



CANADIAN BUSHPLANE
HERITAGE CENTRE

CBHC Grade 6 Flight Program

“Create Your Own Itinerary” Lesson Plan Options

Choose from the following options to add to your 45-minute guided tour and create the educational program you want for your class! All lesson plans are based on the 2022 Ontario Curriculum. The Grade 6 Flight Program is designed to be delivered weekdays between 9:00 AM and 2:30 PM.

School bus schedules can impact arrival and departure times. We recommend teachers consult with transportation coordinators before creating itinerary for full day excursions.

Properties of Air (30 minutes)

Students will engage in a series of entertaining hands-on experiments and games exploring the following:

- Air is affected by temperature
- Air is affected by altitude
- Air takes up space
- Air exerts pressure
- Air can be compressed
- Air has weight

Newton’s Laws of Motion/Gravity (15 minutes)

The Three laws of motion and the concepts of gravity and air resistance are explored through short interactive demonstrations.

Aerodynamics, Airfoils and Bernoulli’s Principle (30 minutes)

A combination of fun experiments will teach students about the relationship between Bernoulli’s principle, airfoils and flight.

An additional experiment using science to create an art project can be added to this lesson plan. While demonstrating the Venturi Effect, students will contribute to the creation of the group painting. Add 15 minutes to the itinerary to include this exercise.



The Four Forces of Flight/Altering Flight (20 minutes)

Lift, thrust, weight and drag are introduced to the class. The relationship between the forces of flight, and the structure of aircraft is considered. Students explore how the forces of flight can be altered to improve the flying capabilities of aircraft.

This lesson plan will be reinforced during the guided tour portion of the itinerary as the students learn about the evolution of bush flying and the advancement of aeronautics throughout history.

Control Surfaces/The Axes of Flight (20 minutes)

Roll, pitch and yaw are demonstrated. Students create models using craft paper and wooden dowelling to learn about lateral, longitudinal and vertical axes, providing a hands-on discovery of how each axis is involved in navigating aircraft. This lesson plan is also reinforced during the tour along with the Four Forces of Flight with demonstrations of how the control surfaces that correspond with those axes are manipulated on actual airplanes exhibited in the museum.

Living Things and Flight (30 minutes)

Students work in small groups using tablets and digital microscopes to examine specimens of seeds, dragonflies and bats to explore the structure of living organisms in relation to flight. They are required to research the organisms, identify structural elements of their physiology, and consider the relevance of natural design in the organism's ability to fly.

The lesson plan can be substituted with an interactive session with the Education Team from Entomica insectarium for an additional fee.

Balsa Plane Flight School (30 minutes)

Students work in groups to assemble a balsa wood plane and test their skills, recording the distances of flights. They are instructed to add control surfaces to their models and likewise record the difference each addition makes to the flight of the aircraft. Each student is gifted a balsa plane to take home with them. (If the students participate in a Scavenger Hunt the planes are hidden as a prize to discover at the last stop of the game.)



Aviation Costs and Benefits (15 minutes)

Students are asked to use critical thinking and consider real life applications of the science of flight to identify the pros and cons of aviation from a variety of perspectives. This is a discussion session that serves as a thoughtful wrap-up of the day long program.

Scavenger Hunt (20 minutes)

A Rhyming Riddle Scavenger Hunt tests the students' memories as they revisit exhibits encountered on the guided tour and explore other exhibits throughout the museum to collect their clues in a race (with no running!) for the finish line.

Wildfires Theatre (25 minutes)

An intense presentation packed with forest fire fighting special effects! The film tells the story of how the Ministry of Natural Resources and Forestry's *Aviation, Forest Fire and Emergency Services Branch* battles forest fires in Ontario -- from both the air and on the ground. Students learn of the conditions leading to forest fires, and their ecological role in certain forests.

Free Time and Nutrition Breaks

Please indicate if you would like your students to be provided free time to explore the Canadian Bushplane Heritage Centre on their own. The CBHC requests that, for health and safety and liability purposes, school board staff and adult chaperones monitor groups of students inside the hangar during any free time booked in the facility.

If you would like to schedule a nutrition break as part of your itinerary, please indicate the length of the break and CBHC staff will provide tables and chairs in our event area for your class.

Vocabulary/Quiz

A summary of the terminology introduced over the course of the day and an accompanying quiz can be completed on site or can be used as a follow-up exercise to be completed in the classroom. These exercises also serve as part of the post-testing and qualitative data collection for the CBHC Education Department.

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