

GCHQ

Worksheets

An introduction to GCHQ

Language and GCHQ

Write your name below and then encrypt it using the A1Z26 cipher key below:

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M

14	15	16	17	18	19	20	21	22	23	24	25	26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Your name: _____

Your encrypted name: _____

Have a go at creating your own cipher by writing in letters to correspond to different numbers and then try writing your name, or something else in your new cipher:

1	2	3	4	5	6	7	8	9	10	11	12	13

14	15	16	17	18	19	20	21	22	23	24	25	26

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Now only the people who have your cipher key would be able to find out what you wrote above!

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Let's have a go at a more difficult cipher.

GCHQ has sent you information about key people in GCHQ's history. Unfortunately, some of it has been encrypted and so it is your job to decrypt the information and answer the questions at the bottom of the sheet. Luckily you have been given a key to help you solve it, but some of it has been lost.

You need to try and work out where the missing letters in the key go by filling in the letters that you do know in the information and then trying different letters in the gaps.

1	2	3	4	5	6	7	8	9	10	11	12	13
J	B	W		H	V	Z	P	E	K	R		F

14	15	16	17	18	19	20	21	22	23	24	25	26
	Y	U		I	Q	G		X	L	D	S	

Key Person 1: 26-23-26-4 12-16-11-18-4-20
This person was a leading cryptanalyst at the Government 17-21-24-9 and 17-15-8-5-9-11 School (now known as GCHQ) working at 2-23-9-12-17-5-23-9-15 park during the 25-9-17-21-4-24 World War.

He is also considered the founding father of theoretical computer science and artificial intelligence. During his time at Bletchley park, alongside others, he designed the 2-21-14-2-9. This was the first special-purpose British cryptanalytic machine. The combination of the Bombe and the brilliant minds and perseverance of those working at Bletchley park led to the breaking of 9-4-18-20-14-26 - the coding Germany used to send messages.

Questions:
1. What is the name of the first key person?
2. What was GCHQ originally known as?
3. Where did they work?
4. During which World War did they work for GCHQ?
5. What machine did they help to design?
6. What did the machine help to break?

HINT:
If you can't work out the missing letters, try adding them to the other key people below!

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Key Person 2: 26-4-4-9 10-9-26-25-12 - 2-16-12-23-9-11

This person is the current 24-18-11-9-17-12-21-11 of GCHQ.

She was appointed in May 2023, she is the 25-9-6-9-4-12-9-9-4-12-5 person to hold role and took over from Sir Jeremy Fleming. She is also the first woman to ever hold this position.

She joined GCHQ from MI5, where she was Deputy Director General, responsible for MI5's operational, investigative, and protective security work.

This has included MI5's – and allies' - preparation for and response to Russia's illegal invasion of 16-10-11-26-18-4-9.

Before this, she spent two years at GCHQ as Head of Counter 12-9-11-11-21-11-18-25-14 and Serious Organised 17-11-18-14-9.

She grew up in Cambridge and holds a degree in 14-26-12-5-9-14-26-12-18-17-25 from Merton College, Oxford.

Questions:

1. What is the name of the second key person?
2. How many other people have had the same job (not including this key person)?
3. While at MI5, this person had to prepare and respond to Russia's invasion of which country?
4. Which two areas was this person Head of at GCHQ before moving to MI5?
5. Which subject does this person have a degree in?

Key Person 3: 5-16-20-5 13-21-25-25

This person was born in 21-25-26-10-26 in Japan, but went to school in Britain after which he joined the Government Code and Cypher School in 1924. He showed an innate talent for cryptanalysis and his 1-26-8-26-4-9-25-9 language skills came into good use against Japanese machine cipher systems.

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In 1927, he wrote a paper to suggest a way of 2-11-9-26-10-18-4-20 the Nazi Enigma code. He was also the first to succeed with one of Alan Turing's deciphering techniques which helped to break the Enigma code.

He also developed the 13-21-25-25 25-5-9-9-12, which was a way to record common words or phrases which could help break the Enigma code.

Towards the end of the Second World War, he was sent to the USA where he made a major contribution to tackling a Japanese cryptographic machine known as 17-21-11-26-23, which was broken in March 1944.

Questions

1. What is the name of the third key person?
2. In which city was this person born?
3. Which language skills came into use when he started cryptanalysis?
4. What did he suggest in the paper he wrote in 1927?
5. What did he develop to help break the Enigma code?
6. What was the name of the Japanese cryptographic machine that he helped crack?

Out of the three people above, which person do you think is the most interesting or the most important? Explain your answer.

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