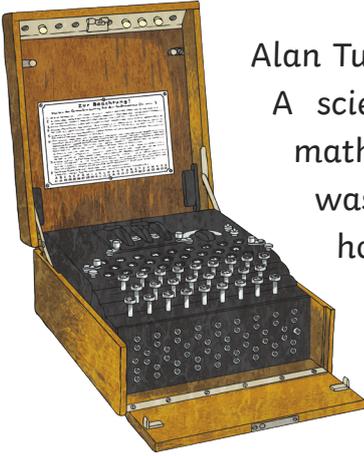


# Alan Turing



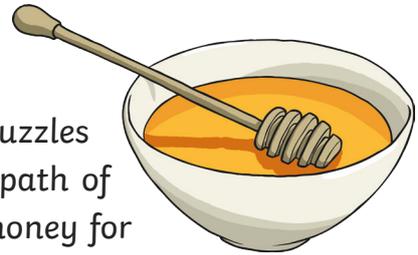
Alan Turing was a scientist, a mathematician and a codebreaker. A scientist is someone who knows a lot about science. A mathematician is someone who is very good at maths. Alan was so clever that he could use science and maths to work out how to crack codes.

## What Was Alan's Family Like?

Alan was born on 23<sup>rd</sup> June 1912 in London. His dad was called Julius and his mum was called Ethel. Alan's parents spent a lot of time travelling between England and India because Alan's dad worked there. This meant that Alan and his older brother, John, spent a lot of time staying with friends of their family.

## What Was Alan like as a Child?

Alan was a very clever child who liked to solve puzzles and take on challenges. One day, Alan tracked the path of flying bees so that he could find their hive and get honey for his family.



Alan's teachers said that he was very smart for his age. When Alan was 13, he joined Sherborne School in the town of Dorset. While he was there, Alan was able to understand problems and ideas that were much too tricky for most children.

## What Did Alan Do during the Second World War?

Alan started to work at Bletchley Park when he was 27 years old. Bletchley Park was a large house where lots of codebreakers worked during the Second World War.

During the war, the German army would send lots of messages to each other that were written in code. They did this by replacing one letter with another letter lots of times. It was Alan's job to work out what the messages really said.



At first, Alan was using a codebreaking machine called the Enigma. However, Alan quickly made a new machine that was much better. Alan's new machine played a big part in ending the Second World War.

Alan was given a special award for his hard work by King George VI in 1946.

## Did You Know...?



Alan Turing is considered to be one of the fathers of modern computing. In 1936, he predicted that humans would one day build machines that could solve any sort of problem by storing instructional codes in their memory. This is what the modern digital computer does.

**“Those who can imagine anything, can create the impossible.” – Alan Turing**

**A = Q, R = E, T = B, H = O**

# Questions

1. In which year was Alan Turing born? Tick one.

- 1912  
 1923  
 1936  
 1946

2. Whose flight path did Alan track as a child? Tick one.

- birds  
 bees  
 flies  
 planes

3. Number these events from 1 to 4 to show the order in which they happened in Alan's life.

	He invented a new machine.
	He joined Sherbourne School.
	He was given a special award.
	He started to work at Bletchley Park.

4. Draw four lines and complete each sentence.

Alan's dad...
Alan's parents...
Alan and John...
Alan...

stayed with family and friends.
worked at Bletchley Park.
worked in India.
spent a lot of time travelling.

5. How old was Alan when he started to work at Bletchley Park?

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6. Look at the section called **What Was Alan like as a Child?**

Find and copy two words from the text which means the same as intelligent.

1. \_\_\_\_\_

2. \_\_\_\_\_

7. Summarise why Alan Turing is considered to be **one of the fathers of modern computing**.

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# Answers

1. In which year was Alan Turing born? Tick one.

- 1912**  
 1923  
 1936  
 1946

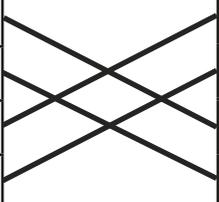
2. Whose flight path did Alan track as a child? Tick one.

- birds  
 **bees**  
 flies  
 planes

3. Number these events from 1 to 4 to show the order in which they happened in Alan's life.

<b>3</b>	He invented a new machine.
<b>1</b>	He joined Sherbourne School.
<b>4</b>	He was given a special award.
<b>2</b>	He started to work at Bletchley Park.

4. Draw four lines and complete each sentence.

Alan's dad...	
Alan's parents...	
Alan and John...	
Alan...	
	stayed with family and friends.
	worked at Bletchley Park.
	worked in India.
	spent a lot of time travelling.

5. How old was Alan when he started to work at Bletchley Park?

**Alan started to work at Bletchley Park when he was 27 years old.**

6. Look at the section called **What Was Alan like as a Child?**

Find and copy two words from the text which means the same as intelligent.

1. **clever**

2. **smart**

7. Summarise why Alan Turing is considered to be **one of the fathers of modern computing**.

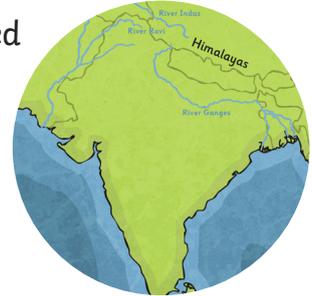
**Pupils' own responses, such as: Alan Turing is considered to be one of the fathers of modern computing because he predicted what modern digital computers would be able to do and he invented a code-cracking machine that could do the same.**

# Alan Turing

Alan Turing was an English scientist, mathematician and codebreaker. He is best known for his important role in cracking codes during the Second World War.

## Early Life

Alan was born on 23<sup>rd</sup> June 1912 in London. His dad was called Julius and his mum was called Ethel. Julius and Ethel spent lots of time travelling to India because Julius worked there. As they wanted their children to be raised in Britain, they decided that Alan and his older brother, John, would not travel with them. Instead, the boys would stay with friends of the family.



## Alan's Childhood



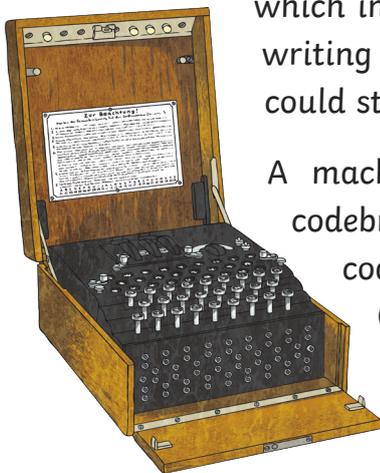
As a child, Alan enjoyed puzzles and challenges. One day, Alan tracked the path of flying bees so that he could find their hive and get honey for his family.

Alan's teachers knew that he was very clever for his age. At the age of 13, Alan joined Sherborne School in the town of Dorset. While he was at Sherborne School, Alan was able to solve problems that were far harder than those that most children his age could understand.

## Working as a Codebreaker

Alan was 27 years old when the Second World War started. He had been working at Bletchley Park as part of the Government Code and Cypher School.

During the war, the German army thought that changing their messages into code would stop their enemies from reading them. They used a smart system which involved replacing one letter with another lots of times. By writing down the changes that had been made, German soldiers could still work out the original message.



A machine called the Enigma had been invented by Polish codebreakers during the First World War. Alan and a team of codebreakers tried to use the Enigma machine to break the German code. Within weeks of starting work at Bletchley Park, Alan had created a new machine called 'the bombe'. Alan's machine was far better at cracking codes than the Enigma machine had been. His new machine played a huge part in ending the Second World War.

For his services during the war, Alan was given a special award by King George VI in 1946.

### Did You Know...?

A person who cracks codes is called a cryptanalyst.



**“Those who can  
imagine anything, can  
create the impossible.”  
– Alan Turing**

# Questions

- Whose messages was Alan aiming to decode? Tick one.
  - the Indian army's
  - the German army's
  - the British army's
  - his parents'
  
- In which year did Alan receive an award from King George VI? Tick one.
  - 1912
  - 1923
  - 1936
  - 1946
  
- What was the name of the machine invented by Polish codebreakers? Tick one.
  - cypher
  - Bletchley Park
  - the Enigma
  - the bombe
  
- Draw four lines and complete each sentence.

Alan's dad...
Alan's parents...
Alan and John...
Alan's mum...

did not travel with their parents.
was called Ethel.
was called Julius.
wanted their children to be raised in Britain.

- Look at the section called **Alan's Childhood**.  
Find and copy one word from the text which means the same as **followed**.

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6. Look at the section called **Did You Know...?**

Which word can be used to mean a person who cracks codes?

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7. Summarise the impact that Alan Turing had on the Second World War.

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8. Explain why Alan Turing is inspirational to people today.

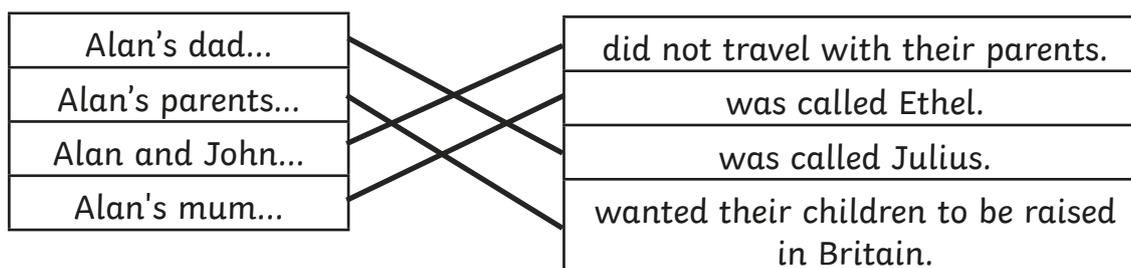
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# Answers

- Whose messages was Alan aiming to decode? Tick one.
  - the Indian army's
  - the German army's**
  - the British army's
  - his parents'
  
- In which year did Alan receive an award from King George VI? Tick one.
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- What was the name of the machine invented by Polish codebreakers? Tick one.
  - cypher
  - Bletchley Park
  - the Enigma**
  - the bombe
  
- Draw four lines and complete each sentence.



- Look at the section called **Alan's Childhood**.  
Find and copy one word from the text which means the same as **followed**.  
**tracked**

6. Look at the section called **Did You Know...?**

Which word can be used to mean a person who cracks codes?

**A person who cracks codes is called a cryptanalyst.**

7. Summarise the impact that Alan Turing had on the Second World War.

**Pupils' own responses, such as: Alan Turing played a huge part in ending the Second World War by using his intelligence to invent a machine which could break the German army's coded messages.**

8. Explain why Alan Turing is inspirational to people today.

**Pupils' own responses, such as: Alan Turing is inspirational to people today because he used his knowledge to help the country to end a war and he saved lots of lives.**

# Alan Turing



Alan Turing was an English scientist, mathematician and codebreaker. He is best known for his important role in cracking German codes during the Second World War and is often considered to be one of the fathers of modern computing.

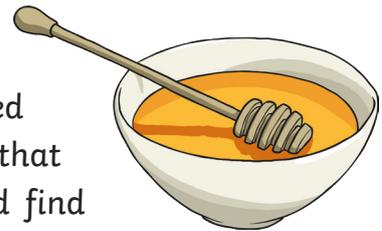
## Early Life

Alan was born on 23<sup>rd</sup> June 1912 in London. His father, Julius, worked as a member of the Indian Civil Service and his mother, Ethel, was the daughter of the chief engineer of the Madras Railway in Southern India.

Julius and Ethel spent lots of time travelling to India. As they wanted their children to be raised in Britain, they decided that Alan and his older brother, John, would not travel with them. Instead, the boys would stay with friends of the family.

## Childhood Genius

Stories about Alan's childhood tell of a boy who enjoyed puzzles and challenges. One story recounts the day that Alan tracked the path of flying bees so that he could find their hive and get honey for his family.

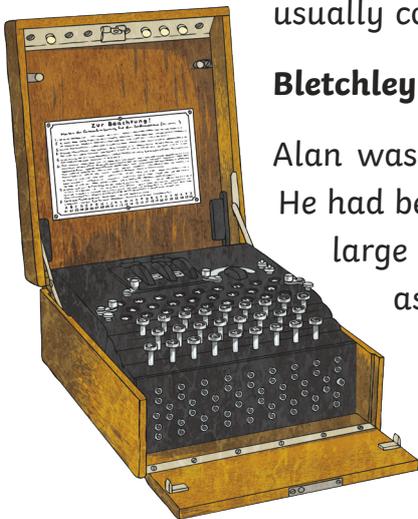


Alan's teachers also knew that he was very clever for his age. At the age of 13, Alan joined Sherborne School in the town of Dorset. While he was at Sherborne School, Alan's excellence in mathematics and science became clear. He was able to solve problems and understand ideas far harder than a child of his age usually could.

## Bletchley Park

Alan was 27 years old when the Second World War started. He had been working part-time at Bletchley Park which was a large house where codebreakers worked. Alan worked there as part of the Government Code and Cypher School.

During the war, the German army believed that changing their messages into code would stop their enemies from reading them. They used a clever



system which involved replacing one letter with another lots of times. By writing down what changes had been made, German soldiers could still read the original message even though what they had received did not appear to make any sense.

However, a machine called the Enigma had been invented by Polish codebreakers during the First World War. In 1939, the Polish cryptanalysts shared their machine with British and French codebreakers so that they could learn the German army's secrets and outsmart them in the war.



Alan and a team of codebreakers tried to use the Enigma machine to break the German code. Within weeks of starting work at Bletchley Park, Alan had created a new machine called 'the bombe'. Alan's machine was far better at cracking codes than the Enigma machine had been. His new machine became one of the most important tools used to read German messages and it played a huge part in ending the Second World War.



For his services during the war, Alan was awarded with an OBE (Officer of the Order of the British Empire) by King George VI in 1946.

**“Those who can imagine anything, can create the impossible.” – Alan Turing**

# Questions

1. In which year did Polish cryptanalysts introduce British and French codebreakers to the Enigma? Tick one.

- 1912
- 1927
- 1939
- 1946

2. In which subjects did Alan excel at school? Tick **two**.

- geography
- history
- mathematics
- science

3. What was Alan's father's job?

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4. Find and copy the name of the large house where Alan worked during the Second World War.

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5. According to the text, what is Alan best known for?

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6. **"Those who can imagine anything, can create the impossible."**

Why do you think that Alan said this?

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7. Why do you think that Alan's new machine was named 'the bombe'?

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8. Alan Turing has been chosen to feature on the British £50 note.  
Explain why you think this is, using evidence from the text to support your answer.

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# Answers

1. In which year did Polish cryptanalysts introduce British and French codebreakers to the Enigma? Tick one.

- 1912
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2. In which subjects did Alan excel at school? Tick **two**.

- geography
- history
- mathematics**
- science**

3. What was Alan's father's job?

**Alan's father worked as a member of the Indian Civil Service.**

4. Find and copy the name of the large house where Alan worked during the Second World War.

**Bletchley Park**

5. According to the text, what is Alan best known for?

**Alan is best known for his important role in cracking German codes during the Second World War.**

6. **"Those who can imagine anything, can create the impossible."**

Why do you think that Alan said this?

**Pupils' own responses, such as: I think that Alan said this to inspire other people to use their imaginations to create amazing new technology.**

7. Why do you think that Alan's new machine was named 'the bombe'?

**Pupils' own responses, such as: I think that Alan's new machine was named 'the bombe' because it was a weapon against the German army during the Second World War and it is a play on the word 'bomb', which is another type of weapon.**

8. Alan Turing has been chosen to feature on the British £50 note.

Explain why you think this is, using evidence from the text to support your answer.

**Pupils' own responses, such as: I think that Alan Turing was chosen because the text says that his invention 'played a huge part in ending the Second World War' so British people must be very grateful to Alan for his impact.**