

AVIATION



Skill Builders

1. Visit an aircraft maintenance shop. Interview a technician and report on his/her ideas about aircraft maintenance.

2. Create an original poster of an aircraft instrument panel. Include and identify the instruments and radios discussed in requirement *Technology #5*.

3. Visit an airport. After the visit, report on how the facilities are used, how runways are numbered, and how runways are determined to be “active.”

4. Visit a Federal Aviation Administration facility – a control tower, terminal radar control facility, air route traffic control center, flight service station, or Flight Standards District Office. (Phone directory listing is under U.S. Government Offices. Transportation Department, Federal Aviation Administration. Call in advance) Report on the operation and your impressions of the facility.

5. Using one of many flight stimulator software packages available for computers, “fly” the course and heading you established in requirements Computers. Plot a course and Heading. “Fly” the course.

6. On a map, mark a route for an imaginary airline trip to at least three foreign countries. Start from the commercial airport nearest your home. From timetables (obtained from agents or online from a computer), decide when you will get to and leave from all connecting points.

Technology

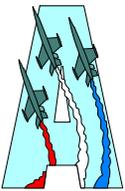
1. Define “aircraft.” Describe some kinds and uses of aircraft today. Explain the operation of piston, turboprop, and jet engines.

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

3. Explain how an airfoil generates lift, how the primary control surfaces (ailerons, elevators, and rudder) affect the airplanes, attitude, and how a propeller produces thrust.

4. Obtain and 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.

5. 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 (GPS and VOR) and communication radios,



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Airplanes?
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by air? Aviation is one of the most exciting career fields in today’s transportation industry. Aviation professional includes aeronautical engineers, air show performers, air traffic controllers, flight attendants, flight instructors, lobbyist, mechanics, pilots (airline/corporate/military/general aviators) aviation writers plus other positions.

This Interest Project will help you take flight into an exciting air adventure.

tachometer, oil pressure gauge, and oil temperature gauge.

6. Investigate how the control surfaces of an airplane are used to takeoff, straight climb, level turn, climbing turn, descending turn, straight descent, and landing.

Service Projects

1. Help sponsor an event to: Build and fly a fuel-driven model airplane. Describe safety rules for building and flying model airplanes. Tell safety rules for use of glue, paint, dope, and plastics. And fuel. Incorporate hands-on and creative a
2. Assemble a poster (or album) of original photographs showing the inside and out of the aircraft.
3. Develop a booklet or display that highlights women who have played an important role in the history of Aviation.
4. Design an exhibit about Aviation for a younger troop, you school, library or other centers. Include books, a model airplane, and a list of resources in your display.
5. Help Brownie and Junior Girl Scouts learn about Aviation. Using the computer Aviation Web site let them practice navigation. Explain the following: the recreational pilot and the private pilot, the instrument rating.

Career Exploration

1. Interview a profession military Pilot. Report what you learned.
2. Interview a flight attendant. Report on what you learned.
3. Interview a certified flight, or ground instructor. Report on what you learned.
4. Visit an aviation museum or attend an air show. Report on your impressions of the museum or show.
5. Find out what job opportunities there are in aviation. Describe the qualifications and working conditions of one job in which you are interested. Tell what it offers for reaching you goal in life.
6. Visit a local college where Aviation is offered. Report on the program they offer and the career choices available.