

**CAREER
PATHS**

Civil Aviation

Virginia Evans
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Express Publishing

**CAREER
PATHS**

Civil Aviation

Book

1

Virginia Evans
Jenny Dooley
Capt. Kent Berwick



Express Publishing

Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Parts of an Airplane 1	Textbook chapter	fixed wing, fuselage, landing gear, nose, tail, tire, turbine engine, turboprop, wheel, wing	Expressing concern
2	Parts of an Airplane 2	Training guide	aileron, elevator, flap, horizontal stabilizer, outboard slat, rudder, slat, spoiler, vertical stabilizer, winglet	Correcting an error
3	The Cockpit	Training guide	center stick, cockpit, flight deck, instrument panel, overhead panel, pedestal, rudder pedals, side stick, throttle, windshield, yoke	Making transitions
4	Flight Instruments	Aircraft manual	airspeed indicator, altimeter, attitude indicator, Basic Six, course deviation indicator, flight instruments, heading indicator, magnetic compass, radio magnetic indicator, T arrangement, turn coordinator, vertical speed indicator	Describing location
5	Radio Equipment	Product listing	audio switch panel, boom mike, break squelch, frequency, handheld mike, headphones, key, PTT, radio, speaker, squelch control, transceiver, transponder	Talking about capabilities
6	Radio Basics 1	Poster	affirmative, callsign, ICAO, mayday, negative, pan, phonetic alphabet, roger, unable, wilco	Asking for repetition
7	Radio Basics 2: Conventions	Training manual	cleared to, degree, hold, identify, plain English, read back, say again, stand by, step on, transmit	Asking for information on the radio
8	Radio Basics 3	Quick guide	address, approach facility, ATC facility, Center, departure facility, Flight Service Station, ground, MULTICOM, tower controller, UNICOM	Contacting controllers
9	Distance and Speed	Textbook excerpt	airspeed, calibrated airspeed, equivalent airspeed, groundspeed, indicated airspeed, knot, kph, mph, nautical mile, true airspeed	Making comparisons
10	Describing Flight 1	Textbook excerpt	bank, lateral axis, longitudinal axis, maneuver, pitch, roll, torque, vertical axis, wingtip, yaw	Giving suggestions
11	Describing Flight 2	Airline manual	above, below, climb, cruise, decrease, descend, increase, rise, slow down, speed up	Talking about changes in elevation
12	Types of Airliners	Magazine article	cabin class, civil aircraft, commuterliner, feederliner, narrow-body airliner, regional airliner, regional jet, turbofan, turboprop, widebody airliner	Talking about experience
13	Types of Airspace	Poster	altitude, ceiling, class, FL, flight information service, floor, IFR, MSL, traffic information, VFR	Confirming information
14	Parts of an Airport	Sign	concourse, control tower, customs, fuel depot, gate, hangar, restricted, runway, security checkpoint, taxiway, terminal	Giving instructions
15	People in an Airport	Job listings	cargo handler, co-pilot, customs agent, flight attendant, ground controller, mechanic, pilot, screener, security personnel, ticket agent	Asking about progress

Table of Contents

Unit 1 – Parts of an Airplane 1	4
Unit 2 – Parts of an Airplane 2	6
Unit 3 – The Cockpit	8
Unit 4 – Flight Instruments	10
Unit 5 – Radio Equipment	12
Unit 6 – Radio Basics 1	14
Unit 7 – Radio Basics 2: Conventions	16
Unit 8 – Radio Basics 3	18
Unit 9 – Distance and Speed	20
Unit 10 – Describing Flight 1	22
Unit 11 – Describing Flight 2	24
Unit 12 – Types of Airliners	26
Unit 13 – Types of Airspace	28
Unit 14 – Parts of an Airport	30
Unit 15 – People in an Airport	32
Glossary	34

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2

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Unit	Topic	Reading context	Vocabulary	Function
1	Air Traffic Control	Job description	air traffic control, air traffic, clearance delivery, collision, controller, direct, lateral separation, local control, longitudinal separation, minimum, NOTAM, radar, vertical separation	Describing consequences
2	Flight Plans	Flight plan	airways routing, block time, burn-off, center-stored flight plan system, flight plan, fuel, ground time, off-to-on time, payload, pounds per hour, pounds per minute, route, time en route	Agreeing with an opinion
3	Weather Conditions	Webpage	atmospheric pressure, forecast, IMC, meteorology, precipitation, predict, temperature, visibility, VMC, weather front, wind speeds	Reacting to good news
4	Pre-flight Check	Pilot's notes	cockpit check, emergency equipment check, excessive, external, fan blade, log book, maintenance, preflight, surface damage, tire check, walk-around, wear	Describing a concern
5	Weather Reports	Weather report	cloud, fog, gust, hail, hydroplane, rain, runway contamination, slush, snow, storm, weather report, wind direction	Asking for repetition
6	Taxiing	Pilot's guide	airport marking, axi, brake check, efficiency, nose wheel, push-back, steer, thrust, tiller wheel, tow, tug	Giving permission
7	Takeoff	Pilot manual	holding point, net takeoff flight path, retraction, rolling takeoff, segment 1, segment 2, segment 3, segment 4, takeoff, V1, V2, VLO, VR	Giving commands
8	Climbing	Article	best rate of climb, climb restriction, climb thrust, distance to altitude, fuel to altitude, inbound, long-range climb, Mach number, normal high-speed climb, time to altitude, tunnel departure, VB speed	Making an exception
9	Control Systems	Information sheet	actuator, electro-hydraulic servo valve, flight envelope protection, flight envelope, fly-by-wire control system, hydraulic circuit, hydro-mechanical control system, manually, mechanical circuit, mechanical control system, override, redundancy, servo tab	Talking about function
10	Cruising	Memo	buffet boundary, cruise regime, cruise, efficient, fuel consumption, fuel flow, highspeed cruise, long-range cruise, optimum altitude, overspeed clacker warning, range constant, recommended cruise	Talking about pros and cons
11	Instrument Scan	Article	adjust, constant, cross-check, indication, instrument scan, interpret, primary instrument, read, secondary instrument, trim	Talking about degree
12	Encountering Traffic	Guide	conflict, encounter, local conflict, loss of separation, maximum takeoff mass, opposite conflict, traffic collision avoidance system, traffic, wake turbulence category, wake turbulence, wingtip vortices	Describing tension and fear
13	Descent	Textbook excerpt	descent, emergency descent, final approach fix, high-speed descent, long-range descent, rapid depressurization, rate of descent, speed brake, VMO	Being cautious
14	Approach	Textbook excerpt	approach flap configuration, approach, base leg, clean configuration, deceleration, downwind leg, extension, final approach leg, flare, landing configuration, landing pattern, maneuvering configuration, maneuvering speed	Politely identifying errors
15	Landing	Flight log	align, brakes, centerline, crosswind, landing, nosewheel, reverse thrust, rollout, skid, spoiler, stopping distance, taxiing speed, touchdown	Describing reductions

Table of Contents

Unit 1 – Air Traffic Control	4
Unit 2 – Flight Plans	6
Unit 3 – Weather Conditions	8
Unit 4 – Pre-flight Check	10
Unit 5 – Weather Reports	12
Unit 6 – Taxiing	14
Unit 7 – Takeoff	16
Unit 8 – Climbing	18
Unit 9 – Control Systems	20
Unit 10 – Cruising	22
Unit 11 – Instrument Scan	24
Unit 12 – Encountering Traffic	26
Unit 13 – Descent	28
Unit 14 – Approach	30
Unit 15 – Landing	32
Glossary	34

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3

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Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Aerodynamics	Textbook excerpt	aerodynamics, airfoil, angle of attack, Bernoulli's theory, drag, force, gravity, heavier-than-air flight, lift, Newton's laws of motion, overcome, pressure, thrust	Identifying an error
2	Weight and Balance	Pilot's operational handbook	arm, balance, ballast, cargo, center of gravity, CG limit, distribution, empty weight, excess, load, maximum weight, moment, reference datum, total gross weight	Denying a suggestion
3	Broadcasts	Guide	AFSS, ANSP, ATIS, AWOS, Flight Watch, FSS, GCO, LWIS, RCO, TRSA	Making comparisons
4	Holding	Pilot's instruction manual	clearance, DME, entry procedure, GPS, hold, holding fix, homing beacon, inbound track, leg length, nonstandard pattern, outer marker/compass locator, racetrack pattern, standard pattern, VOR	Requesting instructions
5	Security	Airline newsletter	abusive, aggressive, agitated, air marshal, arrest, assault, divert, drunk, force open, handcuff, in possession of, incident, restrain, security, suspicious, zip-tie	Describing unruly behavior
6	Winter Operations	Magazine article	accumulate, de-ice, freight, frost, fuel load, glycol, ice, icing range, pitot tube, slippery, static port, underside, wing anti-icing, winter operations	Stating an opinion
7	Radio Failure	Article	ADF, air-to-ground, failure, ILS receiver, malfunction, navigational radio, notify, primary fix, protection, route, two-way	Providing reassurance
8	Stalls	Textbook chapter	accelerated stall, approach to a stall, attain, buffeting, full stall, pitch over, point of separation, recovery, stall speed, stall warning, stall, stick shaker	Discussing possible events
9	Steep Turns	Report	accelerated stall, approach to a stall, attain, buffeting, full stall, pitch over, point of separation, recovery, stall speed, stall warning, stall, stick shaker	Giving constructive criticism
10	Unusual Attitudes	Flight manual	aircraft upset, break, graveyard spiral, inverted position, rolling wingover, spin, split S, stalled attitude, tail slide, unusual attitude, vertical climb, vertical dive, whipstall, wrap in	Expressing confusion
11	In-Flight Hazards 1	Pilot's guide	"ride the wave", anvil, avoid, cell, downdraft, lightning, roll cloud, squall line, stress, thunderstorm, tornadic tube, tornado, updraft, wind shear	Discussing risk
12	In-Flight Hazards 2	Magazine article	air show, bird strike, close call, fireworks, fuel dumping, hang glider, hot air balloon, laser pointer, military operation, mountain wave turbulence, volcanic ash, warning light, weather balloon	Giving an example
13	Medical Emergencies	First aid kit content listing	air show, bird strike, close call, fireworks, fuel dumping, hang glider, hot air balloon, laser pointer, military operation, mountain wave turbulence, volcanic ash, warning light, weather balloon	Describing health/injuries
14	Rejected Takeoffs	Pilot's guide	abort, aborted takeoff, accelerate/stop distance, all-engine takeoff field length, balanced field length, decision speed, malfunction, mandatory, minimum runway length, rejected takeoff, takeoff distance with an engine failure	Describing the order of events
15	Rejected Landings	Airline report	aborted landing, decision height, execute, go around, instrument approach, missed approach, obstruction, rejected landing, retract, takeoff power, TO/GA switch, unsafe gear warning	Giving a warning

Table of Contents

Unit 1 – Aerodynamics	4
Unit 2 – Weight and Balance	6
Unit 3 – Broadcasts	8
Unit 4 – Holding	10
Unit 5 – Security	12
Unit 6 – Winter Operations	14
Unit 7 – Radio Failure	16
Unit 8 – Stalls	18
Unit 9 – Steep Turns	20
Unit 10 – Unusual Attitudes	22
Unit 11 – In-Flight Hazards 1	24
Unit 12 – In-Flight Hazards 2	26
Unit 13 – Medical Emergencies	28
Unit 14 – Rejected Takeoffs	30
Unit 15 – Rejected Landings	32
Glossary	34

PILOT

Quick Guide

How to address
common ATC facilities



When **addressing a tower controller**, use *Tower*.

Example: "Greenfield Tower, SkyBus 124 ready for takeoff."

When addressing **Ground control**, use *Ground*.

Example: "Greenfield Ground, SkyBus 124 taxiing to runway 7."

When addressing an **approach facility** or a **departure facility**, use *Approach* or *Departure*.

Example: "Delton Approach, SkyBus 124 approaching at 1,800 feet."

When addressing a **Flight Service Station**, use *Radio*.

Example: "Harborville Radio, SkyBus 124, 30 miles east. Requesting weather advisory."

When addressing **Center control**, use *Center*.

Example: "Delton Center, SkyBus 124 requesting traffic advisory."

Address **UNICOM** and **MULTICOM** as such.

Get ready!

1 Before you read the passage, talk about these questions.

- Who works in an air traffic control tower?
- Which air traffic control station controls the airplane during mid-flight?

Reading

2 Read the quick guide. Then, choose the correct answers.

- What is the purpose of the manual?
 - to correct common mistakes
 - to define the different ATC facilities
 - to provide communication instructions
 - to compare different types of pilots
- Which of the following is a correct way for a pilot to address a controller?
 - SkyBus 112, Greenfield Ground.
 - Greenfield Ground, SkyBus 112.
 - Pilot Rogers, Greenfield Ground.
 - Ground Approach, SkyBus 112.
- Which of the following is NOT explained in the manual?
 - how to address a Flight Service Station
 - how to address UNICOM
 - how to address a tower controller
 - how to address another pilot

Vocabulary

3 Match the words and phrases (1-8) with the definitions (A-H).

- | | |
|------------------------|------------------------------|
| 1 ___ tower controller | 5 ___ UNICOM |
| 2 ___ MULTICOM | 6 ___ approach facility |
| 3 ___ ATC facility | 7 ___ departure facility |
| 4 ___ Center | 8 ___ Flight Service Station |

- a location from which air traffic controllers give pilots instructions and clearance
- a communication frequency used by pilots to communicate their flight intentions when no air traffic control facility or base operator is available
- an air traffic communications system that provides air traffic advisories at airports that do not have air traffic control
- a facility that provides pilots with air traffic information before, during, and after flights
- a location that controls air traffic leaving from an airport
- a location that controls air traffic arriving at an airport
- a person who manages traffic in and around an airport from the airport's tower
- a part of air traffic control that manages traffic en route between departure and arrival

4 Read the sentence pairs. Choose which word or phrase best fits each blank.

1 ATC facility / Flight Service Station

- A Pilots receive instructions from a(n) _____ .
 B Pilots receive traffic information from a(n) _____ .

2 Ground / Center

- A _____ controls planes in mid-flight.
 B _____ controls planes that are taxiing at an airport.

5 Listen and read the quick guide again. How should a pilot address a Flight Service Station?

Listening

6 Listen to a pilot contacting air traffic control by radio. Mark the following statements as true (T) or false (F).

- ___ The woman contacts Approach first.
- ___ The man instructs the woman to contact Greenfield Ground.
- ___ The woman requests landing clearance.

7 Listen again and complete the conversation.

Pilot: Greenfield 1 _____, SkyBus 112 approaching from Delton.

Controller 1: SkyBus 112, Greenfield Approach. What is your distance and estimated 2 _____ ?

Pilot: Distance, 27 miles 3 _____. Time of arrival estimated at 1:17 p.m.

Controller 1: SkyBus 112, contact Greenfield 4 _____ on 117.22.

Pilot: 5 _____. SkyBus 112 contacting Greenfield Tower. Greenfield Tower, SkyBus 112 approaching at 1,600 feet.

Controller 2: SkyBus 112, Greenfield Tower, roger. Please 6 _____ estimated arrival time.

Pilot: Greenfield Tower, SkyBus 112 estimated arrival time at 1:17. Requesting clearance to land.

Speaking

8 With a partner, act out the roles below based on Task 7. Then switch roles.

USE LANGUAGE SUCH AS:

Requesting ...
What is your ... ?
Contact ...

Student A: You are a pilot. Talk to Student B about:

- your distance
- your time of arrival
- what you are requesting

Student B: You are an air traffic controller. Talk to Student A about contacting other ATC facilities.

Writing

9 Use the conversation from Task 8 to complete the flight arrival report.



Flight Arrival Report

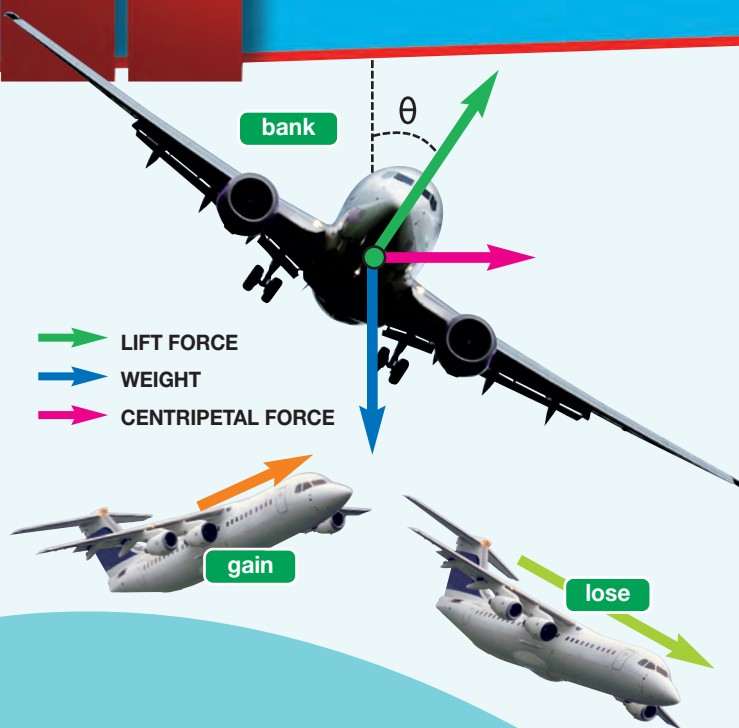
Airline and flight number: _____

Approaching from: _____

Expected arrival time: _____

First ATC facility contacted: _____

Pilot directed to contact: _____



Get ready!

- 1 Before you read the passage, talk about these questions.

- 1 What is the opposite of losing altitude?
- 2 What is another name for a roll?

Reading

- 2 Read the report. Then, mark the following statements as true (T) or false (F).

- 1 ___ The student had difficulty maintaining consistent altitude.
- 2 ___ The student's rate of roll during the turn was too high.
- 3 ___ The instructor recommends slowing down during steep turns.

Vocabulary

- 3 Write a word that is similar in meaning to the underlined part.

- 1 Today, we're going to practice turns with high bank angles. s _ _ e p _ u _ _ s
- 2 The student pilot needs to work on her speed entering a bank. _ a t _ _ f _ _ l _
- 3 Jill is nervous about her test to receive her pilot certification. _ h e _ k _ r _ _ _
- 4 I don't know why I always decrease speed during turns. _ o s _

Check Ride Report

Student:	Ellen Gomez
Maneuvers Tested:	Turns

Achievements: Overall, the student did well on her first **check ride**. She handled several **steep turns** at a **bank** of 45° with precision and confidence while maintaining a safe speed at or below **VA**. She used a steady **rate of roll** to achieve the appropriate **bank angle**. The student then maintained her gradual rate as she came out of the bank. The return to **level flight** was smooth and well timed.

Problem areas: The student had some trouble staying within her altitude **tolerance parameters**. As she entered each turn, she habitually pulled the nose upward and **gained** altitude. This caused her to **lose** speed and forced her to make corrections mid-turn. She was able to recover, but her execution could have been much smoother and should have required less effort.

Improvements: The student should focus on improving her **altitude control** so that she does not unnecessarily **vary** her speed and altitude during difficult turns. If she maintains her altitude next time, she will find it much easier to return to her correct course as she completes a turn.

- 4 Read the sentence pairs. Choose which word or phrase best fits each blank.

1 vary / gain

- A You should try not to _____ your speed. Instead, keep it steady.
- B You will likely slow down if you suddenly _____ altitude.

2 tolerance parameters / level flight

- A I must check the _____ for this aircraft before I attempt a turn.
- B Return to _____ after you achieve the desired heading.

3 VA / altitude control

- A Hold your elevators steady to maintain _____.
- B Exceeding _____ during a steep turn can be dangerous.

4 bank / bank angle

- A I need to practice entering a _____ more smoothly.
- B This is considered a steep turn because the _____ is more than 30 degrees.

- 5 Listen and read the report again. What happens if a pilot does not maintain altitude control?

Listening

- 6 Listen to a conversation between a flight instructor and a student. Choose the correct answers.

- 1 What is the purpose of the conversation?
 A to reprimand the woman for careless flying
 B to prepare the woman for a check ride
 C to quiz the woman on speed and altitude
 D to review the events of a recent ride
- 2 What did the woman do well?
 A held a steady rate of roll
 B pulled the nose up during the bank
 C gained speed while entering the turn
 D maintained consistent altitude control

- 7 Listen again and complete the conversation.

- Instructor:** In general, you did very well. You 1 _____ mistakes that new pilots often make.
- Student:** That's a relief. Like what?
- Instructor:** Well, new pilots have a tendency to enter a bank too quickly. You maintained a nice, 2 _____ in and out of the bank.
- Student:** I guess that's good, but I felt like it was 3 _____.
- Instructor:** I'm glad you noticed. While your rate of roll was fine, you had some trouble with 4 _____.
- Student:** Speed was the problem?
- Instructor:** Well, sort of. You pulled the nose up each time you entered a turn, so you 5 _____ and lost speed.
- Student:** Oh, I see. So that's why I felt like I had to keep 6 _____ to the right speed.
- Instructor:** That's right. Next time, concentrate on maintaining your altitude and the speed will naturally remain steady, too.

Speaking

- 8 With a partner, act out the roles below based on Task 7. Then switch roles.

USE LANGUAGE SUCH AS:

New pilots tend to ...

I still felt like ...

While ... was fine, you had trouble with ...

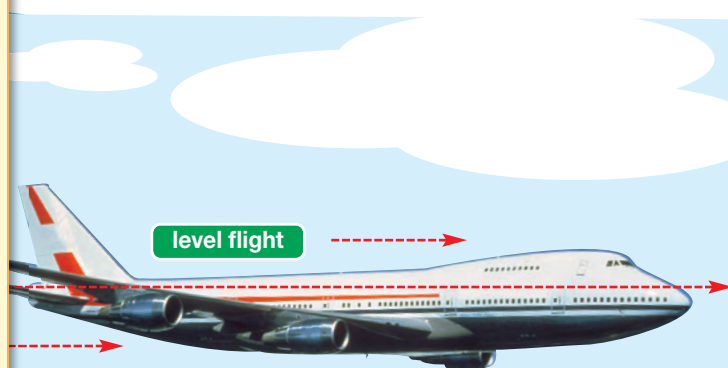
Student A: You are a flight instructor. Talk to Student B about:

- his or her check ride
- what he or she did well
- how he or she can improve

Student B: You are a flight student. Talk to Student A about your check ride.

Writing

- 9 Use the conversation from Task 8 and the report to fill out an instructor's check ride report. Include: the student's achievements, problem areas, and ways to improve.



Glossary

- above** [PREP-U11] If something is **above** something else, it is over or higher than it.
- address** [V-T-U8] To **address** a person is to initiate a conversation with him or her.
- affirmative** [ADJ-U6] **Affirmative** is a radio proword meaning “yes”.
- aileron** [N-COUNT-U2] An **aileron** is a hinged part of a wing that rolls or banks an aircraft from side to side.
- airspeed** [N-UNCOUNT-U9] **Airspeed** is the measure of how fast an aircraft is moving relative to the air.
- airspeed indicator** [N-COUNT-U4] An **airspeed indicator** is a flight instrument that shows an aircraft's speed relative to the outside air.
- altimeter** [N-COUNT-U4] An **altimeter** is a flight instrument that shows an aircraft's altitude above sea-level.
- altitude** [N-UNCOUNT-U13] **Altitude** is a measurement of distance above a given point such as sea level or the level of the ground directly below an aircraft.
- approach facility** [N-COUNT-U8] An **approach facility** is a location that controls air traffic arriving at an airport.
- attitude indicator** [N-COUNT-U4] An **attitude indicator** is a flight instrument that shows an aircraft's relationship to the horizon.
- audio switch panel** [N-COUNT-U5] An **audio switch panel** is a panel that manages the audio communication between the pilot, co-pilot, the cabin, and air traffic control.
- aviation phonetic alphabet** [N-COUNT-U6] The **aviation phonetic alphabet** is a system for ensuring clear communication over radio by replacing letters with words.
- bank** [N-UNCOUNT-U10] **Bank** is rotation along the longitudinal axis of an aircraft, also called roll.
- Basic Six** [N-COUNT-U4] The **Basic Six** are the six primary flight instruments that make up the standard flight panel: altimeter, attitude indicator, airspeed indicator, heading indicator, turn coordinator, and vertical speed indicator.
- below** [PREP-U11] If something is **below** something else, it is beneath or lower than it.
- boom mike** [N-COUNT-U5] A **boom mike** is a microphone attached to a flexible pole that one can position as needed but does not have to hold.
- break squelch** [N-UNCOUNT-U5] **Break squelch** is a set threshold at which noise becomes audible.
- cabin class** [N-COUNT-U12] A **cabin class** is a way of categorizing airline tickets and their corresponding seats according to their price and relative levels of comfort and service.
- calibrated airspeed** [N-UNCOUNT-U9] **Calibrated airspeed** is the indicated airspeed corrected for errors brought about by instruments, position, or other factors.
- callsign** [N-COUNT-U6] A **callsign** is a sequence of numbers and letters that identifies an aircraft.
- cargo handler** [N-COUNT-U15] A **cargo handler** transfers passengers' luggage from the airport to the plane.
- ceiling** [N-UNCOUNT-U13] The **ceiling** is the highest altitude within a given airspace.
- Center** [N-COUNT-U8] **Center** is a part of air traffic control that manages traffic en route between departure and arrival.
- center stick** [N-COUNT-U3] A **center stick** is a part that controls the pitch of an aircraft and is located on the floor in front of a pilot.
- civil aircraft** [N-COUNT-U12] A **civil aircraft** is an aircraft intended for non-military uses.
- class** [N-COUNT-U13] A **class** of airspace is an area where aircraft must follow particular rules, and may receive particular types of information from air traffic control. The physical region that each class governs varies by country.
- cleared to** [V-T-U7] If someone is **cleared to** do something, he or she can do something safely or with permission from an authority.
- climb** [V-I-U11] To **climb** is to raise the altitude of an aircraft.



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Career Paths: Civil Aviation is a new educational resource for aviation professionals who want to improve their English communication in a work environment. Incorporating career-specific vocabulary and contexts, each unit offers step-by-step instruction that immerses students in the four key language components: reading, listening, speaking, and writing. **Career Paths: Civil Aviation** addresses topics including parts of an aircraft, takeoff procedures, en route events, landing procedures, and flight hazards.

The series is organized into three levels of difficulty and offers a minimum of 400 vocabulary terms and phrases. Every unit includes a test of reading comprehension, vocabulary, and listening skills, and leads students through written and oral production.

Included Features:

- A variety of realistic reading passages
- Career-specific dialogues
- 45 reading and listening comprehension checks
- Over 400 vocabulary terms and phrases
- Guided speaking and writing exercises
- Complete glossary of terms and phrases

The **Teacher's book** contains a full answer key and audio scripts.

The **audio CDs** contain all recorded material.



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