



Wright Brothers

On December 17, 1903, two brothers, Wilbur and Orville Wright, became the first humans to fly a controllable, powered aeroplane. To unravel the mysteries of flight, the Wright

brothers built and experimented extensively with model gliders. Gliders are aircraft without motors or a power source. Building and flying gliders helped the Wright brothers learn and understand the importance of weight and balance in aeroplanes.

Who can participate?

The contest is open to students of all secondary schools in Mauritius as follows:

Category 1: Grade 10

Category 2: Grade 12

Participants should work in teams of **FOUR** students under the guidance of **ONE** Supervising Teacher/Mentor.

Only one team per school is allowed to participate in each category.

Students who have opted for Science/ Mathematics/ Design and Technology and even non-science subjects (Art/Languages and Social Sciences) are invited to participate as long as they are interested in making a model glider.

Aims

To enable students to use science process skills to explore ideas, design concepts and techniques in aviation through the practical application of basic aerodynamics.



Objectives

1. Enable students to develop, construct and fly their own model gliders.
2. Encourage students to explore ideas and come up with solutions by working in teams.
3. Develop creativity and innovation among young people through fun activities related to Science and Technology.
4. Inspire students to study engineering and increase their awareness of careers related to aeronautics.



The Process

STEP 1- Register [18 January 2023]

Supervising teachers of each team have to register **online** by following the **link** below or scanning the **QR Code**.

<https://form.jotform.com/223472120182546>

Deadline for ONLINE Registration:

13 February 2023



STEP 2 - Workshop for participants [28 February OR 1 March 2023]

Participants will be requested to attend a half-day training workshop at the end of February to empower them to work on their projects. Design and construction parameters, including the selection of materials, will be explained. Furthermore, experienced pilots and model aircraft designers will provide advice on the general aerodynamic layout of the models.

STEP 3 - Prototyping and testing at school [March 2023]

Following the workshop, supervising teachers will train and guide their teams in designing and constructing their model gliders. Teams will have to keep a **logbook** to keep track of their progress.

STEP 4 - On Spot construction of final gliders and interaction with experts [1st week of April 2023]

Participants must construct and assemble their final gliders **on the premises of the RGSC** at Bell Village. All teams will be allocated 2 days to construct and test flight their gliders. Students will receive assistance from experts to improve their model gliders.

STEP 5 - Evaluation of Model Gliders [April 2023]

Preliminaries will start after the submission of all competing gliders. The model gliders and their logbooks will be evaluated. Your logbook must be submitted and will be kept by RGSC.

STEP 6 - Finals [2 May 2023]

The best teams will be invited to display and fly their model gliders during the finals. They will be allowed to hand launch their gliders a maximum of three times only. Teams will be given achievement certificates based on the maximum distance reached. The venue will be communicated to you.

Judging

Judging is a two-part process where marks are gained from:

1. Design and build of the model along with the contents of the Logbook (the Preliminaries).
The use of commercial kits or published plans is not allowed, the design must be your own. Previous model gliders that have been entered in previous competitions should NOT be used.
2. The distance of flight (the Finals).
Flying performance: Each team will be allowed a maximum of three hand-launched flights, of which the flight which achieves the longest distance will score.

Rules and Regulations

1. Each team should consist of 4 students of Grade 10 or Grade 12 in the respective category.
2. A maximum of 1 team per school per category will be accepted.
3. A glider has no engine. No radio or other forms of the remote control are permitted.
4. Supervising teachers should mentor students from the beginning to the finals of the project.
5. Teams who submit their logbook along with their model glider during the preliminaries will be awarded a certificate of participation.
6. All up weight of the model in flying conditions, including its nose weight, must be between 50g and 200g. The lower limit (50g) will rule out paper planes or balloons and the upper (200g) will prevent dangerous flying bricks. The model's measured wingspan (again as ready to fly) must be between 60 cm and 100 cm. Wingspan means the extent of the lifting surfaces of the model. The overall length of the glider must not exceed 80 cm.
7. Although balsa wood and doped tissue or plastic covering is an obvious choice, any construction materials may be used, as long as the weight limits are observed. A foam/plastic known as "Depron", which is available locally, is a recommended alternative.

Prize

Winning teams of each category will be awarded prizes as follows:

First Prize

Captain Richard Twomey Award
Cash prize Rs 8000 + shield

Second Prize

Cash prize of Rs 5000 + shield

Third Prize

Cash prize of Rs 3000 + shield



Certificates:

Certificates of participation will be given to all teams who submit their logbook along with their model glider during the preliminaries.

Finalists will be given certificates of achievement as follows:

Best flight distance > 35 m : Gold certificate
Best flight distance > 25 m : Silver certificate
Best flight distance > 10 m : Bronze certificate



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MODEL GLIDER COMPETITION 2023

Open to students of all secondary schools:

- **Category 1: Grade 10**
- **Category 2: Grade 12**

Deadline for Online Registration:
13 February 2023
on website: rgsc.govmu.org



Scan the QR Code to register

RAJIV GANDHI SCIENCE CENTRE
AERONAUTICAL SOCIETY OF MAURITIUS