



RAF
100



PRIMARY

Activity Book

Teacher Notes

This activity book has been designed to help primary school pupils develop science, maths and english skills through working on a number of tasks or activities. We hope that learners will be encouraged to 'colour in' the inside pages and explore the activities for themselves.

This document provides 'answers' to the tasks or activities, along with helpful additional notes for facilitators and/or teachers.

Happy Birthday!



The Royal Air Force or 'RAF' is 100 years old in 2018. It is the oldest airforce in the world. To help celebrate, they have produced this activity book for you.



ENGLISH



MATHS



SCIENCE

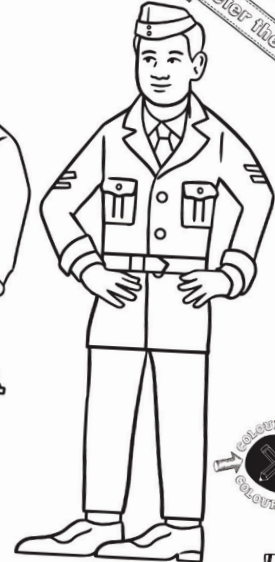
Look out for these - they tell you about the activity you are working on.



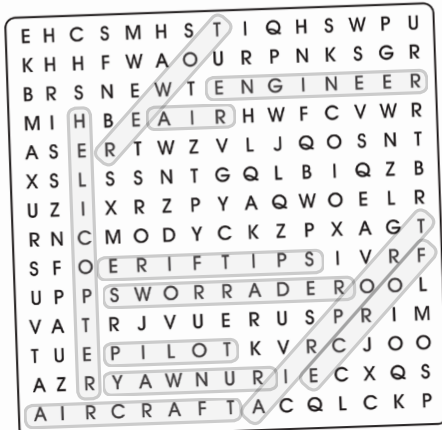
When you see this it means you can colour it in!

This is Penny and Peter, they are both pilots. Penny is a Jet pilot and flies a Typhoon. Peter is a helicopter pilot and flies a Puma. Can you colour them in?

They'll be helping us with some of the activities in this book...



Wordsearch



Try to find the words below in the wordsearch box. Circle each word you find.

AIR AIRCRAFT AIRPORT
ENGINEER FORCE HELICOPTER
PILOT REDARROWS RUNWAY
SPITFIRE TOWER

Can you help with these...

Mixed Up Words



The letters that make up these words have been mixed up and the RAF need your help to put them into the correct order to find the words.

LOTPI **Pilot**
CLUE: This person flies aircraft

NEERENGI **Engineer**
CLUE: Someone who repairs and builds things

WYANUR **Runway**
CLUE: This is important to help aircraft take off

NIGW **Wing**
CLUE: Part of an aircraft

FICRATF **Traffic**
CLUE: Another name for aircraft in the sky

ERPOCTILHE **Helicopter**
CLUE: A type of aircraft

FFOEKAT **Traffic**
CLUE: Something an aircraft does to

ANLDNIG **Landing**
CLUE: How an aircraft returns to the ground

Missing Aircraft

2

Colour in the missing aircraft so that the Red Arrows can fly in a diamond shape.

CLUE!
There are 9 aircraft in the Red Arrows. How can you add six aeroplanes to make them fly in a diamond shape.

Missing Letters

ENGLISH

This is Angela, she flies aircraft for the Royal Air Force. Can you think of what her job is called and fill in the blank spaces?

Pi _ L o T

What's it called?

Can you identify the different parts of this aircraft?

Put the number next to the word:

3 NOSE	1 WING	5 COCKPIT
4 FUSELAGE	2 TAIL	

RAF Jobs

ENGLISH

Can you match the RAF job to the equipment used by drawing a line from the name to the right picture?

A Radar Operator	F	C
B Pilot	B	B
C Medic/Rescue	E	D
D Computer Scientist	E	D
E Communication Operator	A	A
F Air Traffic Controller	A	A

Furthest Distance

SCIENCE

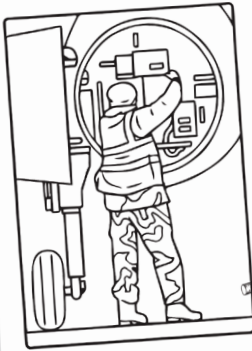
Which of these aircraft can travel the fastest?
Place a tick in the box of the one that you think can travel the fastest.

A <input type="checkbox"/>	B <input checked="" type="checkbox"/>
C <input type="checkbox"/>	D <input type="checkbox"/>

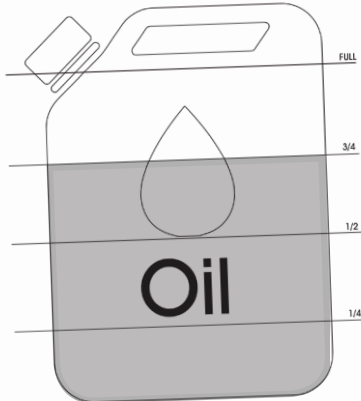
Can you put them in order (ranging from those that can travel the slowest to those that can travel the fastest)

C	This can travel the slowest
A	This can travel a bit faster
D	This can travel much faster
B	This can travel the fastest

How Much Oil?



This RAF engineer has used one quarter of his can of oil when preparing an aircraft for flight. If the can was completely full before he started, can you shade in the area that is left?



At The Airport



The RAF use their own special airports to fly their aircraft.

They are quite similar to the ones people use when they go on holiday. Can you match the different pictures below to the right word?



Runway
X-Ray
Tickets

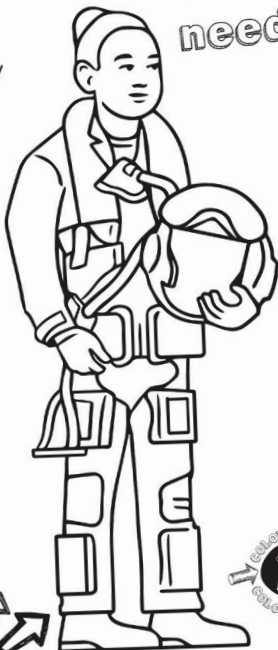
Control Tower
Luggage
Passenger

Aircraft
Passport
Radar



Penny's Flight

Penny the pilot needs your help!



To make sure she has enough fuel to fly on her mission her fuel tank must be $\frac{4}{5}$ ths full.

Can you tell her which aircraft to take by looking at their fuel gauges here?



A:



B:



C:



D:



One 5th

E:



Three 5th

Four 5th

Write the letter in this box of the aircraft that Penny should take (the one that shows that it is $\frac{4}{5}$ ths full of fuel)

E



Transporting Food



The aircraft below is carrying food supplies. If it can carry enough food to feed 320 people, how many aircraft will we need to make sure that 1,000 people can be fed?



4

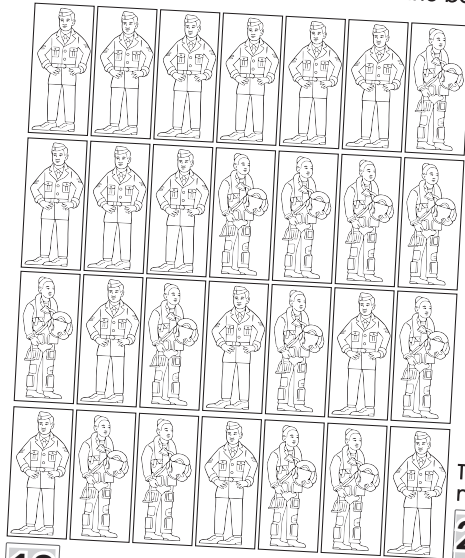
Write in this box how many aircraft we will need to make sure we can feed 1,000 people

Four aircraft will be needed as 3 will only feed 960 people.



RAF Pilots

Can you count how many RAF pilots are in this picture? Write the total number in the box



Total number
28

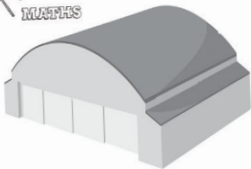
13 How many of the Pilots are Women?

15 How many of the Pilots are Men?

14 If half the Pilots were Women, how many would there be?



Homes for Helicopters



This is an aircraft hanger - it is where helicopters are stored when they aren't being used.

Each of the aircraft hangers in the picture below can hold 4 helicopters, are there enough hangers for all of the helicopters in the picture?



24

Write in this box the total number of spaces in the hangers

Yes

Write in here whether you think there are enough hangers for the helicopters ('Yes' or 'No')

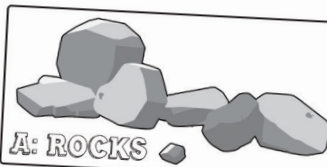


There are 24 helicopters in the picture.

Soft Surfaces



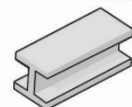
Runway surfaces are hard (like roads) which makes it easy for aircraft to land on them. Can you tell which from the list below is a hard substance or material and which is soft?



A: ROCKS



B: SAND



C: METAL



D: SOIL



E: JELLY

Write in this box which surfaces are soft:

Sand, soil, jelly.

Write in this box which surfaces are hard:

Rocks, metal.

Which could you land an aircraft on?

Metal. Rocks wouldn't be smooth enough.



Code Breaker



CODE 1

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

CODE 2

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

CODE 3

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

18

You will need to use all your skills as code breakers to crack the code.

Use the appropriate code to work out these RAF words

CODE 1

U	R	E	P	H	Y	R	F
H	E	R	C	U	L	E	S

CODE 2

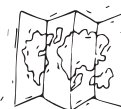
G	B	K	S	L	L	M
T	Y	P	H	O	O	N

CODE 3

Z	I	N	O	A	U
R	U	N	W	A	Y

CODE ?

Z	N	B	Q	L	S	M	H	L	M
A	M	Y	J	O	H	N	S	O	N



Code Maker

Use the codes to encrypt (code) the words below

CODE 1

P	I	L	O	T
C	V	Y	B	G

CODE 2

H	E	L	I	C	O	P	T	E	R
S	V	O	R	W	L	K	G	V	I

CODE 3

S	P	I	T	F	I	R	E
C	F	U	P	T	U	X	K

19

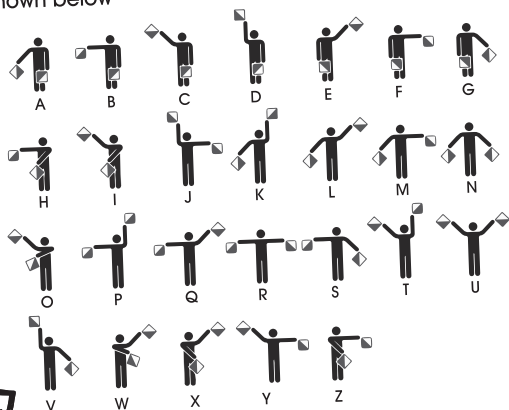
Coding With Flags

Semaphore



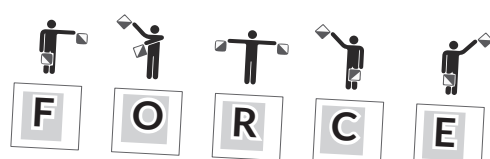
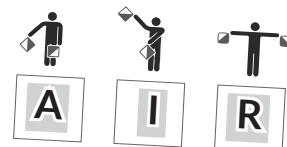
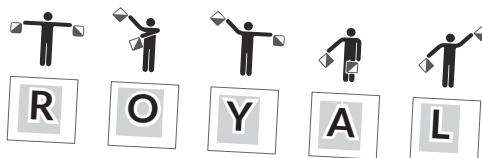
Semaphore is a system of sending messages by holding the arms or two flags or poles in certain positions according to an alphabetic code. It is really useful when you want to send a message to someone who is too far away to hear you.

Each letter of the alphabet has a particular code, as shown below



20

Using the semaphore code, can you tell what the message is? Write out each letter to spell the message.

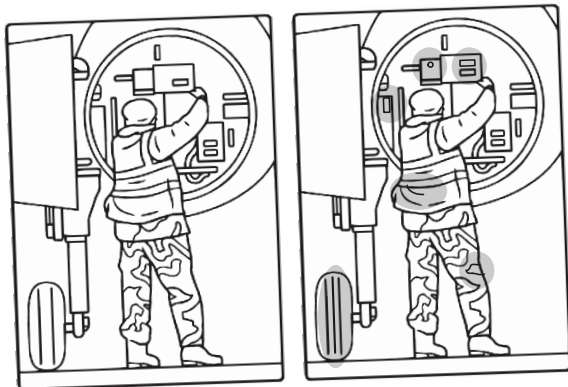


21



Spot the Difference

Can you find the differences between the two pictures?



Circle the differences you find here.

CLUE!
There are 6 differences to find



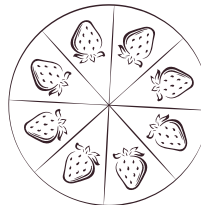
22



Sharing



It's Penny the Pilot's birthday and she wants to share her birthday cake with as many people as possible. It has already been cut into slices.



Number of slices: **8**

Number of people who can have a slice of cake each: **8**

If Penny decided that each person can have two slices of cake each, how many people can have some cake? (clue: you will need to work out how many times you can count two slices in the cake).

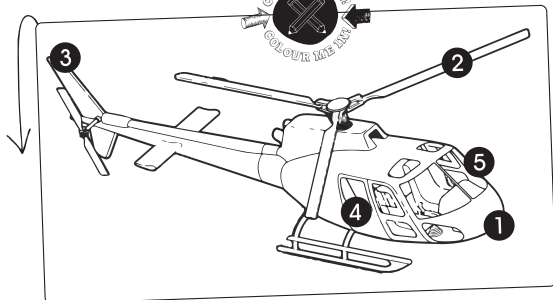
Number of times you can count two slices: **4**

Number of people who can have two slices each: **4**

23

What's it Called?

ENGLISH



Peter the Pilot wants you to help him to identify the different parts of this helicopter? Put the number next to the word:

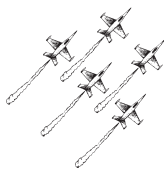
2 BLADES/ROTORS

5 WINDSCREEN

4 WINDOW

1 NOSE

3 TAIL



24

Aircraft Descriptions

ENGLISH

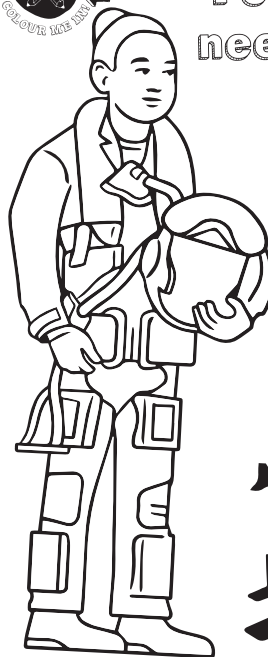
Penny the pilot needs your help!

Can you identify from the description, which aircraft she is describing?

Put the correct letter next to each aircraft.

A: A powered flying vehicle with fixed wings.

B: A type of aircraft in which lift and thrust are supplied by rotors



B
HELICOPTER



A
AEROPLANE

25

Penny & Peter's Busy Week



On Monday Penny flew 3 times in her jet aircraft. Peter flew twice in his helicopter on Monday. They have completed the chart for Monday (by colouring in the number of aircraft). Can you complete the rest of the chart for them using the information they have provided?

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					
	Penny = 3 FLIGHTS Peter = 2 FLIGHTS	Penny = 2 FLIGHTS Peter = 3 FLIGHTS	Penny = 4 FLIGHTS Peter = 2 FLIGHTS	Penny = 1 FLIGHTS Peter = 5 FLIGHTS	Penny = 5 FLIGHTS Peter = 3 FLIGHTS

Can you write in this box the total number of times Penny the Pilot has flown her aircraft this week?

15

Can you write in this box the total number of times Peter the Pilot has flown his helicopter this week?

15

Spot the Difference



Can you find the differences between the two pictures?



Circle the differences you find here.



CLUE!
There are 6 differences to find

More coding with flags

Semaphore



You will need to look back at the codes for semaphore on page 20. All the letters are here to spell something about the Royal Air Force but they aren't in the right order! Using the codes for semaphore can you write out the letters and re-arrange them to spell the message?



RED
ARROWS

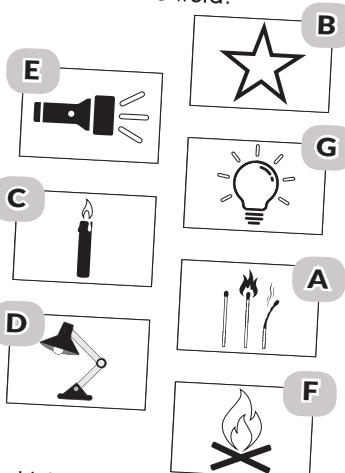
Lighting Up!



Peter the Pilot says it is very important that he can see where he is flying in his aircraft – so his lights are really useful.

Can you identify the sources of light in the picture below by matching the picture to the word?

- A Matches
- B Star
- C Candle
- D Lamp
- E Torch
- F Fire
- G Light bulb



Can you write here which ones use electricity to generate light?

(D) Lamp, (E) Torch, (G) Light bulb.

Flying High

Penny the pilot needs your help!

She needs to produce a chart showing how many times she flew her aircraft during the week.

On Monday she flew 3 times and has completed the chart for Monday (by colouring in the number of aircraft).

Can you complete the rest of the chart for her using the information she has provided?

10					
9					
8					
7					
6					
5					
4					
3					
2					
1					
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
	3 FLIGHTS	5 FLIGHTS	2 FLIGHTS	7 FLIGHTS	6 FLIGHTS

Can you write in this box the total number of times Penny the Pilot has flown her aircraft this week?

23