

23 June 1912 - 7 June 1954 Alan Turing was very interested in science and mathematics and was far ahead of other children in these subjects.

After boarding at Sherborne School, he went to King's College, Cambridge where he studied mathematics. He got his degree in 1934 and was made a Fellow of the college in recognition of the brilliant research into probability theory.



During World War II, Turing worked at the top-secret codebreaking centre at Bletchley Park in Milton Keynes, as part of a team whose task it was to crack the German's Enigma code. This very complex code changed every day, but was cracked with the use of a machine called the Bombe, which Turing helped to design. Now the Allies could understand the German military's secret messages, were able to know the German plans and won important battles, such as the Battle of the Atlantic. Historians estimate that Turing's codebreaking shortened the war by two years, saving millions of lives. He is one of the most important figures in the history of British military intelliaence.



Turing made many important contributions to mathematics. In 1936, he published a paper called **On Computable Numbers,** which put forward the idea of a machine, called the Turing machine, that could solve mathematical problems using a set of rules – the basis of today's computer science. He worked on other important areas of mathematics, including work which later became a big influence on artificial intelligence and on the way computers process information today.



Turing was persecuted – as well as legally prosecuted – during his lifetime. Britain officially pardoned him in 2013, and his face now appears on the £50 banknote. His legacy is honoured through statues, academic awards, and institutions such as the Alan Turing Institute, ensuring his impact is never forgotten.



Turing was gay, which was then illegal in Britain. In 1952, he reported a burglary at his home, but whilst investigating the burglary, the police discovered Turing was in a relationship with a man. He was charged with gross indecency and sentenced to be chemically castrated, a brutal treatment which made him ill. The criminal record meant he could no longer work for the government because of the Official Secrets Act, so he lost the job he loved. In 1954, he died from cyanide poisoning, possibly by eating a poisoned apple.



Turing worked in the field of abstract mathematics and something called 'morphogenesis', which is a type of mathematical biology. Turing developed new ideas about the mathematics of pattern formation. This meant he was able to show, that animals with stripes and spots - such as leopards - will only ever have striped tails and spots on the body, not the other way around.



Other people were also involved in the work at Bletchley Park:
Joan Clarke – cryptanalyst and close friend of Turing, known for her work on breaking German naval codes.
Hugh Alexander – chess champion and cryptanalyst who led the team working on Enigma decryption.
Gordon Welchman – mathematician who helped improve the Bombe machine used to crack the Enigma code.

Tommy Flowers – an engineer who designed the world's first programmable electronic computer, which was named Colossus.



Turing was a keen runner (he was very close to being on the 1948 Olympic Games running team) and cyclist. To avoid hay fever, he cycled to Bletchley Park wearing his gas mask! His mathematical ability made him so good at playing Monopoly that William, the son of codebreaker Max Newman, designed a board that had some squares diagonally across the board. This made Turing's mathematical tactics ineffective. William and Turing only played this version once – Turing lost! There is now a modern version of William's game. One of Turing's favourite stories was 'Snow White'.

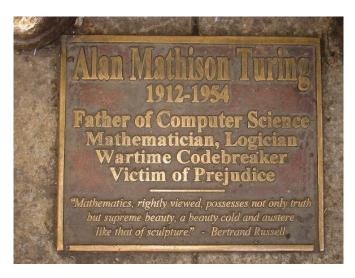








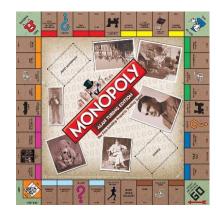
Cut here Cut here Cut here

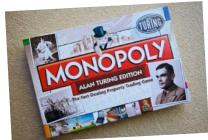














Learn About Britain

Cut here Cut here Cut here

