LEADING CADET

AIRMANSHIP KNOWLEDGE
CADET
NOTEBOOK

NAME:

SQN:

USING THIS NOTEBOOK

This notebook is for cadets who wish to complete the Leading Cadet *Airmanship Knowledge* topic.

It has been designed for those who are studying for this topic without an instructor, but can also be used in conjunction with instructor led training sessions.

The red **pass** sections prepare you for the exam questions you might encounter.

The blue **develop** sections are optional but can help you increase your interest and understanding of the topic.

Use the training material found on Ultilearn to help you answer each question. You can also use textbooks or the Internet to help you.

When you are ready your squadron staff will register you for your Ultilearn exam.

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LEARNING CHECKLIST

When you have completed a section you can tick it off here.

LO1: Know types of airfield operations used for the control of aircraft.		✓
PASS	P1: Describe the roles of the aerodrome, approach and runway controllers.	
PASS	P2: Describe main communication methods used by Air Traffic Control.	
PASS	P3: Describe radar methods used in airfield operations.	
DEVELOP	Explain the process used to hand responsibility between different air traffic controllers.	
DEVELOP	Compare methods of communication used by Air Traffic Control.	
DEVELOP	Justify the importance of effective communication around the airfield.	

LO2: Know the Rules of the Air.		✓
PASS	P4: Identify the classes of aircraft within Rules of the Air.	
PASS	P5: Describe the rules for similar aircraft when: overtaking, approaching head on, converging, approaching to land and landing in an emergency.	
PASS	P6: Identify the navigation light placements for classes of aircraft.	
PASS	P7: Describe the clock code reporting method.	
DEVELOP	Explain why each class of aircraft has different rights of way within Rules of the Air.	
DEVELOP	Explain the importance of different navigation lights for each aircraft class.	
DEVELOP	Assess the importance of following Rules of the Air.	

LO3: Know how to identify military aircraft.		✓
PASS	P8: Describe military aircraft suffix titles and their meanings.	

Completed every activity? Send this booklet to you instructor who will register you for the *Basic Navigation Using Map and Compass* exam.

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LEARNING OUTCOME 1:
KNOW TYPES OF AIRFIELD OPERATIONS USED FOR THE CONTROL OF AIRCRAFT

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P1: Describe the roles of the aerodrome, approach and runway controllers.

There are three main types of air traffic controllers. Describe their role in the boxes below.

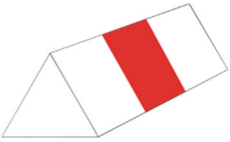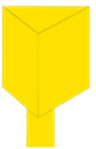| Aerodrome Controller	Approach Controller	Runway Controller

Mark Winterbourne

P2: Describe main communication methods used by Air Traffic Control.

The control of air traffic depends hugely on good communications, both ground-to-ground and ground-air in an active and passive fashion. Use the boxes below to describe the main ways that good communication is maintained throughout the organisation.

Active Communication	
Telephone	
Radio (VHF and UHF)	

Passive Signalling			
Name:	**Name:**	**Name:**	**Name:**
Description:	**Description:**	**Description:**	**Description:**

P3: Describe radar methods used in airfield operations.

Radar (Radio Detection and Ranging) is the 'eye' of Air Traffic Control . There are two main radio aids and two main radar aids likely to be seen at RAF airfields. Use the boxes below to describe them.

Digital Resolution Direction Finding (DRDF):

Instrument Landing System (ILS):

Surveillance Radar:

Precision Approach Radar:

FURTHER DEVELOPMENT

Use the roles in the boxed below to help you explain what each person must do to enable a Typhoon aircraft from RAF Coningsby to depart from the airfield and fly a low-level sortie in North Wales.

Pilot	
Aerodrome Controller	
Approach Controller	
Next Airspace Controller	

FURTHER DEVELOPMENT

Complete the table below to compare the different types of Air Traffic Control communication methods.

Communication	Advantages	Limitations
Telephone (Defence Fixed Telecoms System)		
Tele-talk		
Radio (VHF and UHF)		
Passive Signalling		

FURTHER DEVELOPMENT

Justify the importance of effective communication around the airfield. Include the use of some examples in your answer.

LEARNING OUTCOME 2:
KNOW THE RULES OF THE AIR

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P4: Identify the classes of aircraft within Rules of the Air.

Write the name of each type of aircraft under it's photo and indicate what types of aircraft give way to it.

Name:

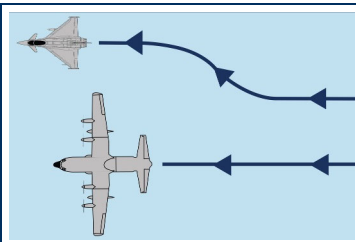**Gives way to:**

Name:

Gives way to:

Name:

Gives way to:

Name:

Gives way to:

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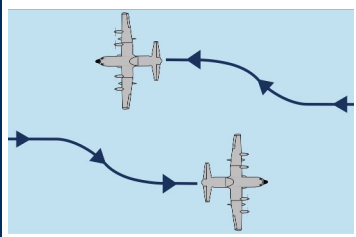
P5: Describe the rules for similar aircraft when: overtaking, approaching head on, converging, approaching to land and landing in an emergency.
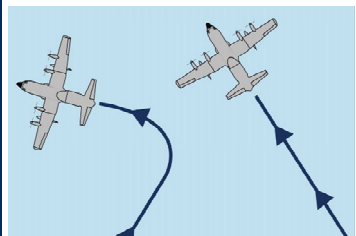
Look at the images and headings below. Describe what each aircraft should do:

Overtaking:

Approaching head on:

Converging:

Approaching to land:

More than one aircraft coming into land/Emergency Landings:

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LO2: KNOW THE RULES OF THE AIR

P6: Identify the navigation light placements for classes of aircraft.

Navigation lights are important so aircraft can be identified and collisions avoided. On each image of an aircraft describe the colour and location of any lights it may have.

Balloons:

Gliders:
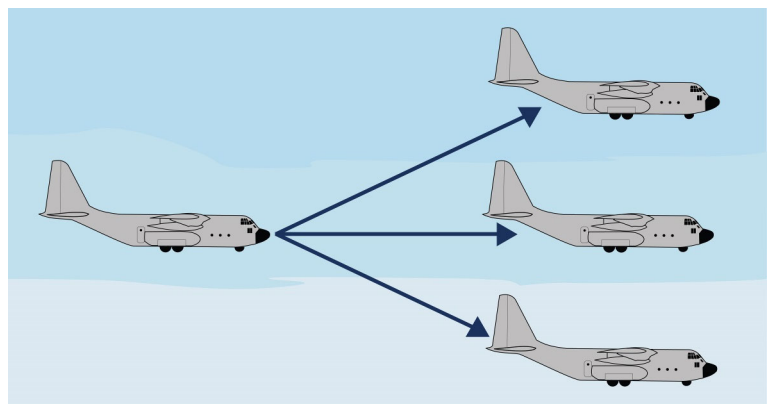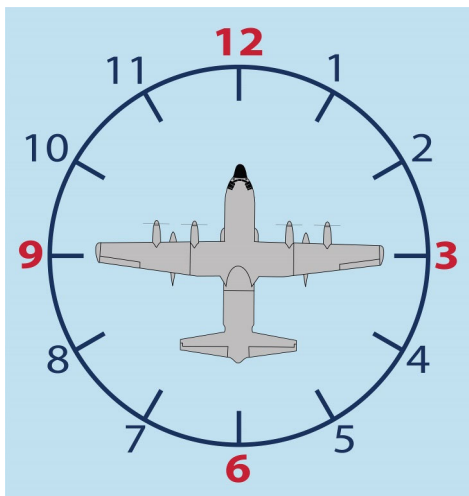

Airships:

Conventional Aircraft:

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P7: Describe the clock code reporting method.

While in the air, the best way to avoid a collision is to see other aircraft as early as possible. The clock code method is used to describe placement of other aircraft. Describe the 'Clock Code' system in the box below, use the images to help you.

FURTHER DEVELOPMENT

Write about why each class of aircraft has a different right of way rule. Think about the aircraft's manoeuvrability.

Balloons	
Gliders	
Airships	
Powered Aircraft	

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FURTHER DEVELOPMENT

Write about why navigation lights are important. Think about when they should be switched on. Why is this important? Why are they in different positions, depending on aircraft type?

FURTHER DEVELOPMENT

Give three reasons why it is important to follow the Rules of the Air, and explain the consequences of not following them.

To allow aircraft to operate safely:

To promote standardisation:

To prevent congestion and delays:

LEARNING OUTCOME 3:
KNOW HOW TO IDENTIFY MILITARY AIRCRAFT

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P8: Describe military aircraft suffix titles and their meanings.

Complete the table below. Some of these suffixes were used historically and are no longer in use today.

AEW		**HC**	
B		**HCC**	
C		**HT**	
E		**HU**	
F		**K**	
FG		**MR**	
GR		**R**	
HAR		**PR**	
HAS		**S**	
T			

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