

WHO ARE AIR TRAFFIC CONTROLLERS?



Who are air traffic controllers? What do they do? Where do they work?

Twenty-four hours a day, seven days a week, air traffic controllers are on the job separating aircraft at over 350 locations across the country.

Controllers work in three different types of facilities — Tower, Terminal Radar Approach Control (TRACON) and Air Route Traffic Control Center — in a rhythm similar to runners in a relay race.

Constantly on the move, a controller will work an aircraft until it reaches the end of his defined airspace — and then will hand it off to the next controller — similar to a runner handing the baton off after running his leg of the race.

Tower

Some controllers work in the glass enclosed towers you see at airports. These controllers give pilots taxi and take off clearances. They will also work an aircraft until it approaches the edge of the tower's jurisdiction — then it is handed off to the controller in the TRACON.



Terminal Radar Approach Control

Controllers also work in radar rooms called TRACONs — which are located either at the base of the airport or in a building completely separate from the airport. These controllers provide service to the aircraft until it reaches the edge of the facility's airspace and then they hand it off to the center.



Air Route Traffic Control Center

Controllers in centers work at 20 facilities across the country, and will provide service to an aircraft for the majority of its journey. Using radar and manual procedures, these controllers track thousands of planes streaming across the sky at a time.

Air traffic controllers and their alphabet

Air traffic controllers communicate using a unique alphabet. Rather than saying letters, controllers utilize particular words that begin with that letter to

represent that letter because many letters sound the same (for instance, "b" and "v").

A	alpha	J	juliet	S	sierra
B	bravo	K	kilo	T	tango
C	charlie	L	lima	U	uniform
D	delta	M	mike	V	victor
E	echo	N	november	W	whiskey
F	foxtrot	O	oscar	X	x-ray
G	golf	P	papa	Y	yankee
H	hotel	Q	quebec	Z	zulu
I	india	R	romeo		

Using the alphabet code above, spell out the words below.

1. charlie - oscar - november - tango - romeo - oscar - lima - lima - echo - romeo

2. romeo - alpha - delta - alpha - romeo

3. tango - romeo - alpha - foxtrot - foxtrot - india - charlie

4. foxtrot - alpha - charlie - india - lima - india - tango - yankee

Now use the alphabet code above to say each word below.

5. S-A-F-E-T-Y

6. R-O-U-T-E

7. E-Q-U-I-P-M-E-N-T

8. G-U-I-D-E

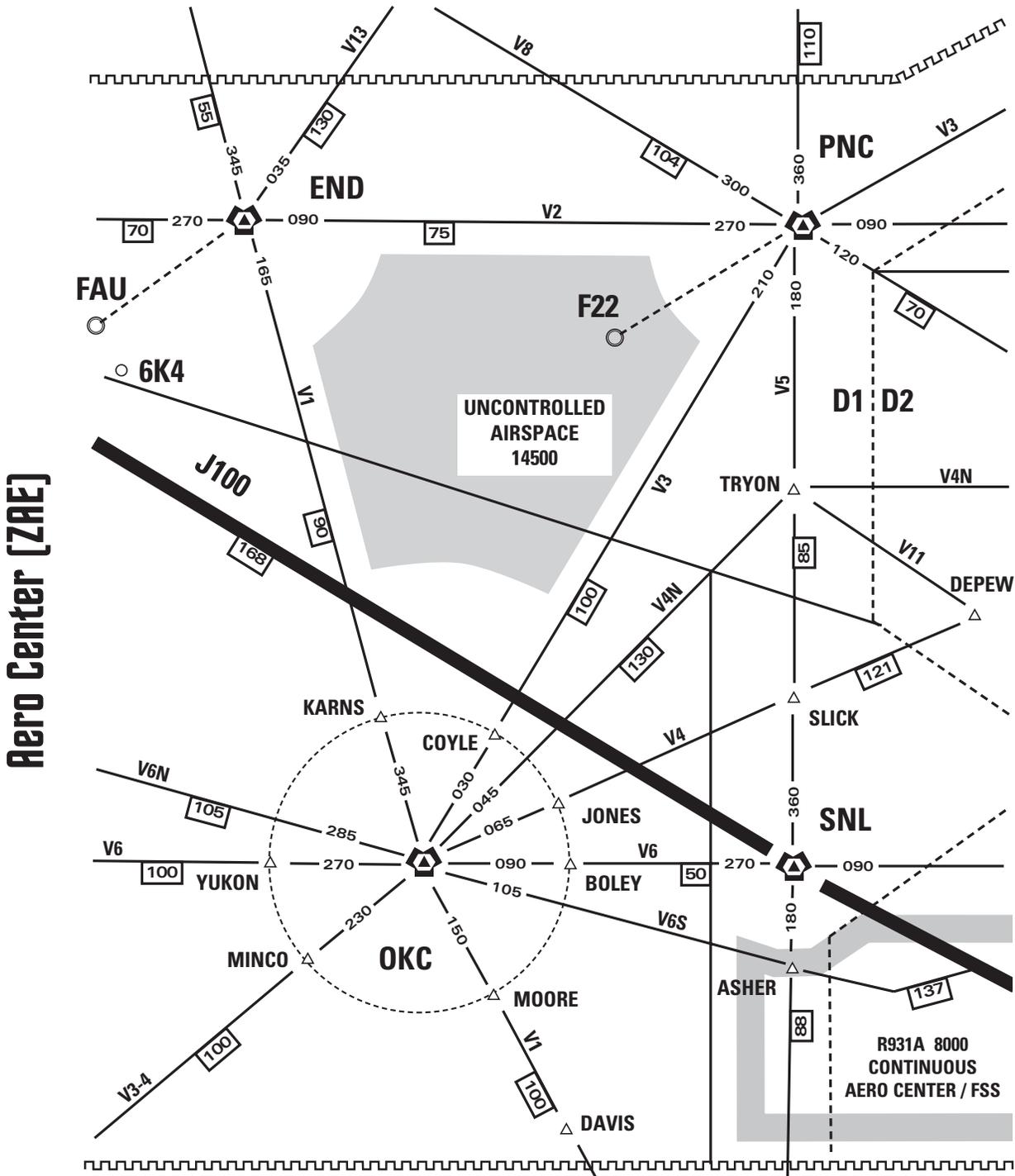
**Answers located on page 12.*

How well can you remember...

An air traffic controller must have an exceptional memory to succeed in his or her job. One of the first skills they learn is how to memorize and draw maps. Below is a simplified map of what a controller's airspace might look like. Controllers are responsible for working aircraft in a particular section of airspace and use these maps as a tool to

safely separate the airplanes. Airspace maps detail the different routes airplanes follow as they navigate across the sky - similar to the highways that cars travel along.

Using the next page, fill in the missing information for the 12 question marks.

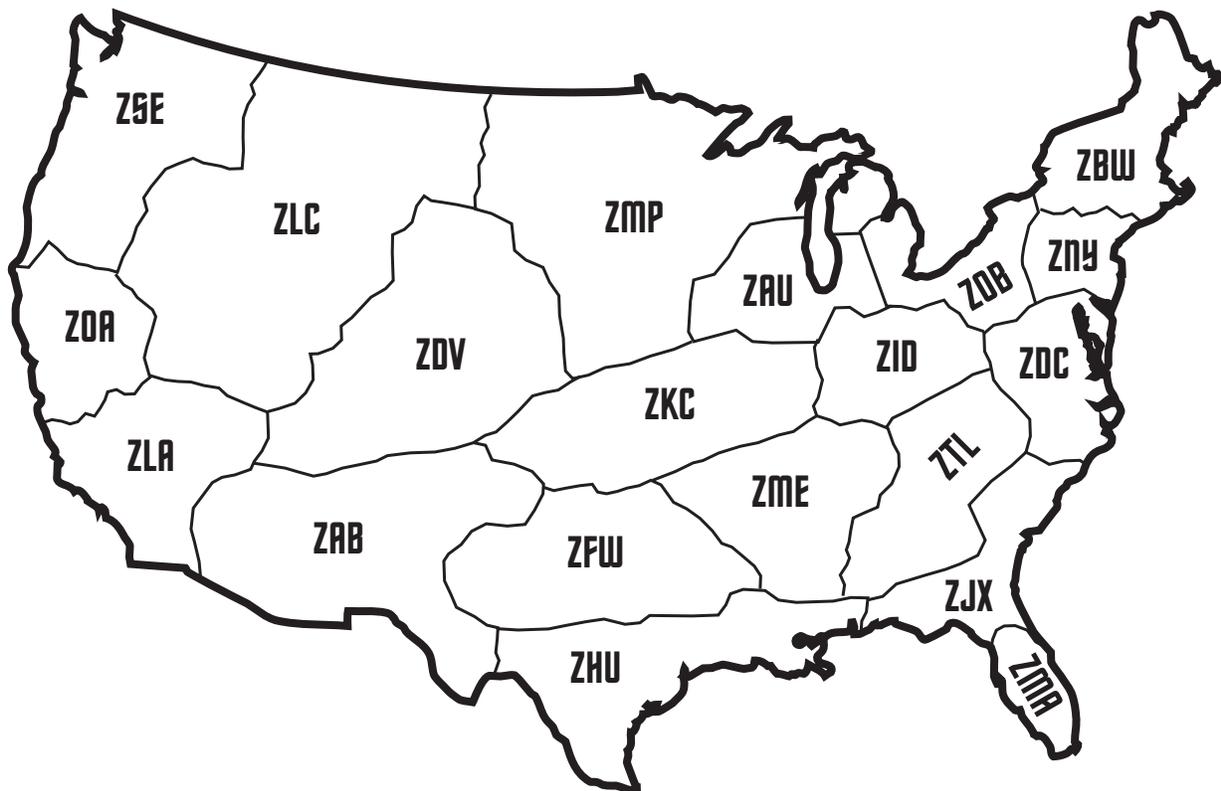


Air traffic controllers and their airspace

Air traffic controllers separate aircraft within a particular area of airspace at specific altitudes - and work together in a coordinated effort to safely separate airplanes. The map below indicates how the United States' airspace is divided among the 20 Air Route Traffic Control Centers. A typical center is responsible for more than 100,000 square miles of airspace generally extending over a number of states.

The facility identifiers are identified in the list below the map. Controllers must know all of these designations along with locations they represent.

Study this map for a few minutes and then on the next page label each section of airspace with the appropriate three-letter identifier.



ZSE - Seattle Center
ZOB - Cleveland Center
ZOR - Oakland Center
ZID - Indianapolis Center
ZLA - Los Angeles Center
ZTL - Atlanta Center
ZLC - Salt Lake City Center

ZJX - Jacksonville Center
ZAB - Albuquerque Center
ZMA - Miami Center
ZMP - Minneapolis Center
ZDC - Washington Center
ZKC - Kansas City Center
ZNY - New York Center

ZFW - Ft. Worth Center
ZBW - Boston Center
ZHU - Houston Center
ZDV - Denver Center
ZAU - Chicago Center
ZME - Memphis Center

Use the facility identifiers below to identify the appropriate airspace.

ZSE

ZKC

ZOR

ZOB

ZNY

ZID

ZAB

ZDV

ZLA

ZMA

ZHU

ZTL

ZBW

ZFW

ZLC

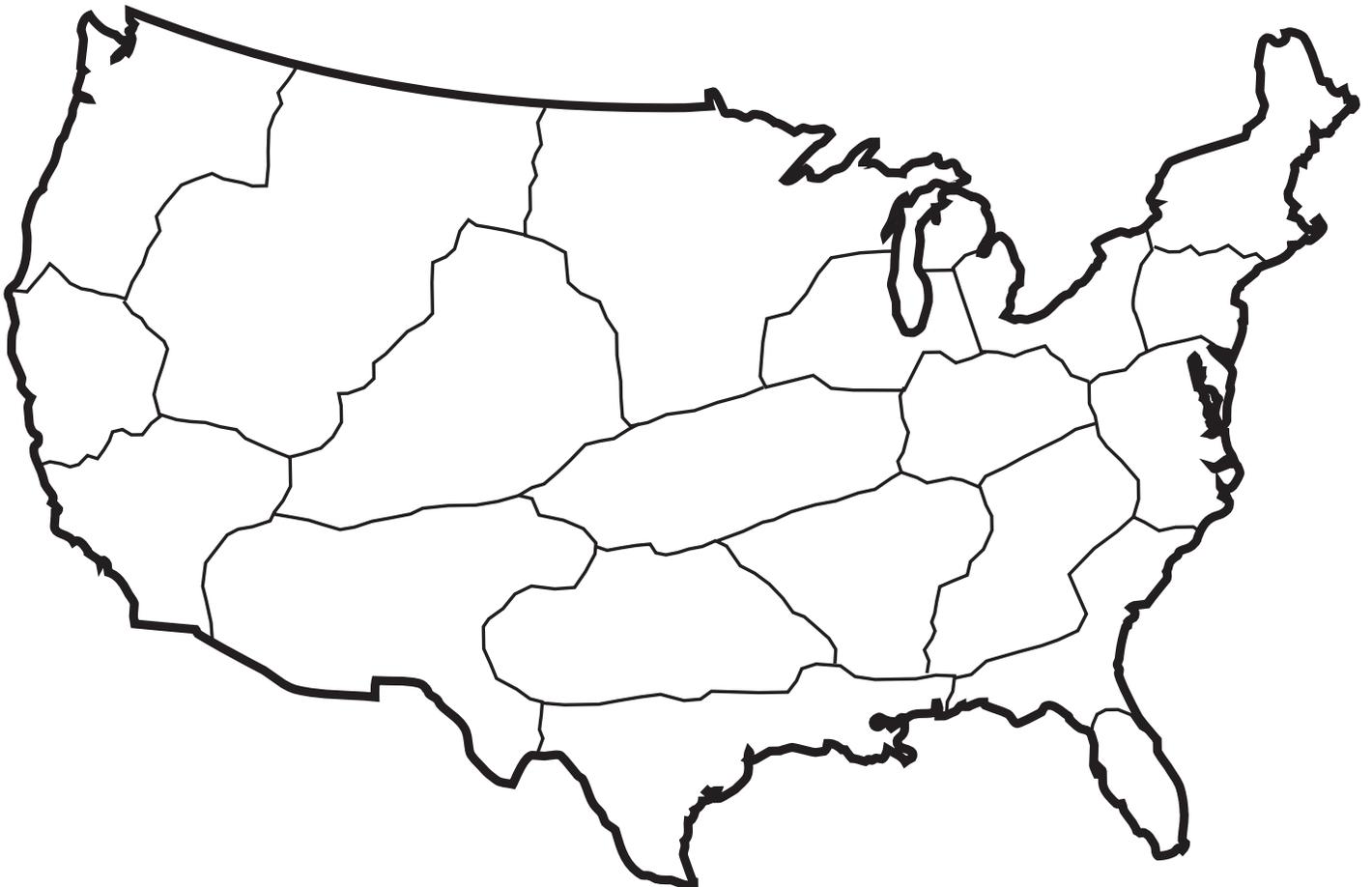
ZMP

ZME

ZJX

ZDC

ZAU

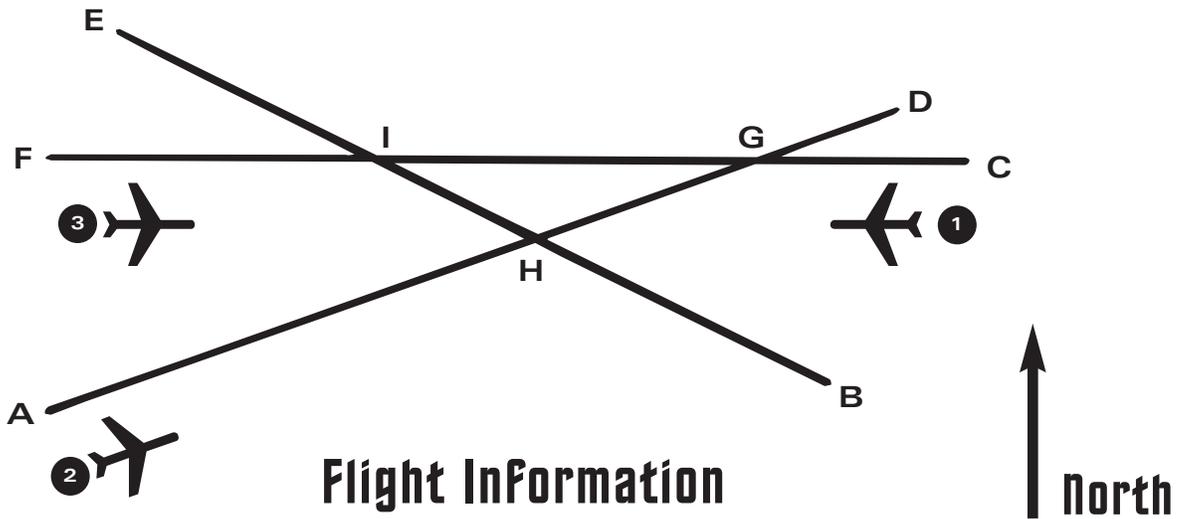


Necessary skills to become an air traffic controller

Individuals interested in becoming an air traffic controller must meet minimum requirements such as being 30 years of age or younger, a United States citizen and passing a rigid medical exam. Candidates also usually possess particular innate skills including the

ability to focus, make good decisions and visualize objects three dimensionally.

Study the diagram along with the corresponding flight information to answer the questions below.



Flight Information

Aircraft Designation	Route
1	CGHB
2	AHIE
3	FIGD

- After passing point G, which direction will aircraft 3 be flying?
 - NW
 - NE
 - SE
- At what point will the routes of flight 2 and flight 3 intersect?
 - G
 - E
 - I
- What direction will flight 1 be flying after passing point H?
 - SE
 - NW
 - SW
- At what point will the routes of flight 1 and flight 3 intersect?
 - I
 - D
 - G
- What direction will flight 2 be flying after passing point H?
 - W
 - NW
 - N

*Answers located on page 12.

Seek a word

Can you find the following air traffic control related words in the word search below?

Bargaining Unit
Union
Centers
TRACON
Safety
Fifteen Thousand

Guiding Home
Modernization
Tower
Airport
Air Traffic Control
Radar

Terminal
Technology
FAA
Aircraft
National Air Traffic
Controllers Association

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

Word Creation

The National Air Traffic Controllers Association is the union that represents 18 different bargaining units including over 15,000 air traffic controllers. NATCA continually works to improve and enhance aviation safety, and we

proudly provide the safest air traffic control system in the world.

How many different words can you create from the words Air Traffic Controller? For instance - "train."

AIR TRAFFIC CONTROLLER

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

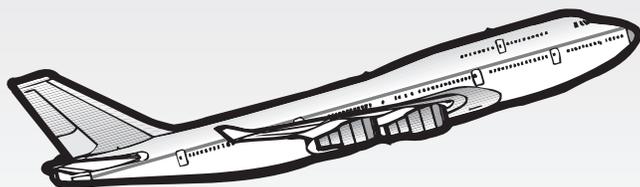
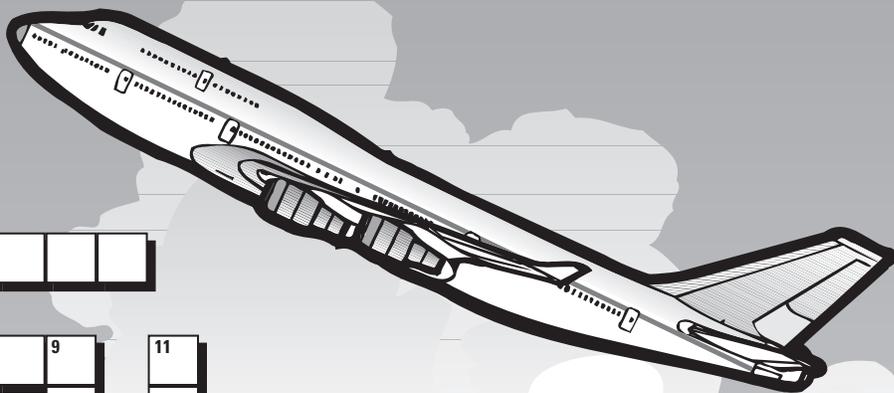
Aviation Cross Word Puzzle

DOWN

1. Government agency responsible for overseeing all aspects of aviation in the United States.
3. All air traffic control facilities have a _____ identifier.
5. The letter "g" is pronounced _____ in the air traffic control alphabet.
7. Flying is a safe and efficient mode of _____ for many traveling passengers.
9. People who remain in constant contact with the pilot and safely separate aircraft from one another.
11. An air traffic controller must know an airport's _____.
13. The top priority of air traffic controllers
15. The letter "n" is pronounced _____ in the air traffic control alphabet.
17. _____ are comprised of a terminal, runways and taxiways.
19. NATCA members play a vital role in the _____ system.
21. The maximum age you can be to become an air traffic controller
23. One skill the controllers must have is a good _____.
25. NATCA represents members in _____ different bargaining units.
27. This radar room is located either at the base of the tower or in a building completely separate from the airport.
29. Piece of equipment that gives the controllers up-to-the-minute information about aircraft position.
31. Air traffic controllers must be able to read these.
33. A _____ can be responsible for more than 100,000 square miles of airspace.

ACROSS

2. Air traffic controllers separate aircraft in a particular section of _____.
4. The city where NATCA national headquarters is located
6. Our nation's air traffic controllers are working together to separate aircraft _____ hours a day.
8. Controllers and pilots are in constant _____ with one another.
10. Controllers work in _____ different types of facilities.
12. Controllers give pilots _____ to land their aircraft.
14. Being an air traffic controllers a very _____ yet rewarding job.
16. An air route traffic control center located in Illinois.
18. The number of air route traffic control centers located in the United States.
20. The letter "f" is pronounced _____ in the air traffic control alphabet.
21. Facilities that handles all take-off, landing and ground traffic
22. Planes taxi onto, take off and land on this
24. The "o" in the air traffic controllers' alphabet is pronounced _____.
26. The union that represents over 15,000 air traffic controllers
28. A tower controller works an aircraft until it _____ the edge of the tower's jurisdiction.
30. 1999 movie about air traffic controllers starring Billy Bob Thorton and John Cusack.
31. An air route traffic control center located in Tennessee.



Answers

Page 2

1. Controller
2. Radar
3. Traffic
4. Facility
5. sierra-alpha-foxtrot-echo-tango-yankee
6. romeo-oscar-uniform-tango-echo
7. echo-quebec-uniform-India-papa-mike-echo-november-tango
8. golf-uniform-India-delta-echo

Page 7

1. B
2. C
3. A
4. C
5. B

Page 8

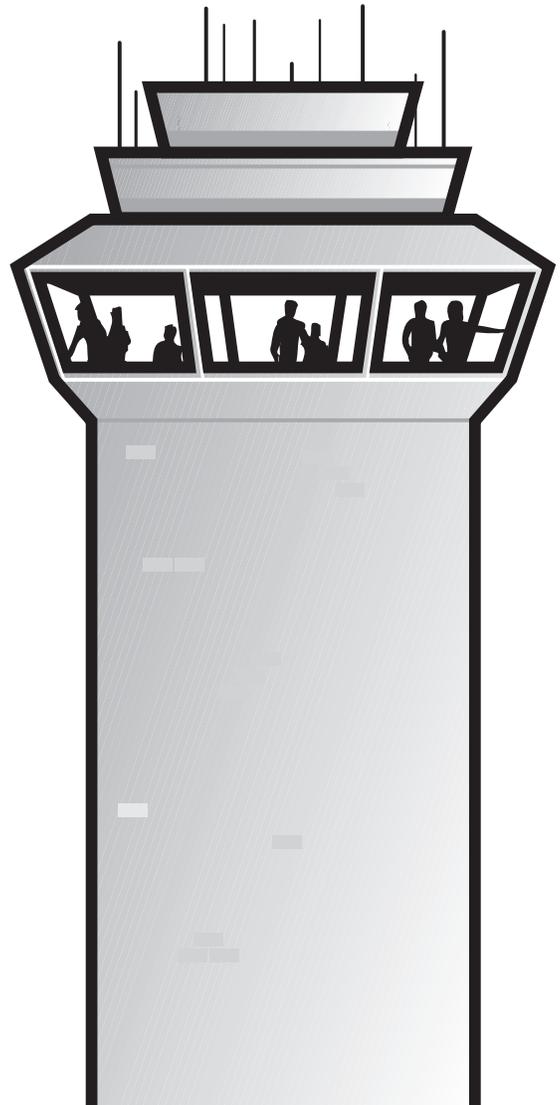
B T G S N K P J Y O Q M L S A F H X N C
 A L T R E W Q A S D F G H K L M N B V A V G
 R I Z O P A Z X W S A I R S E D C E R F V Z T I Q
 G O K U M U Y N B T A I R V C E W X Z O T R G
 A P S D C F G H J K L R L P O I U N Y O T R K
 I N B B N M I M N B V T R Y U I I O P A L N K
 N X Z A Q V D D G S D A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

Page 11 Down

1. FAA
3. Three Letter
5. Golf
7. Transportation
9. Controllers
11. Layout
13. Safety
15. November
17. Airports
19. Air Traffic
21. Thirty
23. Memory
25. Eighteen
27. TRACON
29. Radar
31. Maps
33. Center

Across

2. Airspace
4. Washington DC
6. Twenty Four
8. Communication
10. Three
12. Clearance
14. Stressful
16. Chicago
18. Twenty
20. Foxtrot
21. Towers
22. Runway
24. Oscar
26. NATCA
28. Approaches
30. Pushing Tin
31. Memphis





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Association / AFL-CIO

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