Isaac Newton Biography

Certainly one of the greatest scientists who ever lived, Isaac Newton (1642-1727) had a profound impact on astronomy, physics, and mathematics. Among his many achievements were the invention of the reflecting telescope, the basic design behind all large telescopes used today; the invention of a branch of mathematics known as calculus, a critical tool throughout science; the elucidation of the three laws of motion; and the development of the law of universal gravitation.

Isaac Newton was born in the manor house of Woolsthorpe, near Grantham in Lincolnshire. Isaac Newton came from a family of farmers but never knew his father, also named Isaac Newton, who died in October 1642, three months before his son was born. Although Isaac's father owned property and animals, which made him quite a wealthy man, he was completely uneducated and could not sign his own name.

Born prematurely and after his father’s death, Newton had a difficult childhood. His mother remarried when he was just three, and he was then sent to live with his grandparents. Upon the death of his stepfather in 1653, Newton lived in an extended family consisting of his mother, his grandmother, one half-brother, and two half-sisters. From shortly after this time Isaac began attending the Free Grammar School in Grantham. However he seems to have shown little promise in academic work. His school reports described him as 'idle' and 'inattentive'. His mother brought him home to Woolsthorpe in Lincolnshire, where she wanted him to become a farmer. An uncle recognized his scholarly talents, however, and he eventually made it to Trinity College in Cambridge.

Newton entered his uncle's old College, Trinity College Cambridge, on 5 June 1661. He was older than most of his fellow students but, despite the fact that his mother was financially well off, he entered as a sizar. A sizar at Cambridge was a student who received an allowance toward college expenses in exchange for acting as a servant to other students.

Newton's aim at Cambridge was a law degree. He recorded his thoughts in a book, which he entitled *Quaestiones Quaedam Philosophicae* (Certain Philosophical Questions). It is a fascinating account of how Newton's ideas were already forming around 1664. Newton's interest in mathematics began in the autumn of 1663 when he bought an astrology book at a fair in Cambridge and found that he could not understand the mathematics in it.
Newton received his bachelor's degree in April 1665. The plague closed the University in the summer of 1665 and he had to return to Lincolnshire. Many of his great ideas came in 1665-66, when he spent time back at Woolsthorpe. While Newton remained at home he laid the foundations for differential and integral calculus. By 1666 Newton had early versions of his three laws of motion.

The University of Cambridge reopened after the plague in 1667. After being awarded his Master's Degree, he was elected to a major fellowship, or teaching position, in July 1668. One year later, Newton took over as the Lucasian Professor, or schoolmaster. He was only 27!

One of Newton’s books written in 1678, The *Principia*, is recognized as the greatest scientific book ever written. Later that year, Newton appears to have suffered a nervous breakdown. His mother died in the following year and he withdrew further into his shell, mixing as little as possible with people for a number of years.

After suffering a second nervous breakdown in 1693, Newton retired from research. The cause for his breakdowns is unknown. He was always pulled in two directions, there was something in his nature which wanted fame and recognition yet another side of him feared criticism and the easiest way to avoid being criticized was to publish nothing.

Newton decided to leave Cambridge to take up a government position in London becoming Warden of the Royal Mint in 1696 and Master in 1699. He led the Mint through the difficult period of recoinage and he was particularly active in measures to prevent counterfeiting of the coinage.

In 1703 he was elected president of the Royal Society and was re-elected each year until his death. He was knighted in 1705 by Queen Anne, the first scientist to be so honored for his work.

**ASSESSMENT:**

1. Create a timeline showing at least 5 major events in Newton’s life.