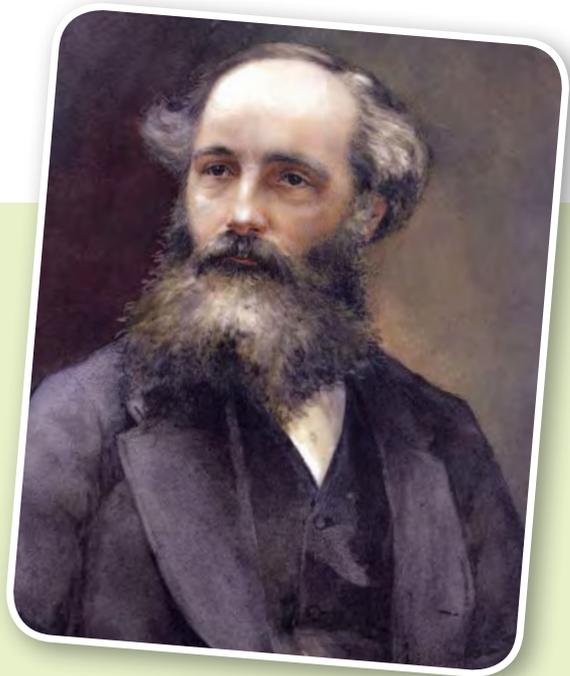


James Clerk Maxwell

1831-1879

Famous for:

- Proving the link between electricity, magnetism and light for the first time
- Determining what the rings of Saturn are made of
- Devising a theory relating to gases
- Producing the first colour photograph.



James Clerk Maxwell is often called one of the world's greatest physicists. He was also a major influence on other important scientists, like **Albert Einstein**.

Maxwell's theories were essential in the development of technology we now take for granted, such as:

- Radio
- Television
- Mobile phones.

James Clerk Maxwell (1831-1879)

Early years and education

Born in Edinburgh in 1831, Maxwell spent his early years at the family home at Glenlair in Dumfries and Galloway.

He went to Edinburgh Academy when he was 10 years old. Here he demonstrated an extraordinary ability in mathematics. One of his school friends was Peter Guthrie Tait, who also became an eminent physicist.

Maxwell's first scientific paper, written when he was just 14, came from his interest in drawing oval shapes using pins and string.

Instead of simply observing the shapes it was possible to draw, he formulated mathematical equations relating the variables to one another. This could be the position of the pins to the length of the string, for example.

University life

Maxwell went on to study in Edinburgh, London and Cambridge, where he experimented in colour vision by [mixing different colours of light together](#).

It was at this time that he began to carry out the work for which he is best known – research in [electromagnetic radiation](#).

From extensive work over the following years, he formulated four equations relating electricity magnetism and light for the first time. This theory predicted the existence of radio waves.

Work and experiments

In 1856, aged only 25, he was appointed to the Chair of Natural Philosophy at Marischal College, Aberdeen. At this time, he began work on another field of research – the composition of the [rings of Saturn](#).

His theories were only confirmed to be correct in the 1980s when the Voyager space expeditions allowed closer examination of Saturn.

Maxwell became Professor of Natural Philosophy at King's College, London in 1860. He remained there for the next five years. During a lecture, he demonstrated the [first colour photograph](#) – of a tartan ribbon – using coloured filters.

In 1871 he took up post as the first Professor of Experimental Physics at Cambridge University. He went on to help set up the Cavendish research laboratory, where many of his theories were developed.

Later years

Maxwell died of stomach cancer at the age of 48. A moving [obituary by P G Tait](#), Maxwell's friend and fellow scientist, appeared in the 'Proceedings of the Royal Society of Edinburgh'.

Maxwell is buried in Parton churchyard, near Glenlair in Dumfries and Galloway.

Considering his untimely death, Maxwell's exceptional achievements are even more remarkable.

His name has not always been familiar to the general public. However scientists universally acknowledge Maxwell's contribution to progress in the modern world.

In our public poll, James Maxwell was voted the most popular Scottish scientist from the past.

Did you know?

James Clerk Maxwell was a great believer in education for all. In Aberdeen and London he gave evening lectures to working men, giving them a chance to further their education.

Taken from the National Library of Scotland Science Hall of Fame
<http://digital.nls.uk/scientists/biographies/index.html>

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