

Junior Solar Sprint Northeast Regional Competition

Rules and Regulations for 2001

(These rules differ from the National rules, but no changes are necessary to move from the Regional to the National competition)

Materials and vehicle specifications:

1. The Ray Catcher solar panel sold by Pitsco and the JSS Solar Panel sold by Solar World may be used. Panels cannot be shaved, drilled or delaminated. The motors supplied with these panels (Mabuchi #280-2865 and Mabuchi #260-18130) may be used. Motors may not be re-wound or disassembled. The solar panels used in 1995-2000 may be used this year as well. The motors from 1996-2000 may also be re-used. Any other panels and motors may not be used in the competition. All parts mentioned here must be used without modification. One solar panel and one motor allowed per car. However, reflectors, supports, and power leads may be added to these components as needed.
2. The remainder of the vehicle can be made from any other materials.
3. The vehicle may not be larger than 30 cm. (12 inches) wide by 60 cm. (24 inches) long by 30 cm. (12 inches) high.
4. The solar vehicle must be structurally sound without the solar panel. The solar panel must be able to be removed from the vehicle, and easily disconnected from the motor.
5. A 3 cm. x 3 cm. surface must be available for the car number. Sponsor decals must be prominently displayed on the vehicle (i.e.. the decals must be visible when the car is in the ready to race position).
6. The vehicle must carry a payload of 1 empty 12 oz. aluminum soda can. The can will be supplied by the judges at the start of the race, must remain with the vehicle during the entire race, and must be returned unaltered to the judges following the race.
7. The vehicle must be powered solely by the sun's energy. No energy storage devices (e.g. flywheel battery, etc.) may be used in conjunction with the solar panel.
8. In the event that the sun's energy is judged insufficient, a battery pack will be furnished for each race. The motor power leads should be readily accessible for ease of powering the vehicle with the battery pack.
9. The vehicle will be steered via a guide wire that runs the length of the track (typically fishing line). The vehicle must be attached to the guide wire by no fewer than 1 attachment point. The vehicle must be easily attached (and removed) from the wire without disconnecting the guide wire.
10. The vehicle must be of students own design and manufacturer from current school year, no car or major part thereof from a previous year shall be allowed to compete. Each team from a given school must have a unique car design.

The Race Track:

11. The race lane is 60 cm. wide and 20 meters long. The track is a hard flat surface such as an asphalt tennis court or running track. The track can be oriented in any direction (e.g. North-South, East-West, etc.)
12. The guide wire will be located in the center of the lane. The wire will be no higher than 1.5 cm. above the track surface. The wire will be small diameter line, such as fishing line (e.g. 60# test monofilament). There will be no free end on the guide wire, thus the cars must be hooked into the wire, not strung onto it.

Conduct of the Race:

13. The races will be run in a double elimination format. Thus you will have a minimum of two opportunities to race before you are eliminated from competition.
14. Only two members of the race team will be allowed on the track during the race: one at the starting line and one at the finish line. A non-team member may act as a catcher if necessary. Student non-team members will be chosen over adult non-team members if possible.
15. Each vehicle must have an assigned student team captain. No student shall be assigned team captain to more than one vehicle. No team shall consist of more than four students.
16. The vehicle will start from behind the starting line with all wheels touching the track. The solar panel will be covered by an opaque sheet (to block the sunlight) which is held above the panel by a member of the race team. The vehicle should not be touched by the sheet or any member of the team at this time. When the line judge gives the signal to start the race the team member will remove the sheet so the panel will be exposed to the sunlight.
17. There will be a 5 minute time limit to prepare your vehicle to race in your lane. This should be sufficient time to attach the vehicle to the guide wire. The race will start at the end of this time limit regardless of whether your vehicle is ready to compete.
18. Once the race has begun team members are not allowed to touch their vehicle or be on the race lanes until their vehicle has crossed the finish line and the judges have determined the heat completed. Pushing the vehicle after the race has begun may result in disqualification or a re-run of the race.
19. Any car that leaves its lane will be disqualified from the heat in question. However, the offending vehicle may compete in it's second trial if not having done so already. If the car leaving it's lane interferes with any other cars those cars whose run was interfered with will be allowed an additional opportunity to run.
20. Loss of payload during a race will result in disqualification from the heat in question. However, the offending vehicle may compete in it's second trial if not having done so already. If the loss of payload interferes with any other cars those cars whose run was interfered with will be allowed an additional opportunity to run.
21. Winner of a heat will be the first vehicle to cross the finish line or the vehicle to travel the furthest down the track. Generally speaking the top two to three finishers will advance, however it will be left up to the Area Coordinators to determine the actual number of cars that will advance from one heat to the next. In the event of a dead heat the finish line judges may determine multiple winners, and admit additional cars to advance to the next round of competition.
22. Awards will be given for speed and design (i.e. technical merit, craftsmanship, innovation and student knowledge, etc.).

Advancement from Area to Regional Competition:

23. Each area will be allowed to send at least six cars to the regional competition. Additional cars will be determined by the number of schools competing in each area.
24. It is left up to the individual areas to determine the eligibility requirements for filling that quota. One suggested way to do this is allow the top four finishers from the area races to automatically advance to regional competition and also allow each school to send their top finishers as well.