SASKATCHEWAN AVIATION MUSEUM

THEORY OF FLIGHT

Grade Ten (10) Curriculum - Workshop Modules

FULL DAY TOUR (9:30am to 2:30pm)

SCHEDULE: (Grade 10) (Maximum 35 Students)

9:15 – 9:25 **Arrive.**

9:30 – 9:40 **Introduction & safety topics to whole Group** (10 minutes)

9:45 – 10:25 **Career Investigation Development of motion - related technologies** (40 minutes).

- Direct Careers and Indirect Careers from Aviation Industry, education qualification, different branches of science.
- Motion Technologies: Sextant, Automatic Directional Finder (radio), Radar, Squawk code, Laser, GPS. Instrumentation: Altimeter, GPS, Inertia Reference System
- Canadian Contributions to science and technology like transportation and space science.
- Pilot Training.

10:30 – 11:10 **Tour Aircraft and Other Artifacts** (40 minutes):

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

11:15 – 11:55 **Relationship between Force and Motion** (40 minutes).

- Review four forces: Thrust, Drag, Lift, and Gravity.
- Aerodynamics in Planes: wing design creating high and low pressure, Bernoulli's Principle.
- Air pressure / altitude in relationship to force and motion.
- Aviation Weather:
  1) Cold Front/ Warm Front.
  2) High Pressure vs Low Pressure.
  3) What is bad weather for flying? VFR vs IFR.
  4) Weather Maps/Charts.
  5) Weather Forecast Technology, Weather Radar.

12:00 – 12:40 **Lunch** (40 minutes)

12:45 **Rejoin breakout groups and move to your next activity**

12:50 – 1:30 **Flight simulator in small groups** (40 minutes)

1:35 – 2:15 **Aircraft restoration** (40 Minutes)

2:20 – 2:30 **Depart**

Science Six Learning Indicators and Outcomes

- SCI10-CI1: b, f, i
- SCI10-FM1: c, e, f
- SCI10-FM4: d, e, g

Module Update Sept 15, 2022

SASKATCHEWAN AVIATION MUSEUM

THEORY OF FLIGHT

Grade Ten (10) Curriculum - Workshop Modules

HALF DAY TOURS - MORNING OR AFTERNOON

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

SCHEDULE: (Grade 10) (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.
- Aerodynamics in Planes: wing design creating high and low pressure, Bernoulli's Principle.
- Air pressure / altitude in relationship to force and motion.
- Aviation Weather:
  1. Cold Front/ Warm Front.
  2. High Pressure vs. Low Pressure.
  3. What is bad weather for flying? VFR vs. IFR.
  4. Weather Maps/Charts.
  5. Weather Forecast Technology, Weather Radar.
- Importance of weight and balance – Flight Performance
- Careers in Aviation industry

10:30 – 11:10 1:35 – 2:10 **Tour Aircraft, Other Artifacts, and Plane coverings** (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 Beech 18.
- Artifacts

11:15 – 11:55 2:15 – 2:55 **Flight simulator** (40 minutes)

12:00 3:00 **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