



What Is STEM?

STEM stands for Science, Technology, Engineering and Maths.

Do you know what these words mean?

- A scientist is someone who does experiments to find out more about nature, animals, the world or lots of other things.
- Technology is when machines have been made using new discoveries in science.
- Engineering is about designing, building and using engines, machines and buildings.
- Maths is to do with numbers.

Talk
About
It

Think of an object which has been made by an engineer or someone who works in technology.

Women in STEM

Willa McCoy

In the past, men have had more opportunities to study STEM subjects and get jobs in these areas. However, over the past 100 years, women have been doing more in STEM areas.

Here are seven women who have made their mark in science, technology, engineering and maths whose stories will inspire you whether you are a girl or a boy.

Fei Fei Li

Willa McCoy

Fei Fei Li was born in China in 1976 and moved to the USA when she was 16. She is a **professor** of computer science at Stanford University, California.



Fei Fei invented something called ImageNet. This is a special computer program that helps computers recognise images. She has also made huge changes in **artificial intelligence** (AI). AI is where computers are programmed to think and learn, just like humans do. Fei Fei realised that AI is a huge part of our world but needs people to make AI work really well. She now works to see how AI can be used in hospitals. Maybe one day there will be robot doctors!

Donna Strickland

Willa McCoy

Donna Strickland was born in Canada in 1959. She works at the University of Waterloo in Canada.

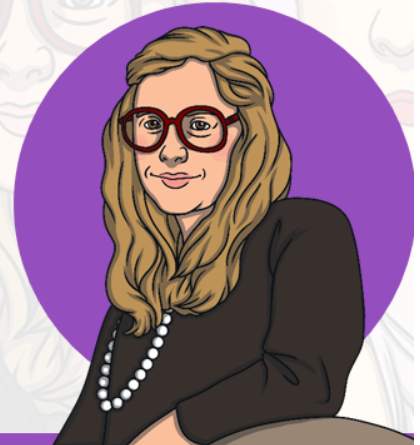


In 2018, she was awarded the Nobel prize for **physics**. Nobel prizes are special awards given each year to people who have made a difference in the world for lots of different reasons. Donna got the Nobel prize for one of her inventions that uses special high-powered lasers. Her work with **lasers** has helped to create tools that can help with many things, including laser eye surgery. This is an operation that people who wear glasses sometimes have. A laser changes the person's eyes so they no longer need glasses to see properly.

Margaret Hamilton

Willa McCoy

Margaret Hamilton is an American software specialist, born in 1936. She studied maths at university and became a maths and French teacher after graduating.



She began her career creating a software program to help predict weather. A software program is something that runs on a computer, like a computer game, for example. After that, she began working for **NASA** on the Apollo 11 project, developing the computer systems for the first Moon landing. It has been said that, without her work, the Moon landing would never have happened. She was the first person to use the phrase 'computer software'.

Elizabeth Smith Friedman

Willa McCoy

Elizabeth Smith Friedman was born in Indiana, USA in 1892. She left high school and studied English literature. One year later, she began working for Riverbank Laboratories, cracking codes that were thought to be hidden in the works of the famous writer, Shakespeare.



During the 1920s and 1930s, Mrs Friedman worked for the US Navy and cracked many different codes that stopped enemy spies. During the Second World War she solved a secret code used by German Naval Intelligence and worked for the **FBI**.

Cohl Furey

Willa McCoy

Cohl Furey was born in Canada in the 1970s and became a Doctor of Science at university. She now works at the world famous Cambridge University.



She is especially well-known for her work on something called octonions, a complicated number system that has helped with understanding **black holes** and how the world around us is made.

Jewel Burks

Willa McCoy

Jewel Burks was born in Atlanta, USA in 1989. She went to Howard University in Washington, DC. Her first job was with Google.



When she left Google, she worked for a large company that sold engineering parts. It was obvious to her that some of their customers were confused by searching through the thousands of parts of machines that were on sale. So, with a friend, she set up PartPic, an **application** that lets customers take a photo of the part they want on their smartphones. The app recognises the picture of the broken part and orders it for the customer.

Jennifer Doudna

Willa McCoy

Jennifer Doudna was born in Washington, DC in 1964. She moved to Hawaii, aged 7 and became interested in nature and science. She studied at Harvard Medical School.



Miss Doudna has spent a long time working in biochemistry research, particularly looking at how **DNA** is made. Her work has led to scientists being able to use this information and possibly cure diseases like cancer. In 2018, she was awarded a Kavli Prize, a special award for scientists, for her outstanding research.