

Visit the "Scouting with Mr. R." web site at www.relia.net/~thedane/scouting.html



<http://www.aa.washington.edu/faculty/eberhardt/liif.htm>



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AIRCRAFT OPERATION (1)

Define "aircraft." _____

Describe some kinds and uses of aircraft today.

Explain the operation of a(n):
piston _____

turboprop _____



engines _____

SEE: <http://quest.arc.nasa.gov/aero/planetary/atmospheric/propulsion.html>

AVIATION

S	R	K	F	F	T	E	O	D	R	W	S	T	N	L
P	I	V	O	U	H	W	N	E	V	T	H	L	O	A
I	Y	M	V	J	G	I	T	G	O	G	O	I	I	N
S	H	R	U	D	D	E	R	N	I	F	H	F	T	D
T	H	Y	Y	L	M	Z	K	L	A	N	H	T	A	I
O	R	W	O	O	A	P	F	A	L	M	E	P	G	N
N	O	T	H	A	L	T	I	M	E	T	E	R	I	G
C	T	C	V	A	E	W	O	T	U	B	I	O	V	T
V	A	Y	I	Z	Y	T	F	R	F	R	D	P	A	S
T	V	R	O	Y	A	A	B	I	Q	U	J	E	N	S
O	E	L	E	K	R	O	S	N	O	R	E	L	I	A
L	L	G	E	C	P	T	S	U	R	H	T	L	M	P
I	E	O	R	R	L	I	O	F	R	I	A	E	U	M
P	F	I	O	A	I	R	P	O	R	T	N	R	F	O
F	A	P	W	I	N	G	Q	J	T	W	Z	S	V	C

- | | | |
|-----------|------------|------------|
| AILERONS | FLIGHT | RUDDER |
| AIRCRAFT | FUEL | SIMULATOR |
| AIRFOIL | KNOTS | TACHOMETER |
| AIRPORT | LANDING | TAKEOFF |
| ALTIMETER | LIFT | THRUST |
| COMPASS | NAVIGATION | TURBOPROP |
| ELEVATOR | PILOT | WING |
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| FAA | PROPELLER | |

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T	H	Y	Y	L	M	Z	K	L	A	N	H	T	A	I
O	R	W	O	O	A	P	F	A	L	M	E	P	G	N
N	O	T	H	A	L	T	I	M	E	T	E	R	I	G
C	T	C	V	A	E	W	O	T	U	B	I	O	V	T
V	A	Y	I	Z	Y	T	F	R	F	R	D	P	A	S
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O	E	L	E	K	R	O	S	N	O	R	E	L	I	A
L	L	G	E	C	P	T	S	U	R	H	T	L	M	P
I	E	O	R	R	L	I	O	F	R	I	A	E	U	M
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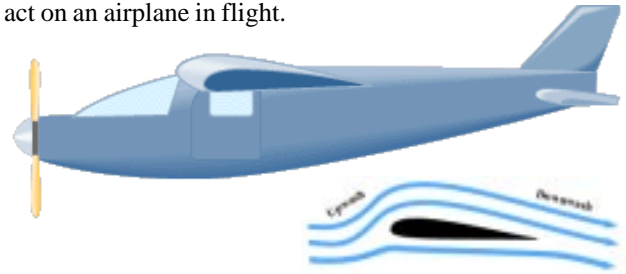
- ❑ Using a flight simulator software package for computers, “fly” the course and heading you established in requirement 3e or another course you have plotted.
- ❑ On a map, mark a route for an imaginary airline trip to at least three foreign countries. Start from the commercial airport nearest your home. From timetables (obtained from agents or online from a computer), decide when you will get to and leave from all connecting points.
- ❑ 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, plastics, and fuel.
- ❑ Assemble a poster (or album) of original photographs taken while accomplishing the requirements.



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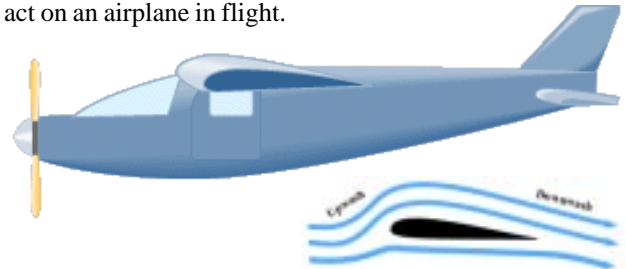
- ❑ Point out on a model airplane the forces that act on an airplane in flight.



Explain how an airfoil generates lift.

How do the primary control surfaces (ailerons, elevators, and rudder) affect the airplane’s attitude?_____

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INTERVIEW OR PROJECT (3)

Do **TWO** of the following:

- Interview a professional or military pilot. Report on what you learned.
- Interview a flight attendant. Report on what you learned.
- Interview a certified flight instructor. Report on what you learned.

- Under supervision, perform a preflight inspection of a light airplane.
- 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.

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Airlane _____ to the right.

Airlane nose _____ up.

Airlane _____ to the right.

SEE: <http://class.et.byu.edu/honp241-001/ailerons.htm> and <http://quest.arc.nasa.gov/aero/planetary/atmospheric/controlsurface1.html>

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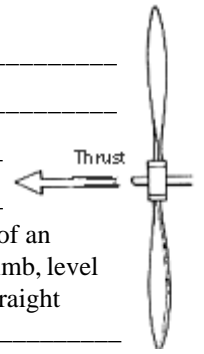
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- c) Visit a FAA facility—a control tower, terminal radar control facility, air route traffic control center, flight service station, or Flight Standards District Office. Report on the operation and your impressions of the facility (below).
- f) Visit an aircraft maintenance shop. Interview a technician and report on his/her ideas about aircraft maintenance (below).
- d) Visit an aviation museum or attend an air show. Report on your impressions of the museum or show (below).
- e) 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, tachometer, oil pressure gauge, and oil temperature gauge.
- g) Create an original poster of an aircraft instrument panel. Include and identify the instruments and radios discussed in requirement 2e.

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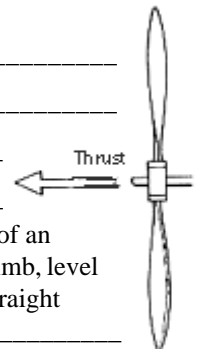
Demonstrate how the control surfaces of an airplane are used for takeoff, straight climb, level turn, climbing turn, descending turn, straight descent, and landing. _____

What is a recreational pilots certificate? _____

What is a private pilot certificates? _____

What is an instrument rating? _____

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Describe the qualifications and working conditions of one job in which you are interested. _____

Tell what it offers for reaching your goal in life.

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VISITS (2)

Do **TWO** of the following:

a) Take a flight in an aircraft.

Date _____ Place _____

Type of aircraft _____

Duration of flight _____ minutes

Impression of the flight _____

b) Visit an airport.

How are the facilities used? _____

How are the runways numbered? _____

How are runways determined to be "active"? _____



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