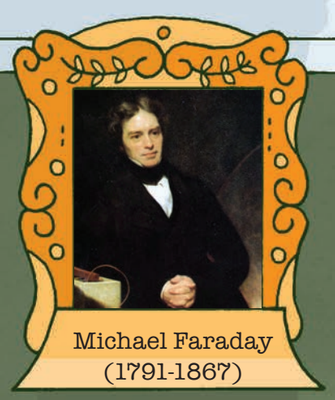
Michael Faraday



Michael Faraday
(1791-1867)

Isabel Thomas finds out why we'd all be in the dark without the 'Father of Electricity'.

Michael Faraday was born in London at the start of the Industrial Revolution. His father was a blacksmith from the North of England. In the 1800s, it was difficult for someone who was not from a wealthy family to become successful. Michael had to leave school and find work when he was just 13.

Michael became an apprentice bookbinder. He loved to read, and taught himself about science by reading books in the back of the shop.

When he was 20, a customer gave Michael a ticket to some lectures by one of his science heroes, Humphrey Davy. Michael was captivated. He wrote to Davy, and in 1813 finally got his first job in science, as Davy's assistant.

The world-famous Royal Institution was Michael's new workplace. He was fascinated by 'electromagnetism' – the discovery that passing an electrical current through a metal wire produces a magnetic field around it. Michael quietly started doing his own research. By 1816, he had published his first scientific paper, and by 1819, he was pretty much the best chemist in Britain. But it was physics that Michael found really exciting.

In 1821, he hung a wire over a small cup of mercury with a magnet in the middle. When he passed electricity through the wire, something amazing happened – the wire started to swing around the magnet in a circle! It was the first time anyone had used electricity as a source of power to produce continuous motion.

In other words, I had created the world's first electric motor!

Michael had big ideas. In 1822, he scribbled in his diary:

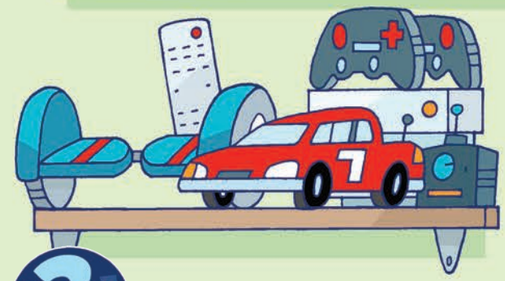
Convert magnetism into electricity!

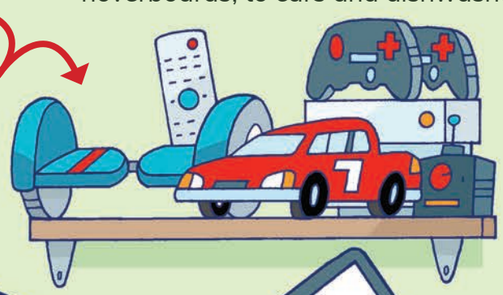
But he was so busy researching other areas of science, it was ten years before he got around to looking at electricity again...

No matter what you look at, if you look at it closely enough, you are involved in the entire universe.

In 1831, Michael showed that his discovery worked in reverse. He moved a magnet back and forth inside a coil of wire and showed that electricity began to flow in the wire. Michael used the discovery to make the first dynamo, a machine that generates electricity using magnets. This was HUGE NEWS. Up to now, electricity had been produced by chemical reactions inside batteries, which were expensive and a bit rubbish. The dynamo meant that electricity could now be produced without a battery, and in much greater amounts.

Michael changed electrical energy from a laboratory novelty to a practical tool. His discoveries led to the development of the technology used to produce almost all of our electric power, and to the electric motors that are found everywhere, from phones and hoverboards, to cars and dishwashers.





Spot seven differences on these gadget shelves.

Faraday loved to share his excitement about science. In 1825, he began giving Christmas Lectures at the Royal Institution. The Christmas Lectures are still going, almost 200 years later!

Find out more about Michael's world-changing discoveries at the Faraday Museum. Or take an interactive tour online!
goo.gl/qgbnuK