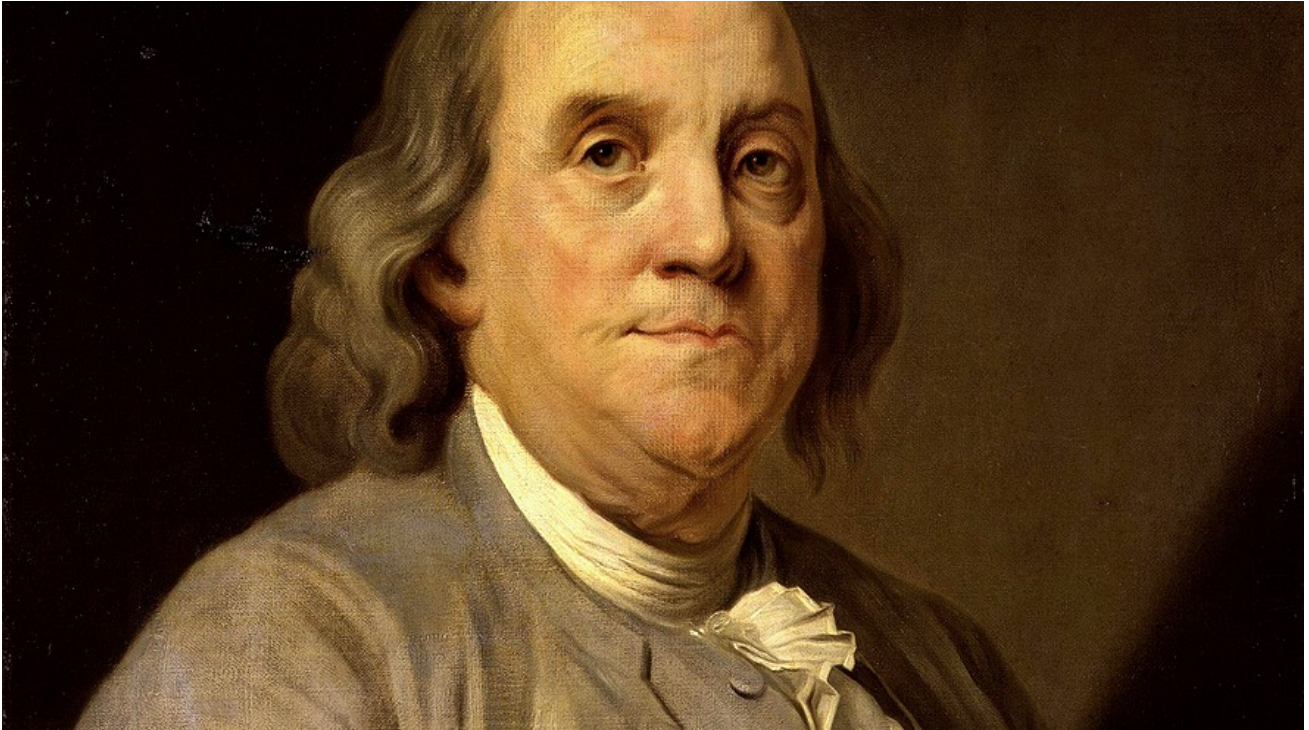


Inventors and Scientists: Ben Franklin

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A portrait of Benjamin Franklin by Joseph Siffred Duplessis, circa 1785. Wikimedia Commons

Synopsis: Born in Boston in 1706, Benjamin Franklin helped draft the Declaration of Independence and the U.S. Constitution, and he negotiated the 1783 Treaty of Paris, which ended the Revolutionary War. His scientific pursuits included investigations into electricity, mathematics and mapmaking. A printer and writer known for his wit and wisdom, Franklin was a polymath who published *Poor Richard's Almanack*, invented bifocal glasses and organized the first successful American lending library.

Early Life

Benjamin Franklin was born on January 17, 1706, in Boston in what was then known as the Massachusetts Bay Colony. His father, English-born soap and candle maker Josiah Franklin, had seven children with first wife, Anne Child, and 10 more with second wife, Abiah Folger. Ben was his 15th child and youngest son.

Ben learned to read at an early age, and despite his success at the Boston Latin School, he stopped his formal schooling at 10 to work full time in his cash-strapped father's candle and soap shop. Dipping wax and cutting wicks didn't fire the young boy's imagination, however. Perhaps to dissuade him from going to sea as one of his brothers had done, Josiah apprenticed Ben at 12 to his brother James at his print shop.

Although James mistreated and frequently beat his younger brother, Ben learned a great deal about newspaper publishing and adopted a similar brand of subversive politics under the printer's tutelage. When James refused to publish any of his brother's writing, 16-year-old Ben adopted the pseudonym Mrs. Silence Dogood, and "her" 14 imaginative and witty letters delighted readers of his brother's newspaper, *The New England Courant*. James grew angry, however, when he learned that his apprentice had penned the letters. Tired of his brother's "harsh and tyrannical" behavior, Ben fled Boston in 1723 although he had three years remaining on a legally binding contract with his master. He escaped to New York before settling in Philadelphia, which became his home base for the rest of his life.

Franklin found work with another printer in Philadelphia and lodged at the home of John Read, where he met and courted his landlord's daughter Deborah. Encouraged by Pennsylvania Governor William Keith to set up his own print shop, Franklin left for London in 1724 to purchase supplies from stationers, booksellers and printers. When the teenager arrived in England, however, he felt duped when Keith's letters of introduction never arrived as promised. Although forced to find work at London's print shops, Franklin took full advantage of the city's pleasures — attending theater performances, mingling with the populace in coffeehouses and continuing his lifelong passion for reading. A self-taught swimmer who crafted his own wooden flippers, Franklin performed long-distance swims on the Thames River. (In 1968, he was inducted as an honorary member of the International Swimming Hall of Fame.)

In 1725 Franklin published his first pamphlet, "A Dissertation upon Liberty and Necessity, Pleasure and Pain," which argued that humans lack free will and, thus, are not morally responsible for their actions. (Franklin later repudiated this thought and burned all but one copy of the pamphlet still in his possession.)

Franklin returned to Philadelphia in 1726 to find that Deborah Read had married in the interim, only to be abandoned by her husband just months after the wedding. In the next few years, he held varied jobs such as bookkeeper, shopkeeper and currency cutter. He returned to a familiar trade in 1728 when he printed paper currency in New Jersey before partnering with a friend to open his own print shop in Philadelphia that published government pamphlets and books. In 1730 Franklin was named the official printer of Pennsylvania. By that time, he had formed the "Junto," a social and self-improvement study group for young men that met every

Friday to debate morality, philosophy and politics. When Junto members sought to expand their reading choices, Franklin helped to incorporate America's first subscription library, the Library Company of Philadelphia, in 1731.

Prominent Citizen

In 1729 Franklin published another pamphlet, "A Modest Enquiry into The Nature and Necessity of a Paper Currency," which advocated for an increase in the money supply to stimulate the economy. With the cash Franklin earned from his money-related treatise, he was able to purchase The Pennsylvania Gazette newspaper from a former boss. Under his ownership, the struggling newspaper was transformed into the most widely read paper in the colonies and became one of the first to turn a profit. He had less luck in 1732 when he launched the first German-language newspaper in the colonies, the short-lived *Philadelphische Zeitung*.

After the future founding father rekindled his romance with Deborah Read, he took her as his common-law wife in 1730. Around that time, Franklin fathered a son, William, out of wedlock who was taken in by the couple. The pair's first son, Francis, was born in 1732, but he died four years later of smallpox. The couple's only daughter, Sarah, was born in 1743.

Franklin's prominence and success grew during the 1730s, especially with the publication of *Poor Richard's Almanack* at the end of 1732. In addition to weather forecasts, astronomical information and poetry, the almanac — which Franklin published for 25 consecutive years — included proverbs and Franklin's witty maxims, such as "Early to bed and early to rise, makes a man healthy, wealthy and wise" and "He that lies down with dogs, shall rise up with fleas."

Franklin amassed real estate and businesses and organized the volunteer Union Fire Company to counteract dangerous fire hazards in Philadelphia. He joined the Freemasons in 1731 and was eventually elected grand master of the Masons of Pennsylvania.

The 1740s saw Franklin expanding into entrepreneurship with the invention of the Franklin stove, which provided more heat with less fuel, and also into scientific pursuits. His 1743 pamphlet "A Proposal for Promoting Useful Knowledge" underscored his interests and served as the founding document of the American Philosophical Society, the first scientific society in the colonies.

By 1748, the 42-year-old Franklin had become one of the richest men in Pennsylvania. He turned his printing business over to a partner to give him more time to conduct scientific experiments. He moved into a new house in 1748 and acquired the first of his slaves to work in the new home and in the print shop. Franklin's views on slavery evolved over the following decades to the point that he considered the institution inherently evil, and thus, he freed his slaves in the 1760s.

He became a soldier in the Pennsylvania militia at the age of 42, but his abiding interest in electricity was ignited at this time, too. His investigations into electrical phenomena were compiled into "Experiments and Observations on Electricity," published in England in 1751.

He conducted the famous kite-and-key experiment in 1752 to demonstrate that lightning was electricity. He invented the lightning rod and coined new electricity-related terms that are still part of the lexicon, such as battery, charge, conductor and electrify.

A prolific inventor, Franklin developed bifocals that could be used for both distance and reading. He is credited with inventing the first rocking chair, flexible catheter and American penny. He even devised a new “scheme” for the alphabet that proposed to eliminate the letters C, J, Q, W, X and Y as redundant.

Franklin’s inventions took on a musical bent as well. In 1761 he commenced development of the armonica, a musical instrument composed of spinning glass bowls on a shaft. Both Ludwig van Beethoven and Wolfgang Amadeus Mozart composed music for the strange instrument.

His self-education earned him honorary degrees from Harvard, Yale, England’s Oxford University and Scotland’s University of St. Andrews. In 1749, Franklin wrote a pamphlet relating to the education of youth in Pennsylvania that resulted in the establishment of the Academy of Philadelphia, now the University of Pennsylvania.

Public Service

Franklin became a member of Philadelphia’s city council in 1748 and a justice of the peace the following year. In 1751 Franklin was elected a Philadelphia alderman and a representative to the Pennsylvania Assembly, a position to which he was re-elected annually until 1764. Two years later, he accepted a royal appointment as deputy postmaster general of North America.

When the French and Indian War began in 1754, Franklin called on the colonies to band together for their common defense, which he dramatized in *The Pennsylvania Gazette* with a cartoon of a snake cut into sections with the caption “Join or Die.” He represented Pennsylvania at the Albany Congress, which adopted his proposal to create a unified government for the 13 colonies. Franklin’s “Plan of Union,” however, failed to be ratified by the colonies.

In 1757 he was appointed by the Pennsylvania Assembly to serve as the colony’s agent in England. Franklin sailed to London to negotiate a long-standing dispute with the proprietors of the colony, the Penn family, taking William and his two slaves but leaving behind Deborah and Sarah. He spent most of the next two decades in London, where he was drawn to the high society and intellectual salons of the cosmopolitan city.

After Franklin returned to Philadelphia in 1762, he toured the colonies to inspect its post offices and William took office as New Jersey’s royal governor, a position his father arranged through his political connections in the British government. After Franklin lost his seat in the Pennsylvania Assembly in 1764, he returned to London as the colony’s agent without Deborah, who refused to leave Philadelphia. It would be the last time the couple saw each other. Franklin would not return home before Deborah passed away in 1774 from a stroke at the age of 66.

He returned to London at a tense time in the relations between Great Britain and the American colonies. Parliament's passage of the Stamp Act in March 1765 imposed a highly unpopular tax on all printed materials for commercial and legal use in the colonies. Since Franklin purchased stamps for his printing business and nominated a friend as the Pennsylvania stamp distributor, some colonists thought Franklin implicitly supported the new tax, and rioters in Philadelphia even threatened his house. Franklin's passionate denunciation of the tax in testimony before Parliament, however, contributed to the Stamp Act's repeal in 1766.

Two years later he penned a pamphlet, "Causes of the American Discontents before 1768," and he soon became an agent for Massachusetts, Georgia and New Jersey as well. Franklin fanned the flames of revolution by sending the inflammatory private letters of Massachusetts Governor Thomas Hutchinson, which called for the restriction of the rights of colonists, to America where they caused a firestorm after their publication by Boston newspapers. In the wake of the scandal, Franklin was removed as deputy postmaster general, and he returned to North America in 1775 as a devotee of the patriot cause.

Always intellectually curious, Franklin began to speculate on his return trip across the Atlantic Ocean about why the westbound trip always took longer, and his measurements of ocean temperatures led to his discovery of the existence of the Gulf Stream, the knowledge of which served to cut two weeks off the previous sailing time from Europe to North America.

In 1775, Franklin was elected to the Second Continental Congress and appointed the first postmaster general for the colonies. And in 1776, he was appointed commissioner to Canada and was one of five men to draft the Declaration of Independence. Franklin's support for the patriot cause put him at odds with his Loyalist son. When the New Jersey militia stripped William Franklin of his post as royal governor and imprisoned him, his father chose not to intercede on his behalf. After voting for independence, Franklin was elected commissioner to France and set sail to negotiate a treaty for the country's military and financial support.

Later Years

Much has been made of Franklin's years in Paris, chiefly his romantic life, as essentially the first U.S. ambassador to France. After Deborah's death, Franklin had a rich romantic life in his nine years abroad. At the age of 74, he even proposed marriage to a widow named Madame Helvetius, but she rejected him.

Franklin was embraced in France as much, if not more, for his wit and intellectual standing in the scientific community as for his status as a political appointee from a fledgling country. His reputation facilitated respect and entrees into closed communities, including that of King Louis XVI. And it was his adept diplomacy that led to the Treaty of Paris in 1783, which ended the Revolutionary War.

After almost a decade in France, Franklin returned to the United States in 1785. He was elected in 1787 to represent Pennsylvania at the Constitutional Convention, which drafted and ratified the new U.S. Constitution. The oldest delegate at the age of 81, Franklin initially

supported proportional representation in Congress, but he fashioned the Great Compromise that resulted in proportional representation in the House of Representatives and equal representation by state in the Senate.

Franklin helped found the Society for Political Inquiries, dedicated to improving knowledge of government, in 1787. He also became more vociferous in his opposition to slavery. He served as president of the Pennsylvania Society for Promoting the Abolition of Slavery, wrote many tracts urging the abolition of slavery and petitioned the U.S. Congress in 1790 to end slavery and the slave trade.

Death And Legacy

Benjamin Franklin died on April 17, 1790, in Philadelphia, Pennsylvania, at the home of his daughter, Sarah Bache. He was 84, suffered from gout and had complained of ailments for some time, completing the final codicil to his will a little more than a year and a half prior to his death. He bequeathed most of his estate to Sarah and very little to William, whose opposition to the patriot cause still stung him. He also donated money that funded scholarships, schools and museums in Boston and Philadelphia.

Franklin had actually written his epitaph when he was 22: “The body of B. Franklin, Printer (Like the Cover of an Old Book Its Contents torn Out And Stript of its Lettering and Gilding) Lies Here, Food for Worms. But the Work shall not be Lost; For it will (as he Believ'd) Appear once More In a New and More Elegant Edition Revised and Corrected By the Author.” In the end, however, the stone on the grave he shared with his wife in the cemetery of Philadelphia’s Christ Church reads simply, “Benjamin and Deborah Franklin 1790.”

The image of Benjamin Franklin that has come down through history, along with the likeness on the \$100 bill, is something of a caricature — a bald man in a frock coat holding a kite string with a key attached. But the scope of things he applied himself to was so broad it seems a shame. Founding universities and libraries, the post office, shaping the foreign policy of the fledgling United States, drafting the Declaration of Independence, publishing newspapers, warming us with the Franklin stove, pioneering advances in science, letting us see with bifocals and lighting our way with electricity — all from a man who never finished school but shaped his life through abundant reading and experience, a strong moral compass and an unflagging commitment to civic duty. Franklin illumined corners of American life that still have the lingering glow of his attention. He was a true polymath and entrepreneur, which is no doubt why he is often called the “First American.”

Quiz

- 1 Read the following excerpt from the section "Early Life."

By that time, he had formed the "Junto," a social and self-improvement study group for young men that met every Friday to debate morality, philosophy and politics. When Junto members sought to expand their reading choices, Franklin helped to incorporate America's first subscription library, the Library Company of Philadelphia, in 1731.

Which conclusion is BEST supported by this excerpt?

- (A) Franklin's life was characterized by his curiosity and lively intellectual pursuits.
 - (B) Franklin's early interest in morality and philosophy later evolved into more scientifically-minded pursuits.
 - (C) Franklin used his social life as an opportunity to influence popular opinions on American politics.
 - (D) Franklin became interested in entrepreneurship after becoming bored with the philosophical conversations of "Junto."
- 2 Which of the following excerpts from "Public Service" BEST represents Benjamin Franklin's involvement with the American Revolution?
- (A) Franklin became a member of Philadelphia's city council in 1748 and a justice of the peace the following year.
 - (B) He represented Pennsylvania at the Albany Congress, which adopted his proposal to create a unified government for the 13 colonies.
 - (C) Two years later he penned a pamphlet, "Causes of the American Discontents before 1768," and he soon became an agent for Massachusetts, Georgia and New Jersey as well.
 - (D) After voting for independence, Franklin was elected commissioner to France and set sail to negotiate a treaty for the country's military and financial support.

- 3 Which sentence from the article BEST develops a central idea?
- (A) Although James mistreated and frequently beat his younger brother, Ben learned a great deal about newspaper publishing and adopted a similar brand of subversive politics under the printer's tutelage.
 - (B) Franklin returned to Philadelphia in 1726 to find that Deborah Read had married in the interim, only to be abandoned by her husband just months after the wedding.
 - (C) With the cash Franklin earned from his money-related treatise, he was able to purchase The Pennsylvania Gazette newspaper from a former boss.
 - (D) Franklin's passionate denunciation of the tax in testimony before Parliament, however, contributed to the Stamp Act's repeal in 1766.

- 4 Read the first paragraph in the section "Prominent Citizen."

Which of the article's central ideas is BEST supported by this paragraph?

- (A) Franklin had wide-ranging interests including publishing, politics, science and music.
- (B) Franklin's political and personal beliefs evolved over time and he eventually became a vocal advocate of freedom for all.
- (C) Franklin's life included significant successes as well as failures and disappointments.
- (D) Franklin served in a variety of government posts and played a key role at the Continental Congress.

Answer Key

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