



Isaac Newton

1642 - 1727

Isaac Newton, the English physicist and mathematician, was one of the greatest scientists of all time. He discovered the *composition of white light* (1666). His *three laws of motion resulted in the formulation of the law of universal gravitation* (1687). He was the inventor of the *infinitesimal calculus* (1669). He built the *first reflecting telescope* (1668).

Isaac Newton was born early on Christmas Day, 1642, in the manor house of Woolsthorpe in Lincolnshire. He was born three months after his father's death. **The boy was so tiny that no one expected him to survive.** He was named after his father, Isaac Newton. His mother, Hannah Ayscough, married for a second time, but his stepfather Barnabas Smith, a wealthy man, had no intention of taking the three year old boy with his mother. Instead, they left Isaac in Woolsthorpe with his grandparents, the Ayscoughs, and moved to a neighbouring village to raise a son and two daughters. For nine years, until his stepfather's death, Isaac was separated from his mother. This separation must have been a traumatic event in the life of the little boy.

By Newton's own testimony, he entered the school in Grantham when he was twelve. At school he apparently studied Latin with a bit of Greek and arithmetic, but perhaps no geometry. He wrote Latin as readily as English. Young Newton was intellectually very different and he did not get along with the other boys. Among the incidents that he remembered uncomfortably in 1662 were 'stealing cherry cobs from Eduard Storer and denying that I did so'. When he grew older something of a romance apparently developed between Newton and a Miss Storer. According to her, Newton continued to be her friend to the end of his life. No other woman is known to have aroused any sentiment in him. In June 1661 Newton was formally admitted to Trinity College, Cambridge. He entered Trinity as a subsizar, a poor student who earned his keep performing menial tasks for the fellow commoners (subsizar stood at the bottom of the Cambridge social structure).

*Newton's
famous
reflecting
telescope*



*He showed
that some
comets had
elliptical
paths*



According to the College books, he was a scholar in 1664, Bachelor of Art in 1665, Junior Fellow in 1667, Master of Arts and Senior Fellow in 1668. It is said that, in 1665, having left Cambridge for a while on account of the Great Plague, he was moved by the fall of an apple to speculate if the Moon itself was falling toward the Earth in a similar way. Newton deduced that *the endeavour of receding from the Sun will be reciprocally as the squares of the distances from Sun*. Another of Newton's great achievements was his application of universal gravitation to the motions of the comets. Newton recognized that the orbit of a comet is either hyperbolic, and therefore it makes one close encounter with the Sun, or an elongated ellipse, in which case it returns periodically like the comet his friend Halley had observed.

In 1669 Newton became Lucasian Professor of Mathematics. Newton served as Warden of the Royal Mint from 1696 and became President of the Royal Society in 1703, holding this office until his death. In 1705 he became the first British scientist ever to receive a knighthood for his research. Although he was quite a wealthy man his style of life was modest and ascetic, there were no beautiful or valuable pieces of furniture in his house. He died intestate in 1727. According to his biographers, Newton was a serious and cool person. He never joked. He was very honest: 'his financial honesty was paralleled only to his intellect'.

His *Principia* has been called one of the most important works of science ever written.

