MiniSprint

SOLAR CHALLENGE

Boats - 10m pond

Rules and regulations 2018

INTRO

This solar boat race is aimed at all levels and has various categories. It also provides an open category, which leads into a National competition. There is a wide range of designs you can create and so the event provides lots of fun with plenty of learning and innovation.

SPIRIT OF THE COMPETITION

We ask students to enter the "Spirit of the Competition". We hope students will learn new skills and be prepared to be involved in fair and fun racing. We are encouraging ideas but not dollars. The open category however is a little more serious.

THE AIM

The aim of the challenge is to encourage exploration of solar energy through design and construction of working models powered by the sun using solar cells. The objective is to develop a boat that will most effectively travel along the water usually guided by a thin line suspended about the water to cover the distance of 10 meters in the shortest possible time. Two boats will race against each other with the winners moving on to determine an overall winner.

Design and constructions is to be carried out by the students with input from teachers only when required.

REGULATIONS

These regulations do not cover the open category. You will need to see the National web site for the open rules. www.modelsolarchallenge.com.au/regulations

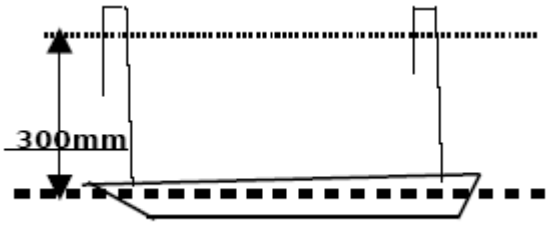
Boat Size

The Maximum length of the boat, including any front or rear projections shall be 550mm. The minium width of the boat will be 120mm while the maximum width shall not exceed 300mm

Guides

Your boat must get to the other end without colliding with the other boat in the race. Most students use wire guides as per the diagram below however you can choose to use whatever method you like however if you collide with the other boat you will be disqualified from that race.
A thin line will be suspended 300mm above the water which you can use to guide your boat.

--New--



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Rules and regulations

Solar cells
The boat is to be powered by solar cells up to a maximum of 350sq cm of active photovoltaic cells in area. Only commercially available silicon photovoltaic cells are allowed. No storage devices or batteries can be used.

The solar cells must be able to be removed to reveal the inside of the boat and then secured firmly again.

Hulls
No commercially built hulls will be allowed.

Motors
Novice category the motor must be under $7 in value.
Intermediate category can use a motor to the value of $20

Cargo
This year you will be required to carry an 11cm wood artist mannequin. These are available in most craft shops. The mannequin will need to be carried in a position as if it is in control of the boat.
Here is a link to an example
https://www.amazon.com/4-1-Inch-Wood-Artists-Manikin/dp/B001LMUO7U

--New--

Propulsion
There is no restriction on the number or size of under water propellers
There is no restriction on the number or size of paddle wheels
There is no restriction on the number or size of air propellers
The use of oars for propulsion is permitted
HOWEVER
The whole boat including propulsion system must not exceed the Boat Size.

Categories
At a state level we will have two categories, Novice and Intermediate. The type of motor you use will set your category and the following will also apply.
Primary school students can elect to enter either Division.
First year High school students can enter Novice as long as the motor used is under $7 and it is your first year of being in the event. All other High School students will be able to enter Intermediate or Open.

Depending on the interest we can also hold a third race category called Open. The Open Category is available to any student but you will need to run by the National Rules. Please notify me 4 weeks prior to our event if you wish to be in this division.

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SCRUTINEERING

Prior to racing all boats need to be checked to establish if they comply with these rules. It is important that you read these rules carefully and take special note of the regulations listed above. You may need to fill out a registration form but this will be handed out on the day or emailed to you prior to the day.

Boats will be checked and then given a race number. This number will then be used to call Boats to the start line for racing. You will need to be alert so when you number is called we can get races started.

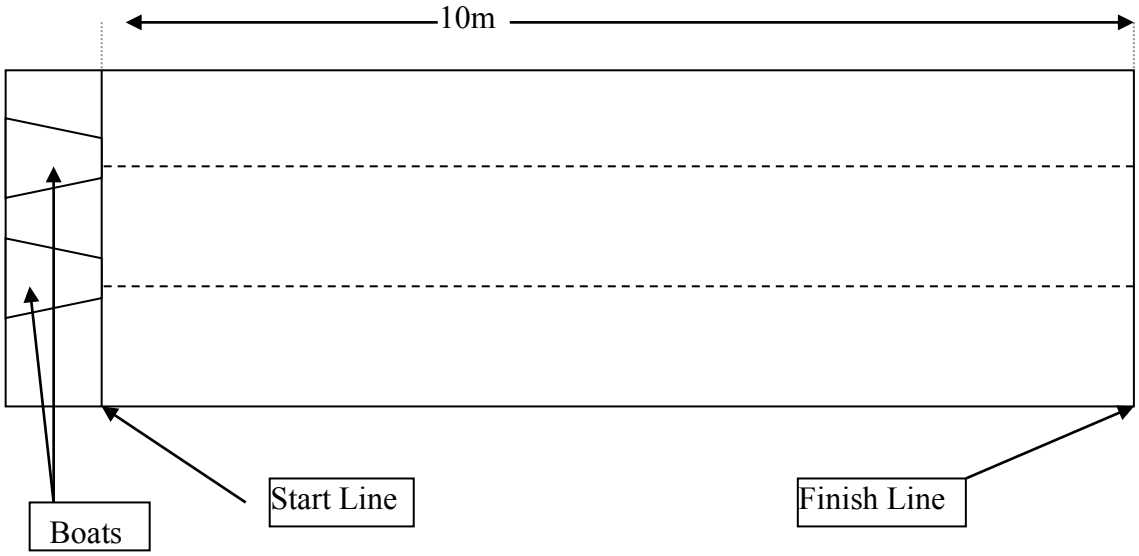
The Race

There will be a start line and the finish will be when the boat touches the end of the pond. Boats will be set up on the guideline and positioned behind the start line. You will hold the boat and test the propulsion method works. You will then cover the solar panel to stop the boat moving and await the starter. The starter will call out “ready” “set” “GO” on the go you will remove the cover and allow the boat to move. First boat to touch the end or the boat which travels the longest distance along the guideline will win the race. Your boat will need to withstand the impact of crashing into the end of the pond.

An alternative starting procedure is to hold the boat with the motor running and on the starters “Go” release the boat.

The starting procedure will be decided on the day.

Layout of the Boat Pond



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This is a great event with lots of fun. The imagination of student to build boats is always fantastic.

If you have any questions or are unsure of any aspect please contact me before the day so we do not have troubles on the day.

Thanks.

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