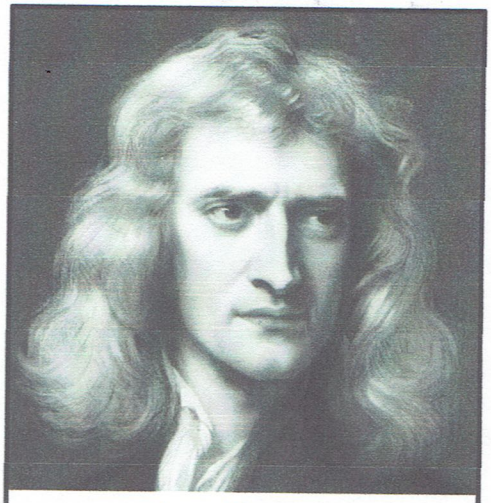
SIR ISAAC NEWTON

(1) Along with Albert Einstein, I am considered one of the greatest physicists of all time. My discoveries on the nature of light, my theories on gravitation and my development of calculus have been some of the most significant contributions to math and sciences. I was making my discoveries during the European scientific revolution in the 17th century. It was a time of great scientific collaboration between scientists as well as intense competition and bitter rivalries.



Isaac Newton
Physicist, Mathematician
(1643-1727)

(2) On January 4th, 1643, I was born in Woolsthorpe, Lincolnshire, England. My father died before I was born and when I was three years old my mother remarried. She and my stepfather left me to be raised by my grandmother. I held a lot of anger toward them for this abandonment and in my teen years; I even threatened to burn down their house with them in it. I felt betrayed and isolated growing up and this caused me to develop a huge sense of insecurity which plagued me all my life. My insecurities caused me to become overly sensitive to any criticisms of my work and I often lashed out at fellow scientists when defending my work, even to irrational levels. I probably ended a few scientific careers due to my aggressive and territorial attacks.

(3) Considering what I'm famous for, it might surprise you that I wasn't taught any maths or sciences until after I was 17. Before then, I studied only Greek and Latin. My mother even pulled me out of school because she expected me to become a farmer. Farming made me truly miserable so the principal of my school convinced my mom to let me go back to school. I graduated at the top of my class.

(4) In 1661, at the age of 18, I was admitted into Trinity College in Cambridge. For the next three years I worked as a personal servant for other students at the school to earn money for tuition and expenses. In 1664, I won myself a scholarship that funded my schooling for the next 4 years until I got my masters. At this time, Trinity College was still teaching the works of Aristotle, but I wasn't convinced by his teachings. I was more excited by newer minds like Galileo, Kepler and Descartes. I loved studying math, natural philosophy (which we now call physics) and was also fascinated with alchemy (which is considered a fake science these days). I agreed with Kepler and Galileo that the Sun was the center of our solar system, not the Earth, as Aristotle had thought. In this exciting scientific environment, I became ambitious and wanted to make my own scientific discoveries and a name for myself.

(5) In 1665, the bubonic plague swept through Europe and Trinity College was closed for 18 months to prevent the spread of the disease. I went back to live at home and this is when my mind went into high gear. I was coming up with new ideas daily like my first mathematical discovery, the binomial theorem. After this came ground-breaking insights on light, optics, gravity and calculus. Legend has it that I saw an apple fall from a tree to the ground and this is how I came up with the idea of gravity. That's more or less true, but it never hit me on the head! I didn't make any formal publications of my discoveries at this point because I was afraid of receiving negative responses to my ideas. However, my skills in mathematics became respected and this allowed me to ascend to the position of mathematics professor at Trinity College when I was only 26.

(6) In 1668, I constructed a telescope which helped prove some of my theories on light. In 1972, I published my findings but several prominent scientists had criticisms of my work and I was immediately defensive. Robert Hooke was one of my most vocal critics. As he was a very well respected scientist, his criticisms hurt me greatly and I flew into a rage. I would hate him for the rest of my life.

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(7) In 1678, I had a mental breakdown. I spiraled into years of isolation and withdrew from the scientific community. During this time, I further developed my ideas of gravitation and the its effect on the planets. In 1687, I came out of seclusion and published the single most influential book on physics, the *Philosophiæ Naturalis Principia Mathematica*. The *Principia* focused on the laws of motion (including "for every action there is an equal and opposite reaction"), universal gravitation and the laws for planetary motion. Again I clashed with Hooke who claimed that I had stolen his ideas. I'll admit, I was influenced by his ideas, but I was the one to fully flesh out his ideas with mathematical formulations.

(8) Beyond the *Principia*, my development of calculus (the mathematics of change) certified me as a genius. However, Gottfried Leibniz claimed that he had developed calculus before I did, and I was embroiled in yet another hostile conflict. These days, most historians feel that both of us developed calculus independently, though of course, if I was around, I would furiously fight this opinion.

(9) Many people don't know that I also devoted a lot of time to alchemy. I thought I could find the philosopher's stone, which is considered a substance that can convert a basic metal to gold or silver as well as give a person immortality and cure all diseases. Some people find it hard to believe that I was both a person of science as well as an alchemist that held pseudoscientific beliefs. That goes to show that humans, including geniuses, are complex and full of contradictions.