

Cambridge Celebrity

Newton, Sir Isaac

Newton, Sir Isaac, 1642-1727, English mathematician and natural philosopher (physicist), who is considered by many the greatest scientist that ever lived.

Newton entered Cambridge University in 1661, but in 1665, Cambridge closed because of plague and Newton returned to the family farm for a year and a half. During this period in the country Newton first developed new methods in mathematics, starting with the binomial theorem, which deals with fractional powers of an algebraic expression, and continuing with a useful method for approximating solutions. By the end of 1665, he had developed the methods for finding slopes of curves that we call differential calculus. In the following year, he completed his invention of calculus with the method of finding areas of curved regions (the integral calculus). During the same period, Newton experimented with light and found that white light is a mixture of colors. He also began to think about gravity -- whether the same force that causes an apple to fall to Earth also affects the Moon.



Newton completed his studies at Cambridge and stayed as a professor of mathematics. Instead of publishing his work he circulated manuscripts to friends. He built the first reflecting telescope and in 1672 presented one to the Royal Society. The Royal Society elected him a fellow and he began to communicate some of his discoveries about optics to them. He was urged to publish his ideas on the motion of planets, and Newton's Principia of 1687 contained his laws of motion and gravity as well as such topics as artificial satellites.

In 1696 Newton left Cambridge and took charge of the British Mint in London. In 1703 he became president of the Royal Society, keeping that post for the rest of his life. The following year he wrote a full account of his study of light, called Opticks. Although Newton devoted a major portion of his time to alchemy, the predecessor of chemistry, he did not publish any results. He was made warden of the mint in 1696 and master in 1699, being knighted in 1705 in recognition of his services at the mint as much as for his scientific accomplishments.