



Skills Ontario Paper Glider Competition

2020-2021

CHAMPIONSHIP GUIDELINES

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This program is funded by the Government of Ontario

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If you require assistance or have any questions about the Paper Glider Plane Competition, please consult the **Paper Glider Plane Frequently Asked Questions** located on our website at www.skillsontario.com/paper-glider-competition or you may contact the Competition Coordinator at paperglider@skillsontario.com.

PAPER GLIDER COMPETITION CHALLENGE OVERVIEW

Teams competing within the Provincial Championship round will have until February 24th to review their existing blueprints, potentially modify their designs to meet the provincial challenge and construction requirements while explaining their modifications and submit their new submissions via Dropbox. Provincial submissions follow the same guidelines as the regional competition, but with the addition of the Provincials Challenge. Entries are to be assembled and submitted similar to how they were submitted within the regional competition.

Provincial Submissions will be judged and evaluated by industry volunteers, and the top three teams will be awarded prizes by Skills Ontario. Winning teams will be notified no later than March 12th.

The Paper Glider Plane Submission Package should contain the Team's design plan, materials list, three (3) photographs of the constructed Paper Glider Plane, completed Mandatory Safety Checklist, as well as the video recording of their Longest Flight test online. **Registered Teams will have until Wednesday, February 24th at 4:00 PM** to submit their Submission Package to the Dropbox folder, which is shared with them via a link within their Registration Confirmation email.

CHAMPIONSHIP REGISTRATION INFORMATION

Teams that are advancing to the Paper Glider Plane Provincial Championships will be announced during a live social media event on January 21st. Teams will also be notified via email. Teams that are advancing to the championship do not need to or pay extra fees but students are required to register again.

All students advancing to the Championship Round of the Paper Glider Competition must register and complete the consent form located here: <https://www.skillsontario.com/pgc-championship-registration> by February 25th at 4pm. Failure to register could result in disqualification. If your team has less than 4 members, please notify paperglider@skillsontario.com so we know how many registrations to expect.

CHAMPIONSHIP CHALLENGE

Teams that are competing within the Championship Round can choose to use their previous glider plane and glider plane design, or they may create a new design and plane to meet the Championship Challenge.

This year's Paper Glider Plane Championship challenge is:

Create a Paper Glider Plane that can stay in the air the longest while carrying the most amount of weight in coins.

Teams may use any tape or adhesive to secure the coins to the Paper Glider Plane. Teams must submit a design plan that includes where the coins will be placed on the plane, the mandatory safety plan, as well as an unedited video of a single attempt at a flight test.

SUBMISSION OVERVIEW AND JUDGING REQUIREMENTS

Below you will find the description and judging requirements for each section of the Paper Glider Plane Provincial Championships.

PART 1: PLANNING & DESIGN

There are three components to the Students' Planning and Design. All three components must be handed in to receive full marks. Submissions will not be accepted if students do not include their Mandatory Safety Checklist. All students MUST complete the Mandatory Safety Checklist PRIOR to beginning their Paper Glider Plane project.

Mandatory Safety Checklist

Teams must complete the Mandatory Safety Checklist. Which is a full project safety checklist that all entries must submit in order to be eligible to compete. Visit the Paper Glider Program resources webpage to download the Mandatory Safety Checklist in .PDF format, which can be found on the Skills Ontario Paper Glider Plane webpage www.skillsontario.com/paper-glider-competition

Design Plan

In teams of 4, students are to create a Design Plan of their Paper Glider Plane project and submit their designs within their submission package. Design Plan should be neat, easy-to-read, and should clearly show the design of Paper Glider. Teams are welcome to create their designs by hand or by computer. Teams will be marked on their abilities to build according to their design plans.

Materials List

Teams must include, on a separate piece of paper, a full list of the materials used. This document can be created and formatted however the Team wishes. Teams will be marked on their ability to include all materials used to create their Paper Glider Plane. They must also provide quantity of materials used and will be marked on the legibility and professionalism of this document.

Your Planning & Design Package should include the following three (3) documents:

- Design Plan – Should include all necessary dimensions are labeled (Wingspan, length). It should also include a legend if necessary
- Mandatory Safety Checklist (Can be found in Paper Glider Plane Resource webpage)
- Materials List - Full list of materials used

Teams will be marked on:

- Materials List– Is it legible? Are all materials used listed? Did they use all approved materials? (Up to 5 marks)
- Design Plan – Does the design plan look neat and organized? Was a straight-edge ruler used? Is it legible? Are all measurements to scale? Does the design reflect the build? (Up to 5 marks)
- Materials List – Are all materials used listed? (Up to 5 Marks)

All three components of the Planning & Design section must be included with final submission in Dropbox in order to receive marks.

PART 2: CONSTRUCTION CHALLENGE

Once the Students have completed their mandatory safety check, materials list and design plan, they are then to begin constructing their projects according to their design plans. Students will be marked on; their ability to follow their design plans, the quality of the construction and the images provided.

NOTE: While a “frisbee” shaped item can be considered an airfoil, it is **not** considered a glider plane as it relies on gyroscopic lift.

Dimensions –

- Total Wingspan cannot exceed **90cm**
- Total Length cannot exceed **90cm** (nose to tail)

Approved Materials:

Approved Paper Products

- Printer paper
- Wrapping paper
- Newspaper
- Tissue Paper
- Toilet Paper or Paper Towel
- Cardboard and other Corrugated materials
- Any other paper product available – **MUST be a product primarily made of paper**

Approved Sticks

- Toothpicks*
- 30cm (12 inch) bamboo/wood Skewer Sticks*
- Popsicle sticks
- The use of other materials, such as dowels, plastic or wire will **not be permitted**.

*Both items can be found at most grocery stores, Walmart, Canadian Tire or Home Hardware stores across Ontario. If you are having difficulty finding these items, please contact paperglider@skillsontario.com.

Approved Adhesives & Connectors

Students **may use ANY type of adhesive for their plane** but should take into account the type of materials they are using and if it will restrict flight.

Recommended adhesive/connector products:

- 3M scotch tape
- 3M masking tape
- Painters tape
- Duct tape
- Glue stick
- Glue gun
- White glue or carpenter's glue

Construction Images for Final Project Submission

Team's construction will be marked upon images submitted and proper materials used.

Three (3) pictures of the Glider Plane from different angles are to be included with the project submission. Those picture angles are to be taken of the:

1. front
2. side (either side)
3. Top

Teams will be deducted marks if three images showing three separate views are not included with their submission package.

Teams will be marked on:

- Build Accuracy – Did the student competitors follow their design plans? Are all features in the designs present on the product? (Up to 5 marks)
- Picture Quality – Did the team include 3 images with the required views? Do the pictures clearly show the Glider Plane? (Up to 5 marks)
- Quality of Construction – Does the plane look like it will fly? Is it well built? Is it a creative design? (Up to 5 marks)

SAFETY NOTE:

If using a device that requires an electrical source such as a Hot Glue Gun, please ensure a parent or guardian is supervising at all times.

PART 3: FLIGHT TEST – LONGEST FLIGHT

Once the Student Competitors have completed constructing their Paper Glider Planes and have taken photographs for their submission entries, students are to complete a flight test of their Paper Glider Planes.

The Student Competitors are to “launch” their Paper Glider Planes by hand from a stationary position. The Planes cannot be released higher than 1.5 metres off the ground. If it is determined by the Judges that a competitor launched their plane above this height, appropriate marks will be deducted from their score. They are to perform **ONLY ONE FLIGHT TEST**, with the goal of longest flight. The students are to video record their flight test. A point will be awarded for each second of flight achieved. Tiebreakers will be determined to the nearest tenth of a second.

The video must capture the entire flight of the Paper Glider Plane at all times. At no point in the video can the Paper Glider Plane escape the frame of the video. Teams must plan their flight test and video shot carefully in order to ensure the Plane does not leave the video frame. A team may pan their camera to follow the Plane during flight. One (1) point will be deducted for each time the Plane leaves the video shot.

Teams will be marked on:

- Video – has it met all criteria? (Submitted on time and titled in proper format, Plane does not leave frame; Launcher is within the entire frame during launch)
- Points for flight test
 - One point awarded for one full second of flight. Points will be awarded to the nearest Tenth of a second (.0)

SAFETY NOTE:

Students should use a large, safe indoor area, such as a school gymnasium, to perform a flight test. Students may use a large, clear outdoor area, such as a soccer field, but should ensure that a parent/guardian is present and that there are no hazards present (i.e. electrical wires above, vehicles, other people, animals, etc.)

PART 4: CHAMPIONSHIP CHALLENGE – WEIGHT CHALLENGE

Teams that are competing within the championship round are to complete an additional challenge to what they had completed during the Regional Division. This year's challenge is:

How much weight (in Canadian coins) can your plane carry while performing the flight test?

Teams are required to attach Canadian currency coins (Penny, Nickel, Dime, Quarter, Loonie, Toonie) to their Paper Glider Planes using any kind of tape or glue. **The coins must be on the plane during the Flight Test.**

We ask that teams use coins as they are being used as a standard measurement for the purpose of this competition. For the purpose of this competition, the weight of each coin is determined in the table below.

Coin	Weight of Each Coin (grams)
Penny	2 g
Nickel	4 g
Dime	2 g
Quarter	5 g
One-dollar	7 g
Two-dollar	7 g

Teams must include the total amount of coins, along with total weight, they secured to their Paper Glider Planes within their design plan package in a chart that looks like this example:

Coin (Example)	Number of Coins used (Example)	Weight (Grams - Example)
Penny	67	134g
Nickel	3	12g
Dime	2	4g
Quarter	10	50g
One-dollar	0	0g
Two-dollar	0	0g
Total Weight		200g

BONUS: VISUAL APPEAL

Teams have the option to decorate their Paper Glider Plane projects but must do so using specific materials that do not provide a structural advantage. Students may only use decorations such as colourful construction paper, markers, crayons, paint, glitter, etc.

Some examples of decorations that could provide an unfair advantage are:

- Wire
- Pipe Cleaners
- Non-Paper materials, such as aluminum foil, saran wrap or plastic

Any decorations that appear to be aiding in the structural integrity of the Paper Glider Plane will result in a 5-point penalty. If the decoration is deemed structurally beneficial, it must be included in the Design Plan. If a team is unsure if a certain decoration material is allowed to be used, they may email the Competitions Coordinator at paperglider@skillsontario.com.

SCORING

Category			Maximum Points
Part 1: Planning & Design package			
Materials List– Is it legible? Are all materials used listed? Did they use all approved materials?			5
Professionalism – Does the Design Plan look neat and organized? Was a straight-edge ruler used? Is it legible?			5
Accuracy – Are all measurements to scale?			5
Mandatory Safety Checklist - submitting this is an automatic 5 points. If an entry does not include a Safety Checklist, the entry will be disqualified			5
Total Planning and Design			20 points
Part 2: Construction			
Build Accuracy – Did the Student Competitors follow their design plans? Are all features in the designs present on the product?			5
Picture Quality – Did the team include 3 images with the required views? Do the pictures clearly show the Glider Plane?			5
Quality of Construction – Does the plane look like it will fly? Is it well built? Is it a creative design?			5
Total Construction			15
Part 3: Flight Test			
1 Attempt			1 point per 1 second in the air during Flight
Quality of Video			5
<ul style="list-style-type: none"> Was the plane within the frame at all times? Was the entire body of the “Launcher” within the frame during Launch Was it clear in the video where the plane <i>first</i> landed? 			
Total Flight Test Challenge			
Part 4: Championship Challenge – How much weight (in coins) can your plane hold?			1 point per 10 grams
Coin	Weight (g)	# of Coins	Points
Toonies	7 g		
Loonies	7 g		
Quarters	5 g		
Dimes	2 g		
Nickels	4 g		
Total Weight Challenge			
TOTAL MARKS			

All judging is final. Individual final scores will not be shared with teams.

Tiebreaker

In the event of a tie between two or more teams, ties will be broken by using the score from the Longest Flight challenge.

SUBMISSION PACKAGE

Team's submissions for the Championship Paper Glider Plane round are to include the following media in the following formats:

Part 1 – Design Plan Package

- A copy of the Paper Glider Plane Design Plan is required to be submitted. These can be created and submitted in: .PDF, .JPEG, .DOCX (Word or Excel). Any other formats will not be accepted. Must be saved as "Design Plan"
- Material List is required to be created and submitted in: .docx, .xls or .pdf format (MS Word or Excel). Must be saved as "Materials List"
- Mandatory Safety Checklist to be downloaded, answered and submitted in: .docx, .xls or .pdf format (MS Word or Excel). Must be saved as "Mandatory Safety Checklist – Completed"

Part 2 – Construction Photographs

- Three (3) pictures of the Paper Glider Plane are required to be submitted (Front, Side and Top). These can be received in: .PDF, .JPEG. Any other formats will not be accepted.
- The three (3) pictures must each be saved as: "pgp_top", "pgp_side", "pgp_back".

Part 3 – Flight Test

- **One (1) attempt within 1 unedited video** is required to be submitted. Video submission formats accepted are: .MP4 and .AVI.
- This file must be titled "Flight Test".

SUBMITTING TO DROPBOX

Teams are to collect all parts of their submission within a folder and submit their final submission package within the Skills Ontario Paper Glider Plane webpage at www.skillsontario.com/paper-glider-competition by clicking the blue "Submit your Project" button.

Paper Glider Plane project submissions must be submitted in a specific naming format in order to receive marks. If a team does not name their submission package in the following naming convention, their submission may be disqualified from competition.

STUDENTS:

Be sure to have all 5 components of your project saved within a compressed .ZIP file folder. The .ZIP file MUST be titled using your school name and school board initials.

For example, if your school is St. Mary's Elementary School in Waterloo Catholic District School Board, your file must be titled: "stmarys.wcdsb.ZIP".

In the event that there is a second team from your school (See Registration), the teams will need to differentiate from each other by adding a "Team1" or "Team2" to their file name.

NOTE: Your full submission package should include a total of 5 documents that is a part of the 4 sections above.

IMPORTANT DATES

Event	Date
Registration for Regional Competitions opens	Oct. 29 th 2020 at 9:00 AM
Registration for Regional Competitions closes	Nov. 5 th , 2020 at 4:00 PM
Submissions for Regional Competitions Due	Dec. 10 th , 2020 at 4:00 PM
Regional Competitions Winners Announced	January 21 st , 2021 VIA Social Media
Championship Round Challenge Announced	January 21 st , 2021 VIA Social Media
Championship Round Submissions Due	February 24 th , 2021 at 4:00 PM
Championship Round Winners Announced	March 11 th , 2021 at 4:00 PM

*All important dates are subject to change.

QUESTIONS?

Should you have any questions regarding this competition, please don't hesitate in contacting the Competitions Coordinator at paperglider@skillsontario.com.

Thank you to our Sponsors. Merci à nos commanditaires.



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