Renee Dabydeen
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Sir Isaac Newton

Sir Isaac Newton was born in Woolsthorpe, England on December 25, 1642 on Christmas Day. He was born prematurely with a father that had died three months earlier. In addition his mother, Henna left him when he was three years old with his grandmother to remarry and have a different family with a man named Barnabas Smith who was a wealthy clergyman. When Newton's stepfather died, eight years later his mother came back to him with three children and he denied her and refused her attention.

With his mothers return Newton had to become a farmer which he was unsuccessful at and was able to return back to Kings' School at Granham to prepare going to Trinity College, Cambridge, which he was requested to go to by his mother's brother, a clergyman who was an undergraduate there. Newton had to pay his way through college for the first three years by waiting tables and cleaning rooms for the wealthier students. In 1674 and met a Professor of Mathematics, Isaac Barrow and received private study from him, which caused him to master the works of René Descartes, Pierre Gassendi, Thomas Hobbes, and other major figures of the scientific revolution.

When the university at Cambridge closed in 1665 after a plague had spread all around Europe and came to Cambridge Newton spent two years studying problems in mathematics and physics. With this he began to understand the theory of gravitation and the theory of optics. However he was always scared to publish his work during this time. Also in mathematics Newton made is "method of fluxions" which is infinitesimal calculus. Newton recalls *"All this was in the two plague years of 1665 and 1666, for in those days I was in my prime of age for invention, and minded mathematics and philosophy more than at any time since."*.

Newton returned to Cambridge in April 1667 and was elected as a minor fellow at Trinity. During this time he also began to work on alchemy, however Nicolas Mercator published a book having some methods for dealing with infinite

series. Newton wrote a treatise, *De Analysi*, right after Mercator adding his own wider ranging results. Isaac Barrow helped share Newton's discoveries with a London mathematic which brought attention to Newton in the mathematics community for the first time. In addition he became a senior fellow with his master in arts degree.

Following this was Newton's becoming a Lucasian Professor after the reassignment of his friend Isaac Barrow. This gave Newton the opportunity to organize results of his earlier researches and communicate his paper to make public such as his study on the nature of color.

Moreover, Newton's first major public scientific achievement was a reflecting telescope. With the making of this invention he made his own tools to build it. This invention was a huge jump in telescope technology and ensured his election to membership in the Royal Society. The telescope had a certain effect called chromatic aberration which gave a focus in different colors at slightly different distances. His invention is still used today.

In 1666 the most remunerable thing about Newton happened, Newton's observation of the falling apple in the garden of Woolsthorpe. Newton recalls this as the "year I began to think of gravity extending to the orb of the Moon." However Newton did not fully have the concept of universal gravitation until twenty years later with the help of Robert Hooke. Newton quietly drew his own conclusion providing the three laws of motion which are every object in a state of uniform motion tends to remain in that state of motion unless an external force is applied to it, the acceleration of an object as produced by a net force is directly proportional to the magnitude of the net force, in the same direction as the net force, and inversely proportional to the mass of the object and the third law is for every action there is an equal but opposite reaction.

Later on in Newton's life he came across a bumpy road with the bitter disputes with Robert Hooke, who was society's celebrated creator of experiments.

The bitter disputes caused Newton to retreat from the dispute multiple times. Then in 1675 Hooke accused Newton of plagiarizing him and caused more disputes however once again Newton retreated. In addition in 1679 Newton's mother died and Newton suffered   from many emotional breakdowns, Newton's response to his problems where to shut off the world and study alchemical research. With Newton's nonstop hard work he transformed the mechanical philosophy by adding a mysterious but a large sum of gravitational force.

In 1684, three members of the Royal Society, Sir Christopher Wren, Robert Hooke and Edmond Halley, argued as to whether the elliptical orbits of the planets could result from a gravitational force towards the sun proportional to the inverse square of the distance. Halley Newton's partner went to Cambridge and gave this information to Newton and he said he had solved this dispute four years earlier, Newton could not find the work so as a result made a better and improved version of it and sent it to Halley. With this information Halley published the book Principia in 1696 and changed the views of the universe.

With the success of the book Newton became a public figure. He was appointed Master of the Mint, which he put a lot of efforts into prosecuting counterfeiters. He was knighted by Queen Anne. However he still argued with Hook about things such as who discovered the connection between elliptical orbits and the inverse square law until Hooke died in 1703. He also argued with a German mathematician on who invented calculus. Newton died in 1727 and was buried I Westminster Abbey although he had well-known reservations about the Anglican faith.

In conclusion, Newton was an amazing scientist who contributed a lot to what we know about the world today. He always gave everything he did all he had to make sure that he could make a difference. Without Newton's inventions and discoveries the world would be a whole different ball field.