

THEORY OF FLIGHT
Grade Ten (6) Curriculum - Workshop Modules
FULL DAY TOUR (9:30am to 2:30pm)

SCHEDULE: (Grade 6)

(Maximum 35 Students)

- 9:15 – 9:25 **Arrive**
- 9:30 – 9:40 **Introduction and safety topics to whole group.** (10 minutes)
- 9:45 – 10:25 **Theory of Flight, Bernoulli's Principle**
Parts of a plane and function (40 minutes).
- Review four forces: Thrust, Drag, Lift, Gravity
 - Review Pitch, Roll, Yaw.
 - Aerodynamics in Planes: wing design creating high and low pressure - Bernoulli's Principle:
 - Air Pressure, altitude in relationship to force and motion.
 - Propeller, engine cover or cowling, fuselage, horizontal stabilizer, fin,
 - Landing gear, wing strut, wing, flaps, ailerons
 - Fuselage, horizontal stabilizer, fin
 - Rudder, elevator, elevator trim tab.
- 10:30 – 11:10 **Tour Aircraft and Other Artifacts** (40 minutes):
- Explain British Commonwealth Air Training Program:
 - Tour Planes: Nieuport XI, Tiger Moth, Chipmunk, Cornell, Harvard, Tracker, DC 3, T33, Cessna Sky Master, Norseman
 - Artifacts:
- 11:15 – 11:55 **Aviation Communication and Aviation Careers** (40 minutes)
- Aviation radio / communication - Air Traffic Control (ATC) tower - ground, squawk code/radar, phonetic alphabet.
 - Career opportunities because of flight technology: Pilot, airplane mechanic, Air Traffic Controller (ATC), Flight Services, Inspectors, manufacture of planes, ground crew/staff, stewards etc.
- 12:00 – 12:40 **Lunch** (40 minutes)
- 12:45 **Re-join break-out groups and move to your next activity.**
- 12:50 - 1:30 **Flight simulators** (40 minutes),
- 1:35 – 2:15 **Aircraft restoration** (40 minutes).
- 2:25 – 2:30 **Depart**

Science Six Learning Indicators and Outcomes

- FL6.1: d, g, h
- FL6.2: a,b,d,h
- FL6.3: b,d,e,

Module Update Sept 15, 2022

THEORY OF FLIGHT

Grade Six (6) Curriculum - Workshop Modules

HALF DAY TOURS - MORNING OR AFTERNOON

(9:30am to 12:00am / 12:30pm to 3:00pm)

SCHEDULE: (Grade 6)

(Maximum 35 Students)

Morning

Afternoon

9:15 – 9:25

12:15: - 12:25

Arrive.

9:30 – 9:40

12:30 – 12:40

Introduction & safety topics to whole Group (10 minutes)

9:45 – 10:25

12:50 – 1:30

**Theory of Flight, Bernoulli's Principle and
Parts of planes and function** (40 minutes).

- Review four forces: Thrust, Drag, Lift, and Gravity.
- Review Pitch, Roll, Yaw
- Review parts of plane: propeller, engine cover or cowling, landing gear, wing strut, wing, flaps, ailerons, fuselage, horizontal stabilizer, fin, rudder, elevator, elevator trim tab
- Bernoulli's Principle. Aerodynamics in Planes: Wing design creating high and low pressure.
- Air pressure / altitude in relationship to force and motion.

10:30 – 11:05

1:35 – 2:10

Tour Aircraft, and other artifacts (35 minutes):

- British Commonwealth Air Training Program (BCATP)
- Tour Planes: Nieuport XI, Tiger Moth, Chipmunk, Cornell, Harvard, Tracker, DC 3, T33, Cessna Sky Master and Norseman and Helicopter
- Artifacts

11:10 – 11:50

2:15 – 2:55

Flight simulator (40 minutes)

11:55 – 12:00

3:00 – 3:05:

Depart

Science Six Learning Indicators and Outcomes

- FL6.1: d, g, h
- FL6.2: a,b,d,h
- FL6.3: b,d,e

Module Update Sept 15, 2022