

Alaska Airlines

Aviation Day May 30, 2026

Aviation Merit Badge Questionnaire



NAME: _____

INSTRUCTIONS

Each Scout participating in Aviation Day has the opportunity to meet all requirements for the Aviation Merit Badge. **Scouts must complete Aviation 101, Boeing Glider Build, Aircraft Preflight, Maintenance Experience, and Airport Tour** on the Activities Passport in addition to completing this form. Completing all Aviation Career Track courses on the Activities Passport will meet and exceed the requirements for the Merit Badge.

- 1) At the end of your day present this form, completed, and your Activities Passport to the Merit Badge Counselor review station in the second-floor foyer located directly above the entrance of the Global Training Center between 12:30 and 4pm.
- 2) The Merit Badge Counselor will review this material and sign off your Merit Badge Blue Card (pre-printed Blue Cards will be provided).

QUESTIONS

Scouts are to answer each part of the following questions. These are directly from the Aviation Merit Badge requirements.

1) During today's **Aviation 101** class you learned about aviation basics and mechanics of flight. Using what you learned, do the following:

(a) Define "aircraft." Describe three kinds of aircraft today, and their typical uses.

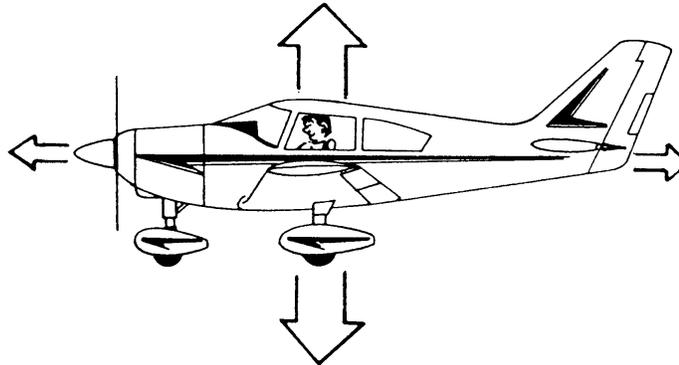
(b) Provide a brief overview of the evolution of flight, and [list] three notable times in history important to aviation.

(c) Explain the difference between a fixed wing and a rotary wing aircraft, and the benefits of each.

(d) Explain the operation of piston, turbine, and jet engines.



(e) Using the model below, describe the four forces that act on an aircraft in flight.



(f) Explain how an airfoil generates lift, specifically noting Bernoulli's principle.

1 cont.) **Using your own research**, answer the following:

(g) Identify and describe the aerodynamic control surfaces on the aircraft of your choice and explain how they operate to control its attitude and direction of flight.

(h) Explain the purposes and functions of the various instruments found in a typical single-engine aircraft:

- Attitude indicator _____
- Heading indicator _____
- Altimeter _____
- Airspeed indicator _____
- Turn and bank indicator _____
- Vertical speed indicator _____
- Compass _____
- Navigation _____
- Communication _____
- Engine performance indicators _____

3c) Using what you learned in today's **Maintenance Experience** activity, describe the maintenance schedule and requirements for an aircraft of your choice.

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4a) On today's **Airport Tour** you got to see the Alaska Airlines Hangar and surrounding SeaTac Airport runways and facilities. Describe how facilities are used and how runways are numbered and when they are considered "active."

5) During today's **Aviation 101** class you learned about personal and professional aviation opportunities. Using what you learned, do the following:

(a) Explain the following:

the student pilot certificate _____

the private pilot certificate _____

(c) Explain the following:

the commercial pilot certificate _____

the airline transport pilot certificate _____

certified flight instructor (CFI) _____

5 cont.) **Using your own research**, answer the following:

(a) Explain the following:

the recreational pilot certificate _____

the remote pilot certificates _____

b) Describe the benefits of the instrument rating

(d) Identify an Exploring Post and/or Civil Air Patrol facility in your area. Learn about their activities and membership requirements.



(e) Identify three career opportunities that would use skills and knowledge in aviation. Pick one and research the training, education, certification requirements, experience, and expenses associated with entering the field. Research the prospects for employment, starting salary, advancement opportunities, and career goals associated with this career. Discuss what you learned with your counselor and whether you might be interested in this career.

Career 1: _____
Career 2: _____
Career 3: _____

Choose one from your
list and elaborate
below
