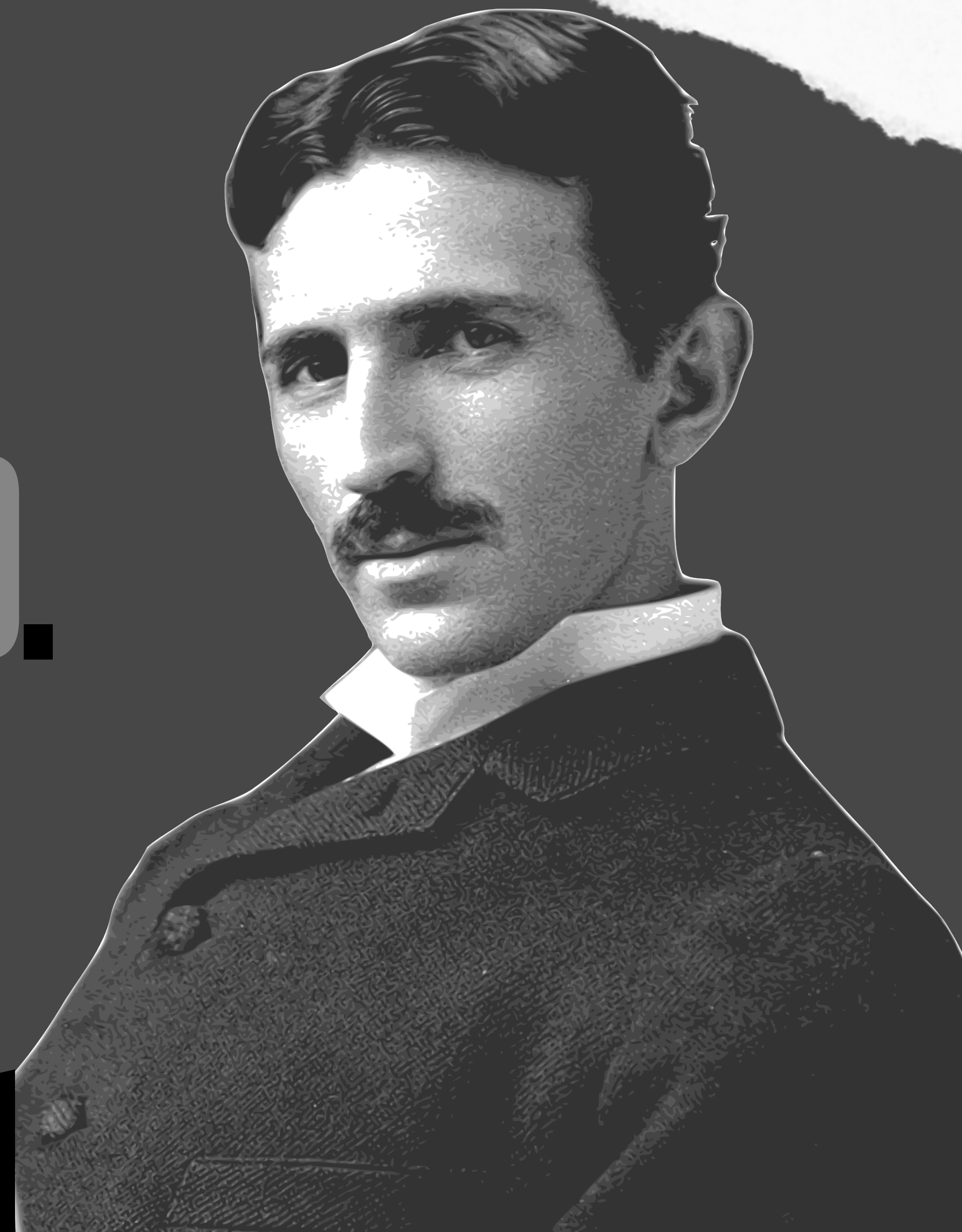


SCIENTISTS WHO CHANGED THE WORLD.

Кокаева Линда 9В



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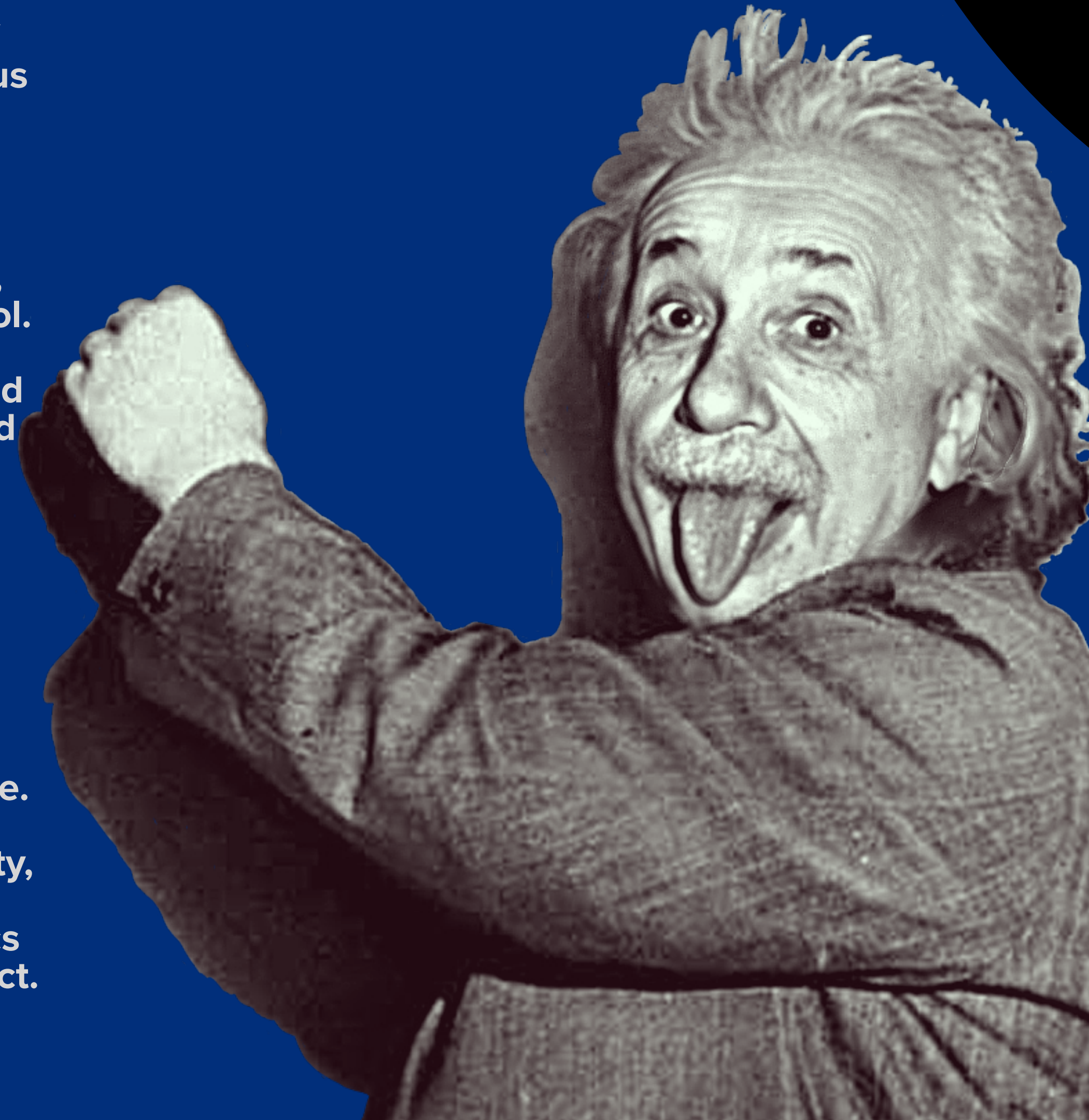
 **Nikola Tesla.**

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 **Carl Linnaeus.**

ALBERT EINSTEIN.

- Who Was Albert Einstein?
- Albert Einstein was a prominent physicist who created the renowned theory of relativity. He was the twentieth century's greatest, most well-known and famous researcher.
- Early Life And Education Of Albert Einstein
- Albert Einstein was born in a Jewish household in Germany on March 14, 1879, and despite initial speech issues, he was indeed a top student in primary school. His dad showed him a portable compass when he was five. He saw something moving the needle of the compass in space, and remarked that the incident had left a “meaningful and profound impression” on him. At twelve, Einstein started grasping logical reasoning and studied Euclidian geometry out of a classroom textbook. He joined the mathematics course at complete ETH after finishing secondary education. He earned a teaching certificate from ETH too.
- Albert Einstein's Contribution In Science
- Einstein took the opportunity to solve the beam light problem he had been fascinated with since he was 16 while employed in the patent office. He eventually formulated the hypothesis of relativity based on his deep knowledge. He also published four publications in 1905 that changed the direction of physics. Several scientists attempted to work on the Theory of Special Relativity, but Einstein was the first to bring it all together. Both tactics earned him international acclaim and respect. Albert Einstein got the Nobel Prize in Physics for his study of the Photoelectric Effect, which won him prominence and respect.





MARIE CURIE

Introduction.

Marie Curie was a Polish-French scientist who won two Nobel prizes. Her work focused on radioactivity, which is a property of some chemical elements. (Radioactive elements give off unending rays of energy.)

Curie helped to discover two radioactive elements, polonium and radium. She also successfully isolated, or separated, radium from the rock in which it is found. Science, medicine, and industry soon found important uses for these elements.

Early life.

Marie Curie was born Maria Salomea Skłodowska on November 7, 1867. She was born in Warsaw, Poland, which was then under Russian rule. Her parents were teachers who valued education. But women in Poland could not get university degrees. So, Maria and her sister, Bronislawa, saved enough money to study in France. In 1891 Maria entered the Sorbonne, a university in Paris. She began calling herself Marie.

Within three years, Marie completed degrees in physics and math. She began working with a French scientist, Pierre Curie, whom she married in 1895. The Curies had two daughters, Irène and Ève.

Career.

In 1896 a French scientist named Henri Becquerel discovered the unusual rays of energy given off by the element uranium. Marie began studying the phenomenon, which she named radioactivity. In 1898 the Curies announced their discovery of radium and polonium. They named polonium after Marie's homeland of Poland. In 1903 the Curies shared the Nobel Prize for Physics with Becquerel.

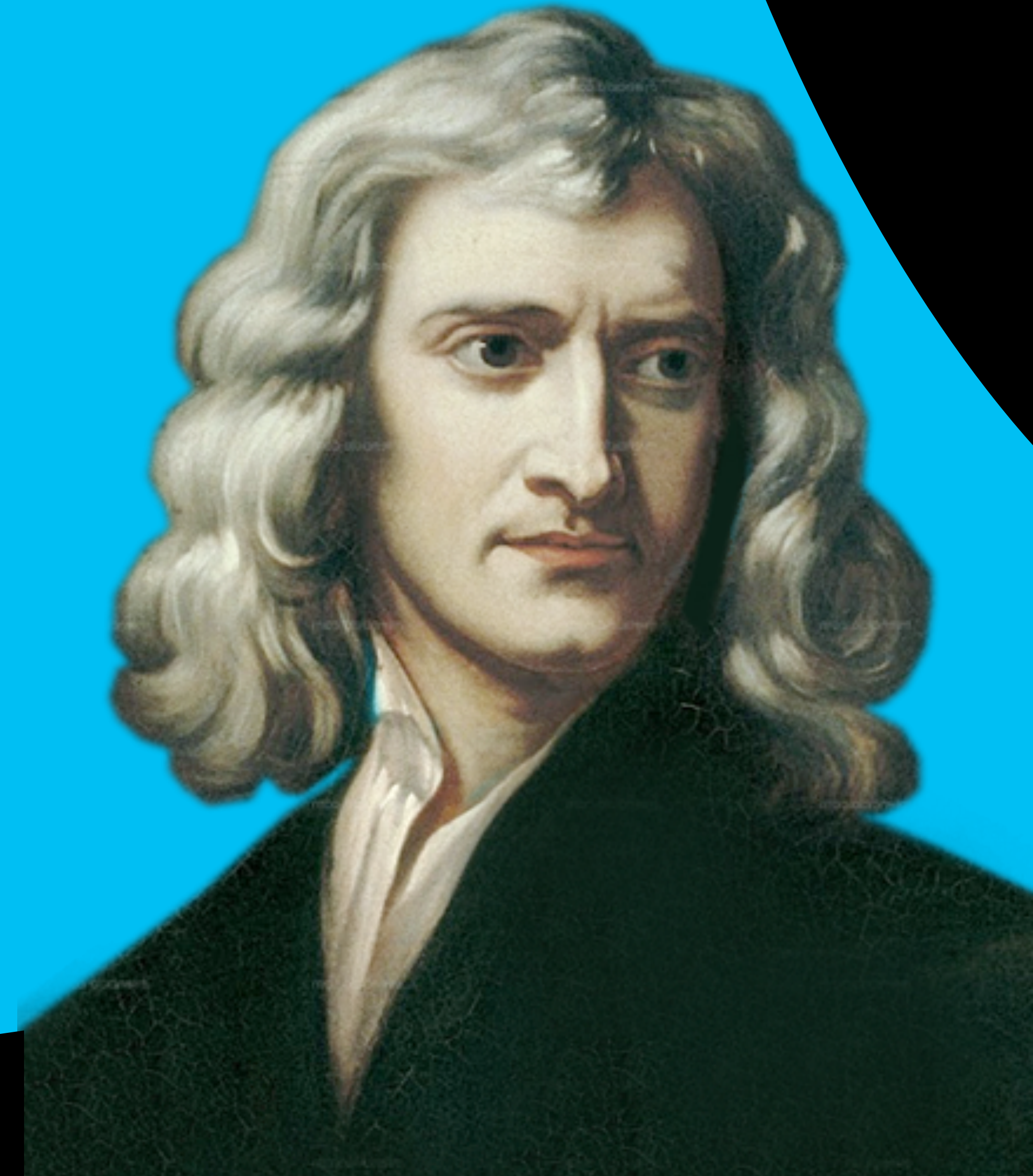
After Pierre died in 1906, Marie carried on their research. She also became the first woman professor at the Sorbonne. In 1911 she won the Nobel Prize for Chemistry for isolating pure radium.

During World War I, Marie helped to build a car that carried X-ray equipment to doctors treating wounded soldiers. After the war, Marie continued her study of radioactive substances and their use in medicine. Her Radium Institute in Paris became an important center of scientific research.



ISAAC NEWTON.

- Who was Isaac Newton?
- Sir Isaac Newton contributed significantly to the field of science over his lifetime. He invented calculus and provided a clear understanding of optics. But his most significant work had to do with forces, and specifically with the development of a universal law of gravitation and his laws of motion.
- Early life.
- Isaac Newton was born on Christmas Day to a poor farming family in Woolsthorpe, England, in 1642. Isaac Newton arrived in the world only a few months after his father, Isaac Newton Sr, had died. "The boy expected to live managing the farm in the place of the father he had never known," wrote James Gleick in "Isaac Newton" (Vintage, 2004). However, when it became clear a farming life was not for him, Newton attended Trinity College in Cambridge, England. In 1689, Newton was elected as a member of parliament for the university. In 1703, he was elected as president of the Royal Society, a fellowship of scientists that still exists today. He was knighted by Queen Anne in 1705. He never married.
- Contribution to science.
- Sir Isaac Newton contributed significantly to the field of science over his lifetime. He invented calculus and provided a clear understanding of optics. But his most significant work had to do with forces, and specifically with the development of a universal law of gravitation and his laws of motion.





CHARLES DARWIN.

What did Darwin do?

Charles Darwin was an English scientist who studied nature. He is known for his theory of evolution by natural selection. According to this theory, all living things are struggling to survive. The living things that have the most helpful traits for their environment tend to survive. These living things then pass along their helpful traits to their young. In this way, animals change, or evolve, over hundreds of years. He described his ideas in his important book, *On the Origin of Species by Means of Natural Selection* (1859).

Early life.

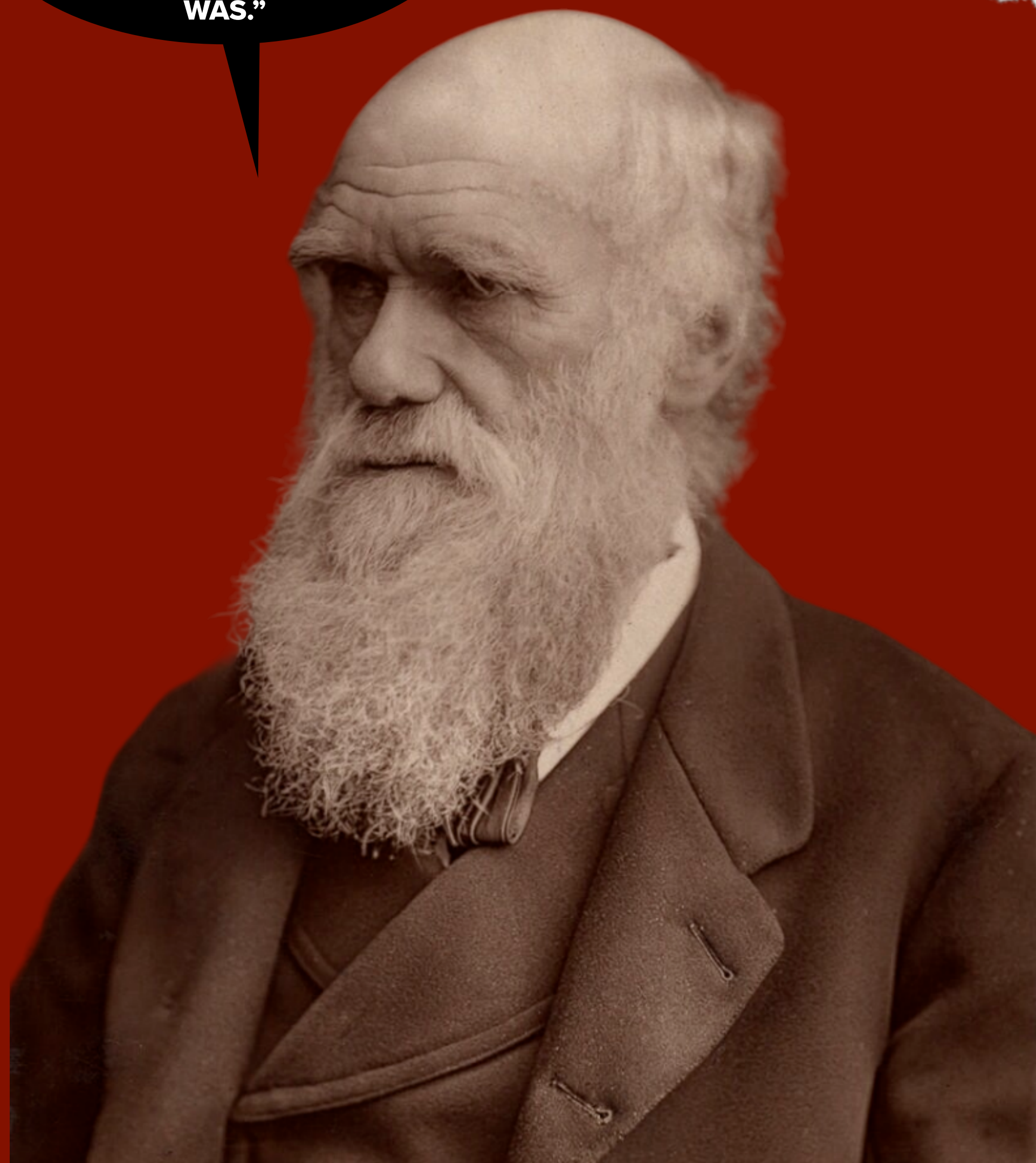
Charles Robert Darwin was born on February 12, 1809, in Shropshire, England. He did poorly throughout school. Nevertheless he attended the University of Edinburgh and the University of Cambridge. A professor at Cambridge encouraged Charles's interest in natural history.

World changing contribution to science.

In 1831 Darwin joined an expedition to explore the coasts of South America. On December 27, 1831, Darwin and the others set sail on the HMS Beagle. Darwin's goal was to study the natural history of the areas they were to explore. The observations he made during the five-year trip led him to wonder how new species developed. To explain this process Darwin formed his theory of natural selection.

Darwin first presented his theory in 1858. The idea of evolution was not new then, but Darwin's theory explained how evolution occurred. When Darwin published *On the Origin of Species* in 1859, the book was an immediate success. However, it was not popular with people who believed that God created everything in the world all at one time. He continued writing about his theory in several other books. Charles Darwin died on April 19, 1882.

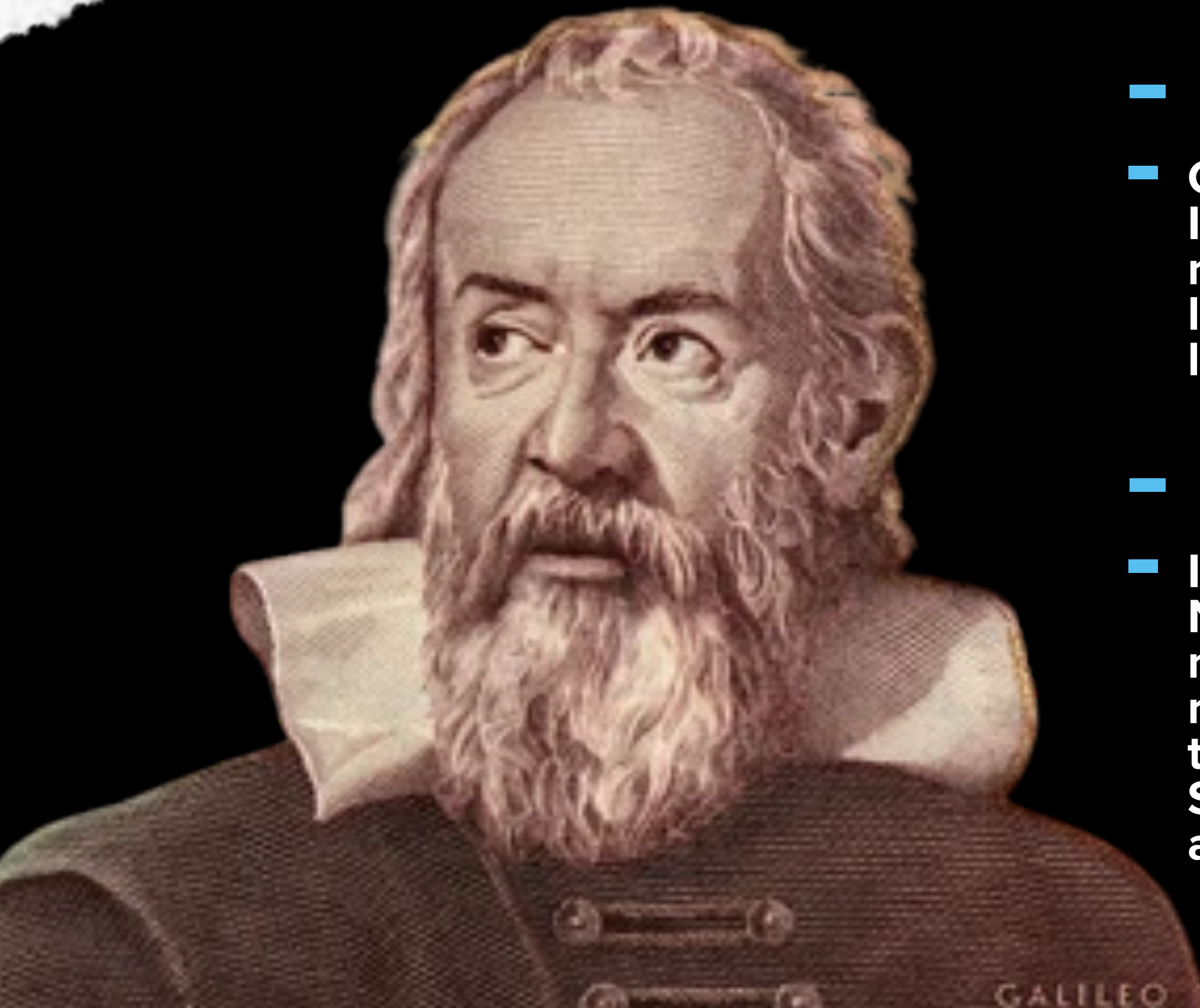
A
GENTLE MAN, DARWIN
WAS ONCE CALLED "THE
DEAREST, SWEETEST, LOVELIEST
OLD GRANDPA THAT EVER
WAS."

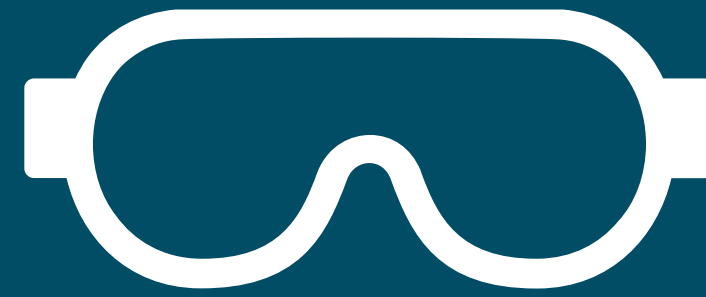




GALILEO GALILEI.

- Introduction.
- Galileo has been called the founder of modern science. He was one of the first people to examine the heavens with a telescope. He also made breakthrough discoveries in the study of motion. Galileo Galilei, who is generally known by his first name, was born in Pisa, Italy, on February 15, 1564. He entered the University of Pisa to study medicine but later switched to mathematics.
- Early work.
- Galileo was interested in studying the effect of forces on the motion of bodies. In the Cathedral of Pisa he observed a chandelier swaying back and forth. He realized that it took the same time for each swing, whether the swings were large or small. This discovery became known as the law of the pendulum. It led to the use of the pendulum to keep track of time.
- Use of the telescope.
- In about 1609 Galileo learned of the invention of the telescope in the Netherlands. He later built his own version. The telescope allowed Galileo to make discoveries about space. On January 7, 1610, he discovered four moons revolving around the planet Jupiter. In his honor, these bodies are known as the Galilean satellites. Discoveries Galileo made provided evidence that the Sun is the center of the solar system. Nicolaus Copernicus, another famous astronomer, had put forth this theory in 1530.





NIKOLA TESLA.

**DID YOU KNOW?
NIKOLA WAS
BORN DURING A
THUNDER
STORM.**

Introduction.

Nikola Tesla was a brilliant scientist and inventor. His work with electricity led to many advances in communication and technology.

Early life.

Nikola Tesla was born on July 9 or 10, 1856, in Smiljan, Austria-Hungary (now Croatia). His parents were Serbian. Nikola was an excellent student who easily memorized books and solved math problems. He studied electricity in college.

Career.

In 1880 Tesla graduated from the University of Prague. In 1882 Tesla discovered a type of current, or flow of electricity. It was different from the type being used in the world's first two electric power stations, which opened that year. Both stations used direct current (DC), which could not change direction. However, Tesla's alternating current (AC) could. Tesla built his first AC motor in 1883.

In 1884 Tesla moved to the United States. He worked for the renowned inventor Thomas Edison. Unlike Tesla, Edison preferred DC to AC. After two years Tesla left Edison's laboratory.

In 1887 Tesla opened a laboratory in New York City. The next year he sold his AC idea to George Westinghouse, head of Westinghouse Electric Company. By 1891 he had invented the Tesla coil, which was widely used for many years in radios, television sets, and other electronic equipment. Tesla became a U.S. citizen in 1891.

In 1893 AC power was used to light the World's Columbian Exposition in Chicago. People started to agree that AC worked better than DC over distances. By 1896 Tesla and Westinghouse had constructed an AC power station that was driven by the energy of Niagara Falls.

In 1899 Tesla conducted many experiments from a laboratory in Colorado. He demonstrated that electricity could be sent without wires. In 1905 Tesla lost support to construct a wireless communication tower. That idea and many of his others were never realized in his lifetime.

Tesla died in New York City on January 7, 1943. The Nikola Tesla Museum in Belgrade, Serbia, was founded in his honor.





ROSALIND FRANKLIN.

- Who was Rosalind Franklin?
- Rosalind Franklin was a British scientist. She made important contributions to the discovery of the structure of DNA. DNA is the material that carries all the information about how a living thing will look and function.
- Early life.
- Rosalind Elsie Franklin was born on July 25, 1920, in London, England. She attended Saint Paul's Girls' School before studying chemistry at Newnham College, Cambridge. She graduated in 1941. During World War II (1939–45), she researched the chemistry of carbon and coal for the war effort. She used this research to earn a doctoral degree, which she received in 1945.
- Career.
- After the war Franklin worked in Paris, France. There she conducted research on carbons using X-ray diffraction. X-ray diffraction allows scientists to find out how the tiny molecules that make up a material are arranged.
- In 1951 Franklin moved back to London. She continued her research with X-ray diffraction, but this time she investigated the structure of DNA. Her work laid the foundation for the discoveries made by two scientists named James Watson and Francis Crick. They were awarded a Nobel Prize for discovering that DNA is shaped like a double helix, or a twisted ladder.
- From 1953 until her death on April 16, 1958, Franklin worked at Birkbeck College in London. At Birkbeck she researched the molecular structure of a particular virus.





CARL LINNAEUS.

Introduction.

Carolus Linnaeus was a Swedish naturalist. He created two scientific systems: the system for classifying plants and animals and the system for naming all living things. Linnaeus is also called the Father of Systematic Botany. Botany is the study of plants.

Early life.

Carl Linnaeus was born on May 23, 1707, in Rashult, Sweden. He later adopted the Latin form of his first name. Linnaeus developed an interest in plants and animals at a young age. He was nicknamed “the little botanist” when he was 8 years old. In 1727 he began studying medicine. From 1730 to 1732 he was able to pay for his classes at Uppsala University by teaching botany in the university garden.

In 1732 he was sent on a 5,000-mile (8,000-kilometer) botanical survey of Lapland (a region of northern Europe mostly within the Arctic Circle). The results of this journey were published in *Flora Lapponica* in 1737.

Career.

Linnaeus earned a medical degree in 1735 at a university in Holland. In Holland, Linnaeus was made director of a large botanical garden. Over the next few years he published *System Naturae* (“System of Nature”) and *Genera Plantarum* (“Species of Plants”). There were many editions of both works.

In *Systema Naturae* Linnaeus presented a classification of three kingdoms of nature: stones, plants, and animals. Each kingdom was subdivided into classes, orders, genera, species, and varieties. This system is still used in biology, though it has been revised over the years. In *Genera Plantarum* Linnaeus presented a system that classified plants based on the form and structure of the plants.

Linnaeus’s most-lasting achievement was the creation of the binomial (two-name) classification system. In this system, each living thing is assigned a name consisting of two Latin words. The first word is the genus to which the subject belongs. The second name is the specific species within that genus. For example, the human species is known as *Homo sapiens*.

Linnaeus returned to Stockholm in 1738. In 1742 he was appointed to a position in the botany department at Uppsala. He spent the rest of his career there.



**“EVERYTHING IS THEORETICALLY
IMPOSSIBLE UNTIL IT IS DONE.”**

– ROBERT A. HEINLEIN



That's all Folks!