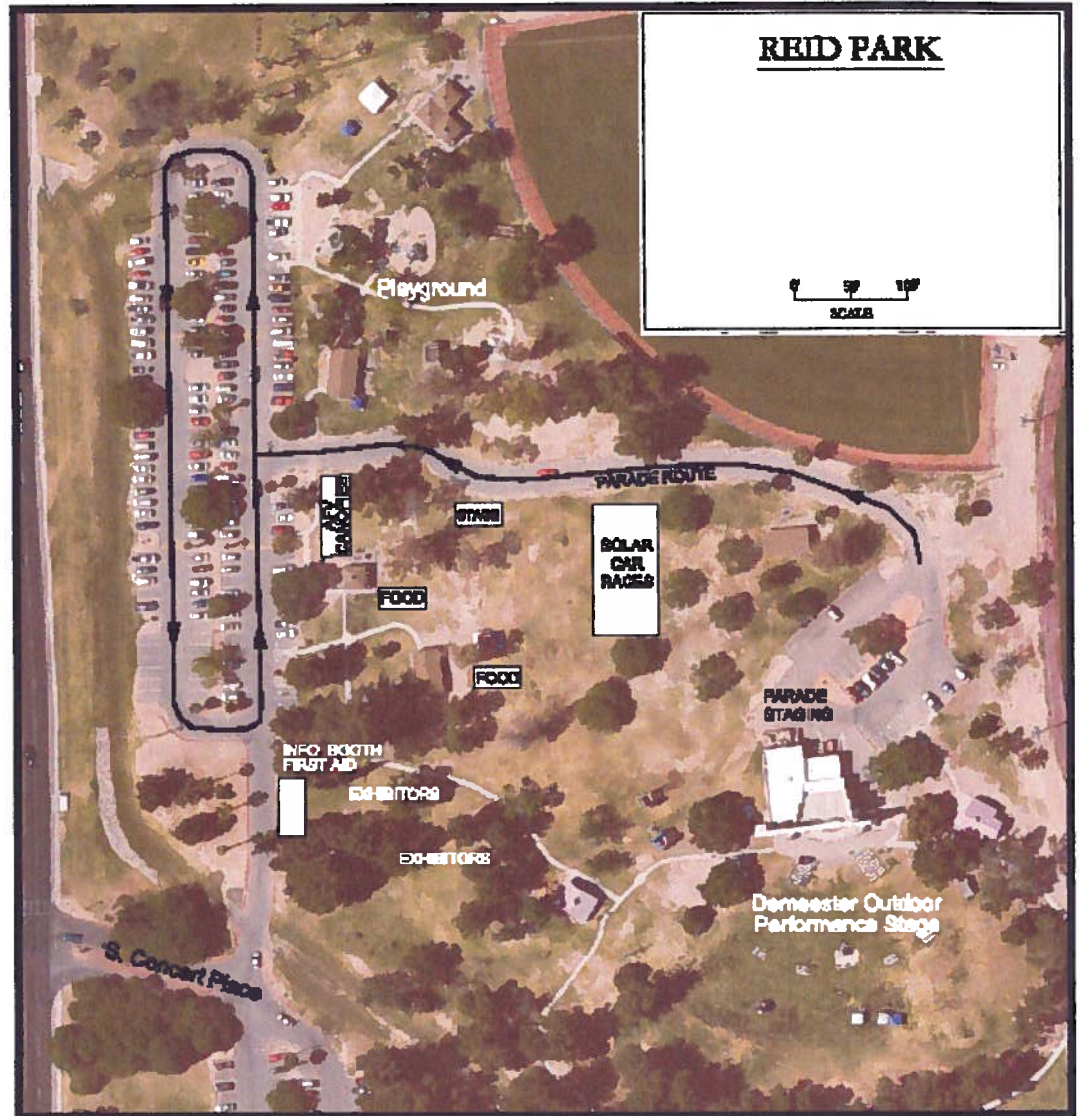


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Second map showing layout of Earth Day Celebration and locations of various events that will be going on.



Consider entering the parade! It is free and lots of fun!  
Our events are scheduled to not conflict with the parade so all can participate or watch!  
Get more information at: <http://www.tucsonearthday.org/2011/docs/Parade%20Flyer.pdf>



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## Instructions for Guiding your car for the RACE!!!

The race track is 4 parallel cords about 60 feet long placed about 3 feet apart. The race is on the grass at Reid Park. While we will be covering the grass with wood or some other surface, you should expect it to be less smooth than in years past. The GOAL is to make your car guide smoothly along its cord.

The car axels should be parallel – but cars will still have a curve to the right or left. Some curve is desirable – this makes the steering force from the guiding hook always act in one direction. The guiding hook is simply a large paperclip attached to the car.

To make the steering do this, the guide hook should be on the front of the car.

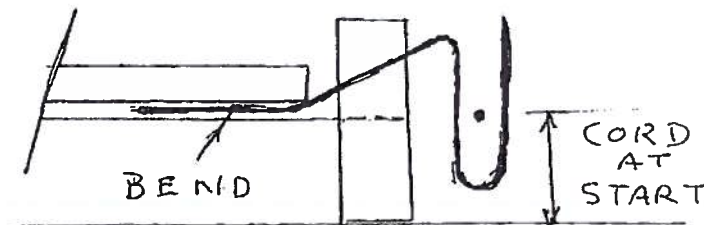
For example, if the car curves to the right, put the hook on the left side and it will pull the car to the left. It then will go straight along the cord – the smoother your car runs, the faster it will go in the race!

## TEST YOUR CARS BEFORE RACE DAY!!!

First get them running free and work out the bugs. Then see which way they curve. Then test them on a cord.

The hooks are easily made from a giant paper clip – they are open at the top so that it is easy to hook them on at the start and off at the finish. You can bend the hook under the car to give it stability. Check the diagram below for a sample on installing your guide hook.

The guide cord will be 3/4” high at the start and finish lines and lower in between on the course. Your cars should have no problem with this.





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February 25, 2011

Dear Parents:

We're excited that your student is competing in the 20<sup>th</sup> annual Arizona Student Solar Competition at Reid Park on April 16<sup>th</sup>! We'd like to provide you with some information to help you prepare for Event Day.

The schedule for Saturday, April 16<sup>th</sup> is as follows:

Registration:	9:30 AM - 10:00 AM
Parade:	10:00 AM - 10:45 AM
House Judging:	10:45 AM - 11:00 AM
Car Judging:	11:00 AM - 11:15 AM
Races:	11:15 AM - 1:00 PM
Awards Ceremony:	1:00 PM - 1:30 PM

Your student's teacher has all the necessary information for Event Day including maps to the school and registration forms. Please fill out and return the enclosed Model Release so that we may use photos taken during the event on our web page and other locations!

There will be limited shaded areas, so we still suggest your student wear a hat and sunscreen. There will be food available for purchase from nearby vendors, but we suggest your student still bring plenty of water. Students can bring a lunch or buy something nearby.

Additionally, we will be selling solar kits at the price of \$30 per car or house. Support the solar competition by purchasing additional kits for siblings or yourself!

Last year's event was a great success and we expect this year's competition to be even better. If you have any questions prior to the competition, please call Stacey James or Georgia Armstrong at the number listed. We look forward to seeing you and your students on April 16<sup>th</sup>.

Sincerely,

  
Stacey James  
Event Co-Coordinator

  
Georgia Armstrong  
Event Co-Coordinator