

Aviation Merit Badge:

Your Name: _____

Home Phone: _____

Date Starting This Merit Badge: _____

Counselor's Name: _____

How to Contact Your Counselor: _____

Note to the Scout and Merit Badge Counselor:

This set of worksheets is meant to facilitate earning this merit badge, but under no circumstances is it meant to be used in lieu of the appropriate BSA merit badge book.

1. Do the following:

a. Describe how aviation has affected our world.

Described to counselor: _____

b. Define "aircraft".

Describe some kinds of aircraft in use today.

Described to counselor: _____

c. List at least 10 uses of aircraft.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. Do the following:

a. Point out on a model plane the forces that act on an airplane in flight.

Pointed out to counselor: _____

b. Applying Bernoulli's Principle, explain how an airfoil generates lift, how the primary control surfaces (ailerons, elevator, and rudder) affect the aircraft's attitude, and how a propeller produces thrust.

Explained to counselor: _____

3. Show how the control surfaces of an airplane are used for takeoff, straight climb, level turn, climbing turn, descending turn, straight descent, and landing.

Shown to counselor: _____

4. Identify the following aircraft instruments and explain the purposes of each: attitude indicator, altimeter, airspeed indicator, compass, turn and bank indicator, tachometer, oil pressure gauge, and temperature gauge.

attitude indicator: _____

altimeter: _____

airspeed indicator: _____

compass: _____

turn & bank indicator: _____

tachometer: _____

oil pressure gauge: _____

temperature gauge: _____

5. Explain the differences in the operation of piston, turbojet, turboprop, and turbofan engines.

Explained to counselor: _____

6. Tell six rules of safety to follow around airplanes and airports.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

7. Do TWO of the following:

- a. Take a flight in an aircraft. Record the date, place, type of aircraft, duration of flight, and your impressions of the flight.

Date: _____ Place: _____

Type of aircraft: _____ Duration: _____

Impressions of flight: _____

- b. On a map mark a route for an imaginary trip of at least 3,000 miles. Start from the commercial airport nearest your home. Travel three or more different airlines. From timetables, decide from when you will get to and leave from all connecting points.

Map or copy attached? _____ Timetable or copy attached? _____

- c. Visit a modern airport. After the visit tell how the facilities are used.

Airport visited: _____

Date of visit: _____

Told counselor how facilities are used? _____

- d. Under supervision, perform a preflight inspection of a light plane.

Inspection performed? _____ Date: _____

Supervised by: _____

- e. Learn how to read an aeronautical chart. Measure a true course on the chart. Correct it for magnetic variation, compass deviation, and wind drift. Arrive at a compass heading.

Chart read? _____ Course measured? _____

Corrected? _____ Heading arrived at? _____

- f. Build and fly a fuel-driven model airplane. Describe safety rules for building and flying model airplanes. Tell safety rules for use of glue, dope, paint, and plastics.

Built and flown? _____

Building and flying safety rules described to counselor? _____

Glue, etc. safety rules told to counselor? _____

- g. Find out what job opportunities there are in aviation. Describe the qualifications and working conditions on one job in which you are interested. Tell what it offers for reaching your goal in life.

List job some of the opportunities available here:

_____	_____
_____	_____
_____	_____
_____	_____

Description of qualifications and working conditions:

Told to counselor what this job offers? _____

BSA Advancement ID#: 25
Pamphlet Revision Date: 1968
Page updated on: April 01, 1999

In completing all requirements for this merit badge, I have completely read the appropriate BSA merit badge book, and discussed same with my counselor.

signed

date

(Source: Courtesy USSSP Merit Badge Requirements, current as of the MB date on this document)