

# Who Was Isaac Newton?



By  
Janet B. Pascal

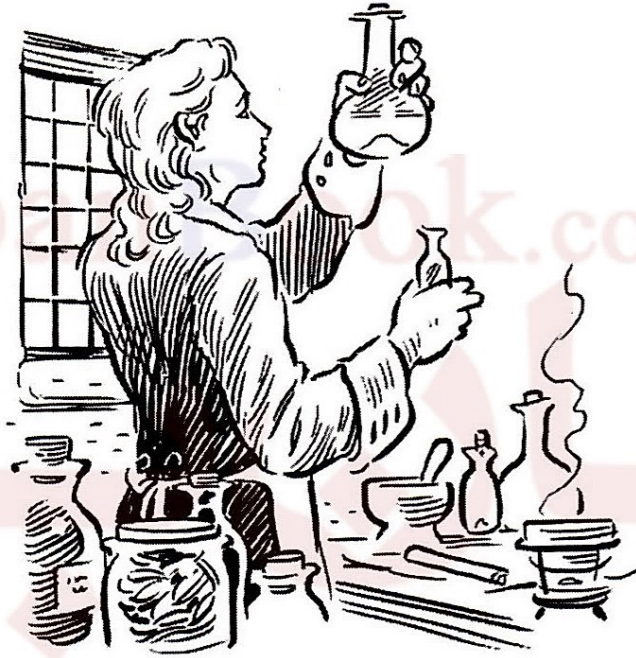
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# Who Was Isaac Newton?



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## Who Was Isaac Newton?

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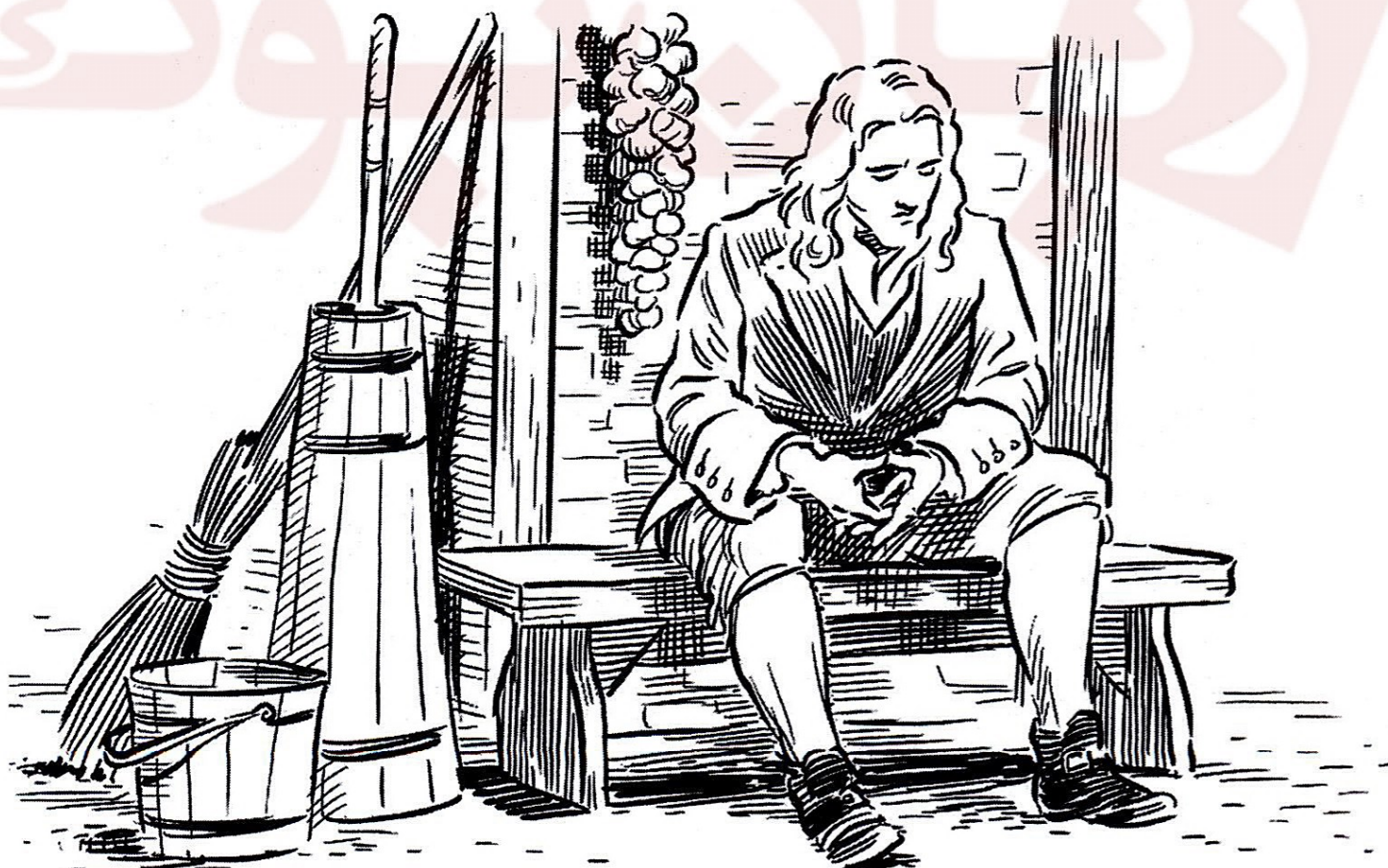
In 1665, a terrible sickness swept through England. It was called the plague. It caused huge swellings all over the body and made people's skin turn black. There was no cure. Most people who caught it died a quick and painful death. Any place people lived crowded together was dangerous,





because plague was very easy to catch. No one knew what caused it, or how to protect themselves against it. The only way to stay safe was to go to the countryside, where there were fewer people to catch it from.

A twenty-three-year-old student named Isaac Newton had to leave Cambridge University and flee to his mother's farmhouse. He didn't really mind. He had always been a loner. He didn't have friends he would miss. At his mother's house, he spent the time doing what he did best—thinking about the universe.







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One day he saw an apple fall. He began to wonder what pulled the apple toward the Earth. And so, according to the famous legend (which might even be true), young Isaac Newton thought up the idea of gravity.



The plague years were a terrible time for most people, but not for Newton. For him, they were a wonderful time of discovery, and not just about gravity. He came up with enough new ideas to keep him busy thinking and writing for the rest of his life. His ideas helped people understand how the universe worked in a new way.

After eighteen months, Newton went back to Cambridge, but he never did make many friends.

He was jealous and unfriendly, and he lost his temper easily. He wasn't a very nice person, but he was one of the greatest scientific geniuses who has ever lived.



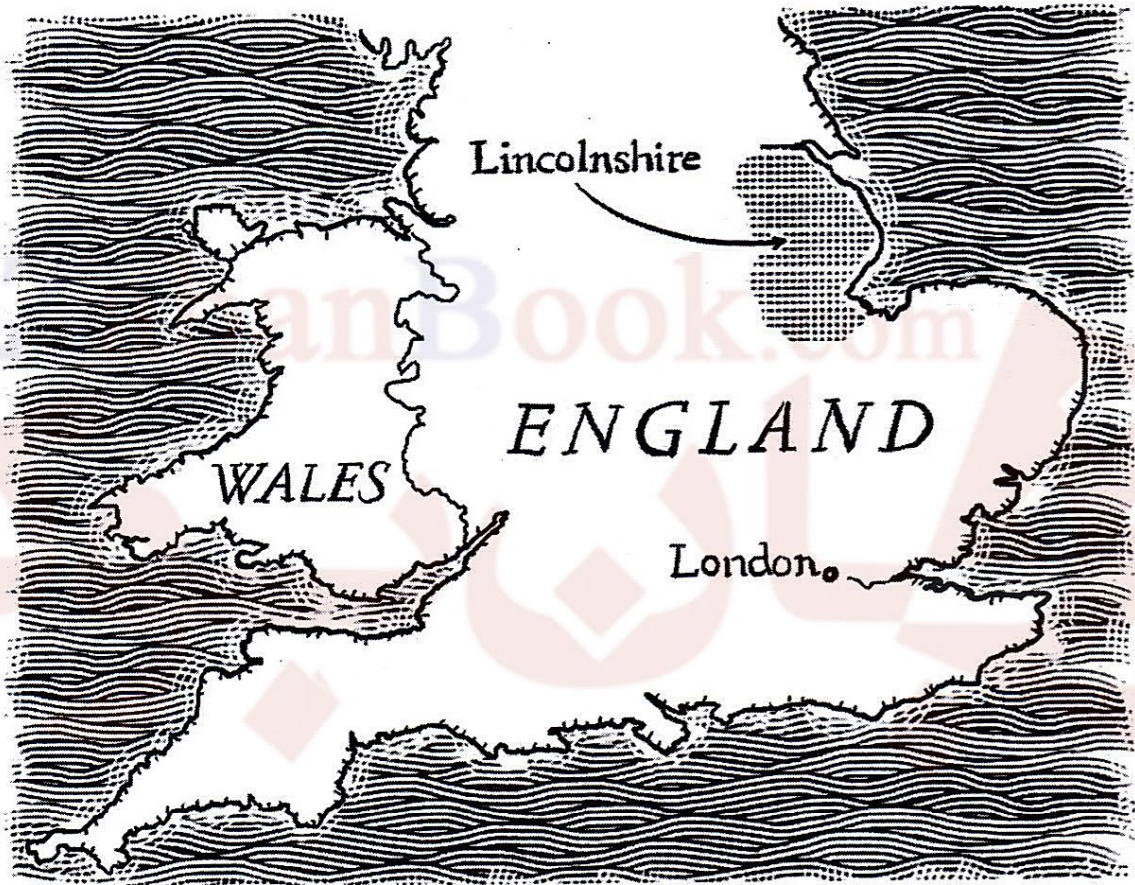
ISAAC NEWTON



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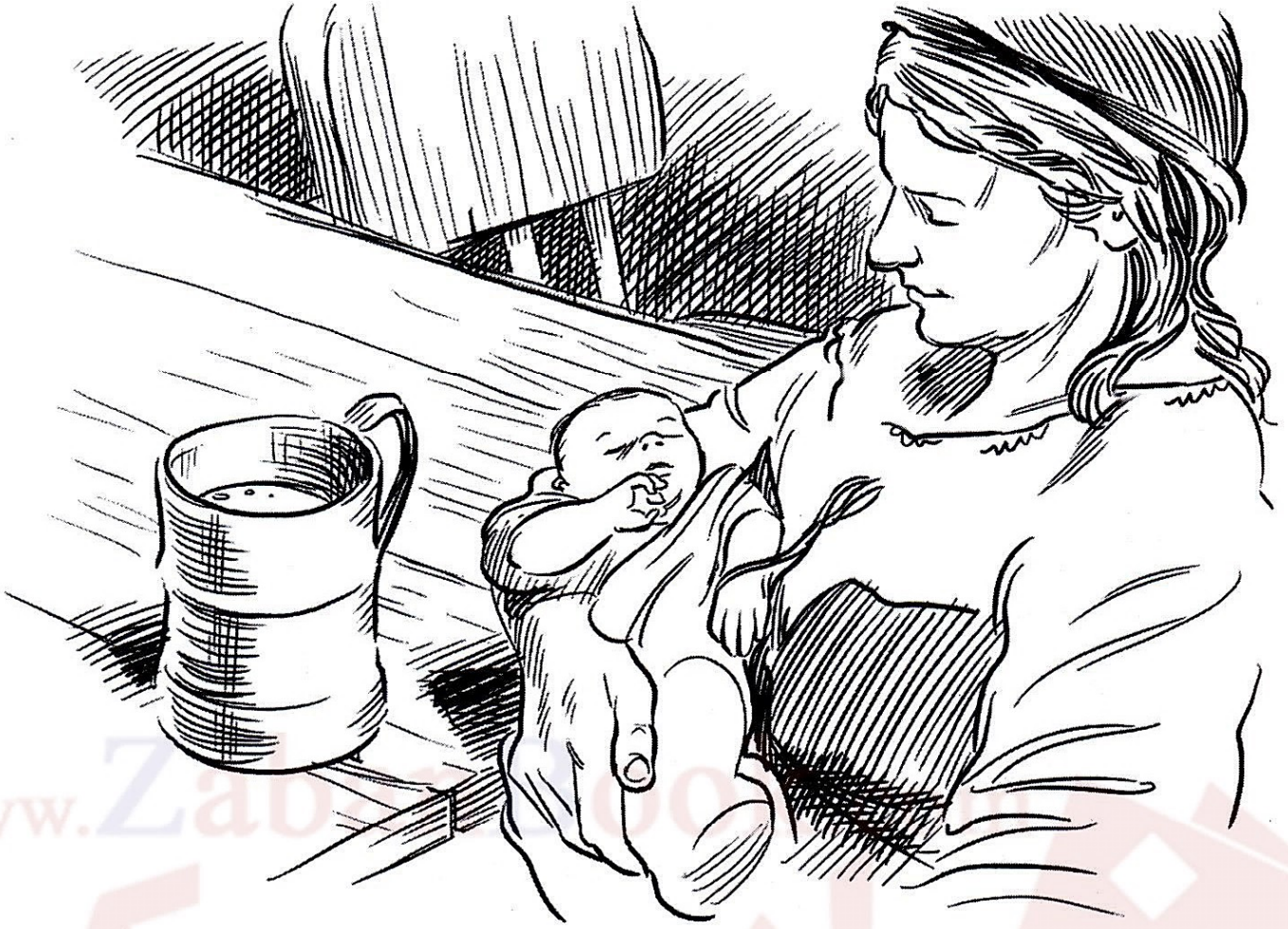
## Chapter 1 Lonely Boy

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Isaac Newton was born in Lincolnshire, England, on Christmas Day 1642. (Because England used a different calendar then, his birthday is also given as January 4, 1643.)



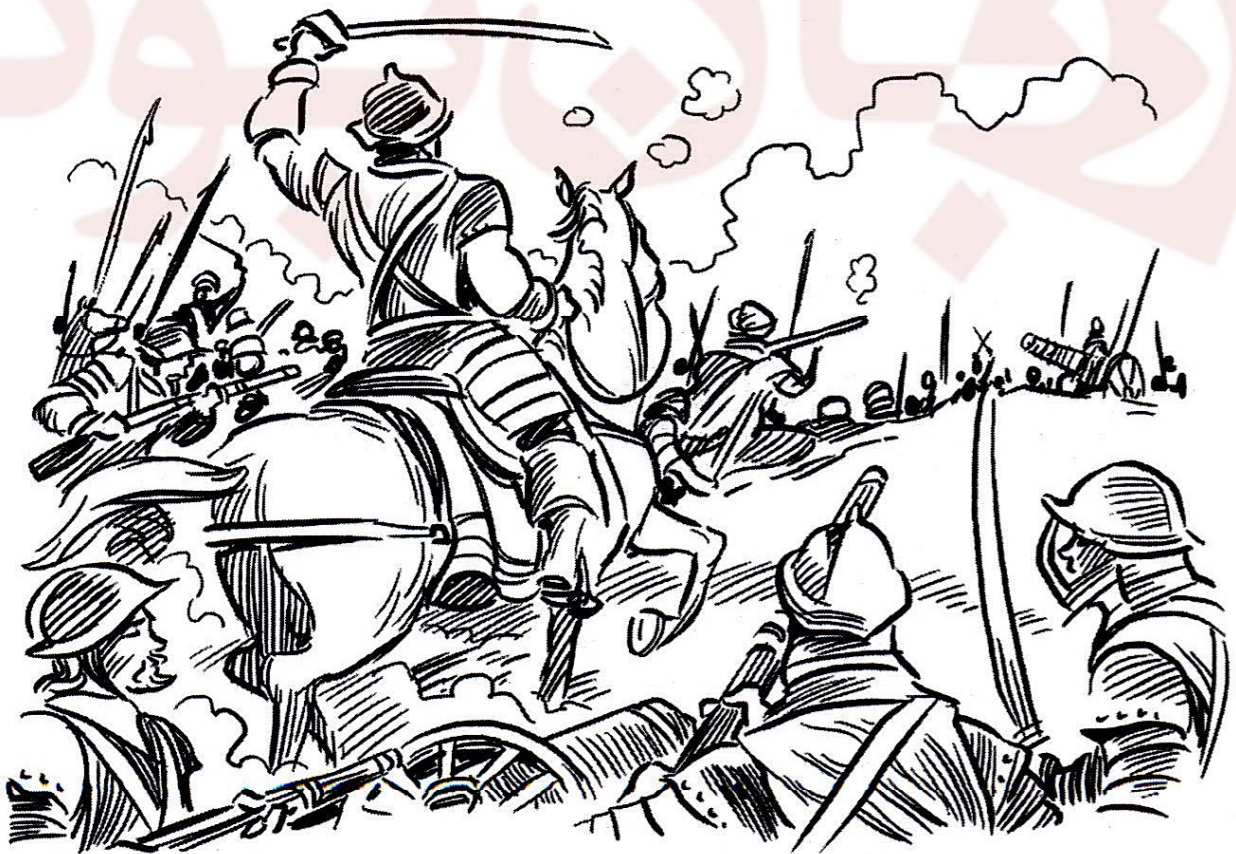


He didn't seem to have a great future. At first, it didn't seem he had any future at all. He was born too early. He was weak and so tiny he could fit into a quart mug. No one thought the sickly baby would live, but he did. His father, also named Isaac, had died three months before his son's birth. He had been a well-off farmer, but he couldn't read or write—not even enough to sign his name.



# THE ENGLISH CIVIL WAR

NEWTON WAS BORN RIGHT AT THE BEGINNING OF THE ENGLISH CIVIL WAR. DURING HIS CHILDHOOD, THE KING AND PARLIAMENT WERE LOCKED IN A BLOODY STRUGGLE. IN 1649, WHEN NEWTON WAS SIX, KING CHARLES I WAS PUT ON TRIAL AND BEHEADED. A STRICT GOVERNMENT WITH NO KING TOOK POWER. ELEVEN YEARS LATER, IN 1660, THE MONARCHY WAS RESTORED UNDER CHARLES II. ALTHOUGH NEWTON'S FAMILY WAS NOT PERSONALLY INVOLVED IN THE WAR, THE VIOLENCE AND UNCERTAINTY OF THE TIME HAD AN IMPACT ON HIS CHILDHOOD.



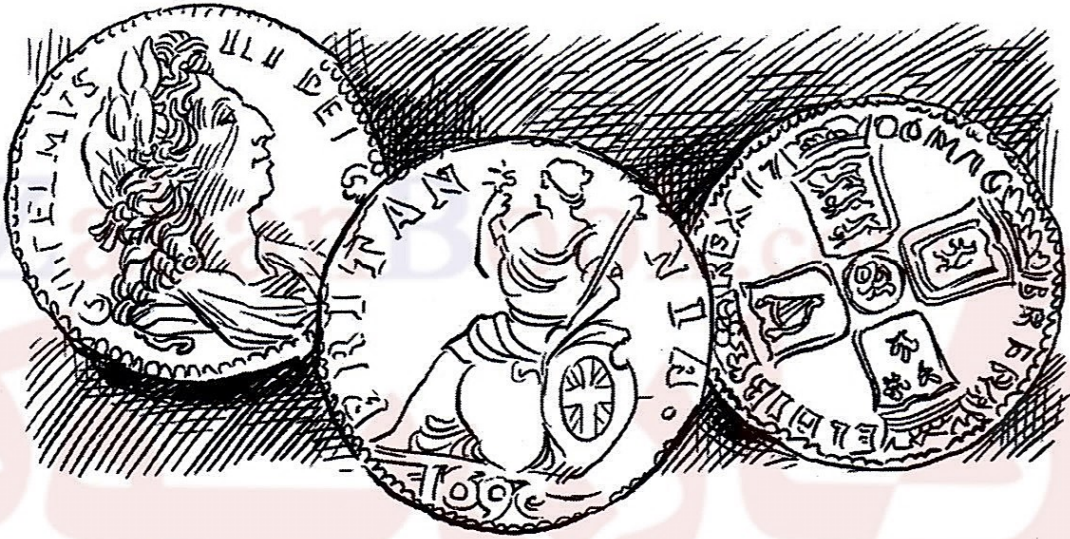


When Isaac was only three, his mother, Hannah, got married again, to a minister named Barnabas Smith. Smith wanted a wife, but not a son. Hannah agreed to move into her new husband's house, leaving Isaac behind with her parents.

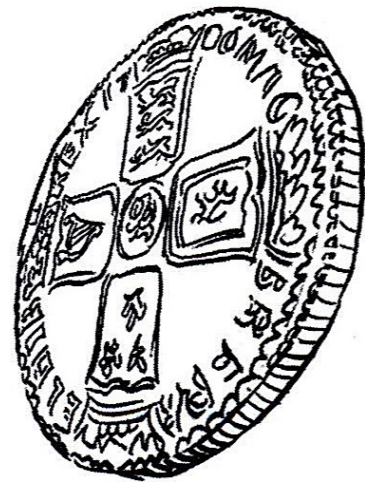




For years, counterfeiters had been clipping bits of silver off the edges of coins to make new coins. By Newton's time, much of England's money was worth less than it was supposed to be. The government had to do something. They decided on the Great Recoinage of 1696.



The Mint collected all the clipped coins and remade them into a new form of coin. These coins had ridged edges, so they were harder to fake. Newton oversaw the whole thing. He did such a good job that in 1699 he was promoted to Master of the





Mint. He stayed in this position for almost thirty years, until he died.

Once the Great Recoinage was done, Newton turned his attention to catching counterfeiters. He made himself into a kind of detective with a network of spies and informers. His greatest triumph was the capture of the clever counterfeiter named Chaloner. Newton pursued him for years and finally succeeded in having him executed.

During his first few years in London, Newton kept his distance from the Royal Society. He didn't want any more fights. In 1703, his old enemy Hooke died. The president of the society died the same year. Newton was immediately elected in his place. In 1704, Newton finally published his theory of optics. The book was based on research from many years earlier, but as he explained, "To avoid being engaged in Disputes about these matters, I have hitherto delayed the printing." He meant that he had waited until Hooke was dead.



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## Chapter 12

### Battles at the Royal Society

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Newton ruled the Royal Society like a tyrant. This led to some ugly incidents. The worst was the fight about who really invented calculus. Newton had created his form of calculus, the method of fluxions, as early as 1665, but he had refused to publish it. Only a few carefully chosen people got the chance to see it.

Around 1675, a German mathematician named Gottfried Leibniz had come up with a similar system, which he called calculus. It isn't surprising that someone



GOTTFRIED LEIBNIZ



else would make the same discovery as Newton had. After all, Leibniz had been working on the same kinds of problems. He had even written to Newton about his new kind of mathematics. (Ironically, he began one letter, “How great I think the debt owed you . . .”) Leibniz published his paper on calculus in 1684.

At first, there didn't seem to be a problem. Then in 1704, Newton finally published his version of calculus. An anonymous reviewer hinted that he might have borrowed some of Leibniz's ideas.

Newton was furious. He didn't want anyone else to get the credit for inventing calculus. An ugly battle began, with Newton accusing Leibniz of stealing ideas from him. At first Leibniz was reasonable. “Mr. Newton developed it further, but I arrived at it by another way,” he wrote to a friend. “One man makes one contribution, another man another.”



Newton didn't think this made any difference. "Second inventors," he claimed, "have no right."

Finally in 1711, Leibniz appealed to the Royal Society to settle the fight, but Newton was president of the society. He put himself in charge of the committee looking into the issue. What's more, he secretly wrote the committee's report himself.





Published in 1713, the report twisted the evidence to make it seem that Leibniz had stolen Newton's work. Leibniz died three years later. Newton never regretted what he had done. Years later, he recalled happily that he "had broke Leibniz's Heart."

In one sense, however, Leibniz won the calculus wars. Newton's method of fluxions was a kind of personal shorthand. He never meant it to be used by anyone else. Leibniz's system was easier for other people to understand. Everyone who learns calculus today uses Leibniz's terms, symbols, and methods, not Newton's. Even the name *calculus* is from Leibniz. If Newton knew, he would be furious.



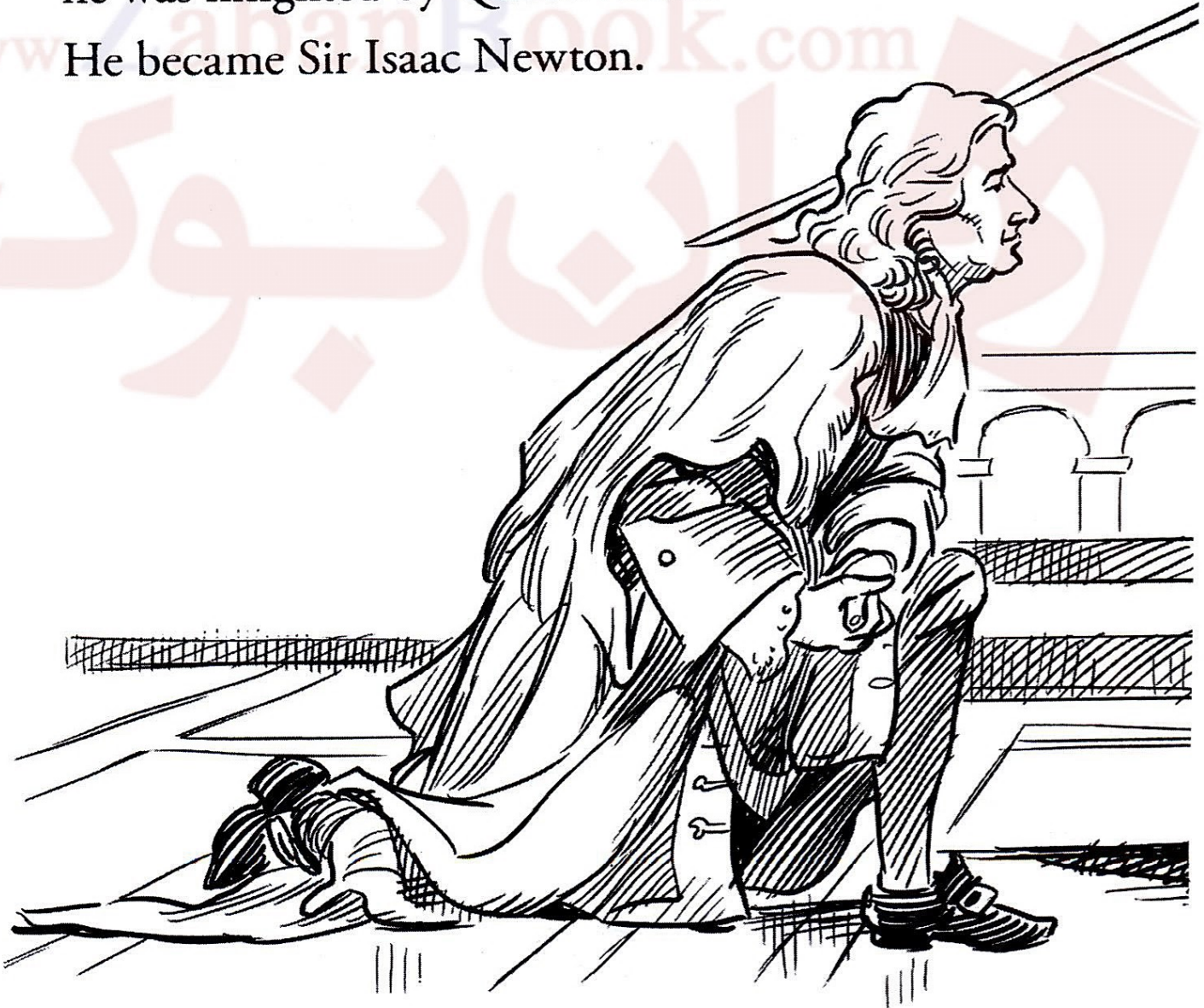
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## Chapter 13

### Genius

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Despite being so frail as a baby, Newton lived to be an old man. By his last years he was wealthy, powerful, and respected. In 1705, he was knighted by Queen Anne. He became Sir Isaac Newton.





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\* Books for young readers



# Who Was Isaac Newton?

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- A secretive man who spent years trying to turn ordinary metals into gold
- One of the greatest geniuses of all time
- All of the above!

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