

# The Many Accomplishments of Benjamin Franklin

**Electricity:** Benjamin suspected that lightning was an electrical current in nature, and he wanted to see if he was right. One way to test his idea would be to see if the lightning would pass through metal. He decided to use a metal key and looked around for a way to get the key up near the lightning. As you probably already know, he used a child's toy, a kite, to prove that lightning is really a stream of electrified air, known today as plasma. His famous stormy kite flight in June of 1752 led him to develop many of the terms that we still use today when we talk about electricity: battery, conductor, condenser, charge, discharge, uncharged, negative, minus, plus, electric shock and electrician. Benjamin understood that lightning was very powerful, and he also knew that it was dangerous. That's why he also figured out a way to protect people, buildings, and ships from it, the lightning rod.

**Meteorologists:** In 1743, Benjamin observed that northeast storms begin in the southwest. He thought it was odd that storms travel in an opposite direction to their winds. He predicted that a storm's course could be plotted. Benjamin rode a horse through a storm and chased a whirlwind three-quarters of a mile in order to learn more about storms. So, in a way, Benjamin was a weatherman too! He even printed weather forecasts in his almanack. Today's meteorologists don't chase storms on horseback, but they do continue to plot the course of storms.

**Hot Air Balloon Flight:** In November of 1783, Benjamin happened to be in Paris, France working on a peace treaty to end the American war against England. From his hotel window, he was able to watch the world's first known hot air balloon flight. The balloon lifted the Montgolfier brothers off of the ground as the first human beings ever known to fly. Benjamin was very interested in the idea of flight, predicting that one day balloons would be used for military spy flights and dropping bombs during battle. Soon, balloons were actually being used for recreation, military, and scientific purposes. Even though they could not yet be steered, many people volunteered to take a ride just for fun! Sadly, Benjamin Franklin died three years before the first American hot air balloon voyage. In 1793, Jean Pierre Blanchard lifted off from the Walnut Street Prison Yard in Philadelphia, beginning the hot air balloon craze in America.

**Bifocals:** Benjamin had poor vision and needed glasses to read. He got tired of constantly taking them off and putting them back on, so he decided to figure out a way to make his glasses let him see both near and far. He had two pairs of spectacles cut in half and put half of each lens in a single frame. Today, we call them bifocals.

**Bioscience:** Even though Benjamin is not famous for his study of bioscience, he was interested in how the human body works and looked for ways to help it work better. For example, Benjamin's older brother John suffered from kidney stones and Benjamin wanted to help him feel better. Benjamin developed a flexible urinary catheter that appears to have been the first one produced in America.

**Franklin Stove:** In colonial America, most people warmed their homes by building a fire in a fireplace even though it was kind of dangerous and used a lot of wood. Benjamin figured that there had to be a better way. His invention of an iron furnace stove allowed people to warm their homes less dangerously and with less wood. The furnace stove that he invented is called a Franklin stove. Interestingly enough, Benjamin also established the first fire company and the first fire insurance company in order to help people live more safely.



**Odometer:** As postmaster, Benjamin had to figure out routes for delivering the mail. He went out riding in his carriage to measure the routes and needed a way to keep track of the distance. He invented a simple odometer and attached it to his carriage.

**Long Arm:** In his old age, Benjamin retired from business and public service and wanted to spend his time reading and studying. He found, however, that his old age had made it difficult for him to reach books from the high shelves. Even though he had many grandchildren to help him, he invented a tool called a long arm to reach the high books. The long arm was a long wooden pole with a grasping claw at the end.

**Writing and Negotiating:** Benjamin stands alone as the only person to have signed all four of the documents which helped to create the United States: the Declaration of Independence (1776), the Treaty of Alliance, Amity, and Commerce with France (1778), the Treaty of Peace between England, France, and the United States (1782), and the Constitution (1787). He actually helped to write parts of the Declaration of Independence and the Constitution. No other individual was more involved in the birth of our nation.

**Civic Leader:** Benjamin stands alone as the only person to have signed all four of the documents which helped to create the United States: the Declaration of Independence (1776), the Treaty of Alliance, Amity, and Commerce with France (1778), the Treaty of Peace between England, France, and the United States (1782), and the Constitution (1787). He actually helped to write parts of the Declaration of Independence and the Constitution. No other individual was more involved in the birth of our nation.

**Circulating Library:** In 1731, Benjamin founded America's first circulating library so that people could borrow books to read even though they might not have been able to afford to buy books to read. Again, Benjamin wanted to use his printing press to help people understand the world around them.

**Printing Press:** He had many new ideas for publishing and he is known for printing cartoons, illustrated news stories and letters to the editor. He believed in the power of the press, using his printing press as a way to bring the news to all people. He used cartoons and pictures so that everyone could understand the news, even people who had not learned to read

**The Pennsylvania Gazette and Poor Richard's Almanack:** At the age of twelve, Benjamin Franklin first began to learn the business of printing the truth. His older brother James had set up a printing office in Boston and Benjamin learned quickly as an apprentice. By the time Benjamin was seventeen, he was a fully skilled printer able to work in any print shop. With this skill, Benjamin was able to leave Boston and find work in both Philadelphia and London. In 1728, at the age of twenty-two, Benjamin opened his own printing office in Philadelphia. His most famous publications were a newspaper called *The Pennsylvania Gazette* and his annual *Poor Richard's Almanack*.

**A Penny Saved Is A Penny Earned:** Benjamin Franklin never squandered his time, so surely he must have loved life. Benjamin Franklin is remembered as one of America's great thinkers. His ideas and visions helped to lay the foundation for the United States of America as we know it today. He had a clear vision of the way America should be and he spent his time helping to make sure that it would be.

**Armonica:** Benjamin Franklin found simple beauty in simple tunes. He played several musical instruments, including the violin, harp and guitar. His great interest in music led him to build his own glass armonica. This simple musical instrument was played by touching the edge of the spinning glass with dampened fingers. The armonica's beautiful tones appealed to many composers, including Mozart and Beethoven.



**Paper Currency:** Benjamin used his printing skills to print paper money, helping to establish the paper currency system in America. Today, we honor Benjamin's contribution to the economy every time we use a \$100 bill: Benjamin's face appears on it.

**Waste Neither Time Nor Money:** Benjamin Franklin's personal ideas about economy helped to shape our country's economy. We are lucky that they did because Franklin believed that the only true way to wealth was through hard work. This noble idea became the soul of the "American Dream," the idea that all people are created equal and each person has the same opportunity to achieve success.

Information from The Franklin Institute On Line at <http://www.fi.edu/franklin/musician/musician.html>

**Answer Key:**

**Scientist:** Electricity, Meteorologists, Hot Air Balloons

**Inventor:** Bifocals, Bioscience, Franklin Stove, Odometer, Long Arm

**Statesman:** Writing and Negotiating, Civic Leader

**Printer:** Printing Press, The Pennsylvania Gazette and *Poor Richard's Almanack*

**Philosopher:** A penny saved is a penny earned

**Musician:** Armonica

