







We've just received some troubling news! The city's carrier pigeons have fallen ill with a rare disease! But don't you worry, with a bit of rest, they will all make a full recovery. The real concern now is who will step in during their absence? There are hundreds of people eagerly awaiting messages transported by these pigeons, so we must find a solution soon!



challe











Do you have any ideas on how to help them? What if you were to construct paper airplanes that could carry these messages to their intended recipients? My chipmunk friend and I need your help! We can't do this alone!













It is important to consider several factors in order to successfully accomplish this mission:

- Distance: certain houses are far away.
- Accuracy: the letters must be aimed at the mailboxes!











TECHNOSCIENCE.CA

And of course, sometimes your airplanes will need to be able to change their direction!

The pigeons and I are counting on your help.

Let's go!







Design and build three different paper airplanes, each for a specific challenge.



One plane that can fly as far as possible.

challer





TECHNOSCIENCE.CA

Design and build three different paper airplanes, each for a specific challenge.

2. PREGISION

One plane that can accurately reach a target/object.



junior tech challenge



Design and build three different paper airplanes, each for a specific challenge.

3. TURNING

One plane that can execute a right and a left turn.







Construction

- The airplane must resemble a paper airplane.
- **22** Each team must design 3 different airplanes.
- Each airplane must be dedicated to one challenge.

Authorized materials:

- Standard letter-sized printing paper, with a maximum size of 8 ¹/₂" x 11" inches.
- Tape and stickers.

*NOTE: This presentation only mentions a few of the rules. Consult the website for the full list!





Competition

- The airplanes must be made on site the day of the competition using paper provided by the organizing committee.
- Each airplane must be submitted for inspection to verify compliance with the rules.
- Thirty minutes is allotted for both the assembly and testing of the airplanes.
 - The number assigned to the challenge to be completed must be written on the wing of each airplane.

*NOTE: This presentation only mentions a few of the rules. Consult the website for the full list!





Competition

Each team will be allowed two consecutive launches per challenge.

- Team members can each take a turn, or decide that only one member will launch the airplanes.
 - The airplanes must be launched by hand.

The student who launches the plane must ensure that their feet do not cross the starting line.

*NOTE: This presentation only mentions a few of the rules. Consult the website for the full list!





Competition



Team members can make adjustments to their airplane between launches.

For the turning challenge, airplanes must be launched perpendicular to the starting line.



*NOTE: This presentation only mentions a few of the rules. Consult the website for the full list!





innul

The airplane must travel the greatest possible distance within the flight corridor

The point at which the airplane **stops** will determine the distance travelled. That distance is measured in a straight line from the center of the start line to the nose of the airplane. If the airplane lands outside the flight corridor, only half the points are counted.

The better of the two launches is counted.









The airplane must travel the greatest possible distance within the flight corridor

The point at which the airplane **stops** will determine the distance travelled. That distance is measured in a straight line from the center of the start line to the nose of the airplane. If the airplane lands outside the flight corridor, only half the points are counted.

The better of the two launches is counted.





1,5 m

560 cm

starting line

0

TECHNOSCIENCE.CA IN THIS EXAMPLE, THE FIRST LAUNCH IS COUNTED (658 POINTS).



The airplane must land in a cardboard box.

800 points | The airplane lands in the box.
500 points | The airplane stops in the red zone.
300 points | The airplane stops in the dark green zone.
200 points | The airplane stops in the light green zone.

Both launches are calculated.









The airplane must land in a cardboard box.

800 points | The airplane lands in the box.
500 points | The airplane stops in the red zone.
300 points | The airplane stops in the dark green zone.
200 points | The airplane stops in the light green zone.

Both launches are calculated.













The airplane must execute 2 turns to avoid an obstacle: on right turn and one left turn. The trip must be finished outside the flight corridor.

Two launches are permitted per side, but only the best of each turn is counted.

800 points | The airplane turns less than 3 meters front of the obstacle. 500 points | The airplane turns and touches the obstacle.

300 points | The airplane turns more than 3 meters in front of the obstacle.





TECHNOSCIENCE.CA

Starting line



The airplane must execute 2 turns to avoid an obstacle: one right turn and one left turn. The trip must be finished outside the flight corridor.

Two launches are permitted per side, but only the best of each turn is counted.

800 points | The airplane turns less than 3 meters front of the obstacle. 500 points | The airplane turns and touches the obstacle. 300 points | The airplane turns more than 3 meters in front of the obstacle.









The airplane must execute 2 turns to avoid an obstacle: one right turn and one left turn. The trip must be finished outside the flight corridor.

Two launches are permitted per side, but only the best of each turn is counted.

800 points | The airplane turns less than 3 meters front of the obstacle. 500 points | The airplane turns and touches the obstacle.

300 points | The airplane turns more than 3 meters in front of the obstacle.









The airplane must execute 2 turns to avoid an obstacle: one right turn and one left turn. The trip must be finished outside the flight corridor.

Two launches are permitted per side, but only the best of each turn is counted.

800 points | The airplane turns less than 3 meters front of the obstacle. 500 points | The airplane turns and touches the obstacle. 300 points | The airplane turns more than 3 meters in front of the obstacle.









The airplane must execute 2 turns to avoid an obstacle: one right turn and one left turn. The trip must be finished outside the flight corridor.

Two launches are permitted per side, but only the best of each turn is counted.

800 points | The airplane turns less than 3 meters front of the obstacle. **500 points** | The airplane turns and touches the obstacle.

300 points | The airplane turns more than 3 meters in front of the obstacle.





TECHNOSCIENCE.CA IN THIS EXAMPLE, THE 2ND LAUNCH OF THE RIGHT TURN AND THE LEFT TURN ARE COUNTED.

Starting line





After completing all the events, the winning team for each cycle is determined by the team that has accumulated the most points.









You now have everything you need to complete the Junior Tech Challenge!

Good luck and...







