

# The life and accomplishment of madam curie: her contribution to science

[Psychology](#), [Success](#)



Marie "Madame" Sklodowska, also known as Madam Curie, was a French chemist, born November 7, 1867 in Poland. Her early years were known to be sorrowful, losing her mother and a sister, Marie was an early pioneer in the field of radiology, as well as winning two Nobel prizes and founding the Curie Institutes in Paris and Warsaw, she was noted for her diligent work ethic, she turned down food and sleep in order to study. ([www. spaceandmotion. com/physics-marie-curie-biography. htm](http://www.spaceandmotion.com/physics-marie-curie-biography.htm)) As a child Marie learned to read at four years old, people were amazed with her memory at such a young age. Her father, was a scientist who kept his instruments in a glass case, these instruments intrigued young Marie. Marie, at an early age wanted to become a scientist, but her dream would be difficult to accomplish due to her family being poor. At the age of eighteen, in order for her surviving sister to study in Paris, Marie became a governess to help with the financials. In return for helping her elder sister, Bronya financially, Bronya agreed to repay Marie by contributing to the cost of her studies after obtaining her own degree. ([inventors. about. om/library/inventors/blMarieCurie. htm](http://inventors.about.com/library/inventors/blMarieCurie.htm)) At the age of twenty-four, and with the urging of her sister, Marie moved to Paris to study chemistry and physics at the Sorbonne. With her impressive work in physics Marie managed to win a scholarship, also because of her work she was paid by the Society of Encouragement of National Industry to investigate the magnetic properties of different steels. It was this that led Marie Sklodowska to Pierre Curie, for her work with metals she needed a lab and Pierre agreed to let Marie use his lab for her work.

Pierre had made important discoveries on magnetism and crystals, and with the encouragement of Marie he wrote up his findings and got a Running Head: Life and Accomplishments of Madam Curie doctorate degree which promoted him to a professor. (<http://www.spaceandmotion.com/physics-marie-curie-biography.htm>) In July of 1895 Marie and Pierre married, Marie completed her research on the magnetic properties of steels two years later. In September of 1897 shortly before giving birth to her daughter Marie submitted her final results on her study.

It was after the birth of her daughter Irene; Marie began looking for research that would earn her a doctorate degree, something no other women in the world had completed. It was then that Pierre and Marie together studied radioactive materials, mostly uranium ore pitchblende. This ore strangely was more radioactive than uranium that was extracted from it; by 1898 the two had deduced a logical explanation. This explanation was that the pitchblende contained traces of some unknown component that was radioactive.

It was on December 26th 1898 that Marie announced the existence of the new substance; she stated " I then made the hypothesis that the ores uranium and thorium contain in small quantity a substance much more strongly radioactive than either uranium or thorium. This substance could not be one of the known elements because these had already been examined: it must therefore, be a new element. " (Marie Curie, from Pierre Curie pp. 96-98) ([www.spaceandmotion.com/physics-marie-curie-biography.htm](http://www.spaceandmotion.com/physics-marie-curie-biography.htm)) Several years passed and Marie and Pierre never stopped their labor,

<https://assignbuster.com/the-life-and-accomplishment-of-madam-curie-her-contribution-to-science/>

they refined several tons of pitchblende, concentrating the radioactive components, initially isolating the chloride salts and two new elements. They named one of the new elements after Poland, Marie's native land and the other was named uranium after its radioactivity. With their breakthrough discovery, other scientists did not believe them due to the amount of polonium and radium was so little that it could not be seen or weighed, only their radioactivity made them known. It was then the Running Head: Life and Accomplishments of Madam Curie

Curie's knew they had to separate their elements from their substances they were mixed with, For this they had to continue their work in an abandoned shed near the school. ([www. spaceandmotion. com/physics-marie-curie-biography. htm](http://www.spaceandmotion.com/physics-marie-curie-biography.htm)) Soon after their move to the shed Industrial Industries helped the Curies by providing additional lab space, raw materials and support staff, thus grew a thriving industry. Radium was used by other scientists for experiments on atoms. This confirmed what Marie had suspected, that the powerful energy showed in radioactivity was a fundamental property of every atom.

In 1903 Marie, Pierre Curie and Henri Becquerel were all awarded the Nobel Prize in physics, " in recognition of the extraordinary services they have rendered by their joint researches on the radiation phenomena discovered by Professor Henri Becquerel" ([www. spaceandmotion. com/physics-marie-curie-biography. htm](http://www.spaceandmotion.com/physics-marie-curie-biography.htm)) After working in the lab one morning in 1906 Pierre Curie was walking to a library when he slipped and fell into the path of an oncoming heavy horse-drawn wagon. The wagon ran over his head, instantly

killing him. After his death Marie was offered his position as professor, no woman before had held such position, and she accepted.

In Pierre's memory Marie decided to establish a scientific institution worthy of such honor, it was with the help of her staff that they persuaded the French government to and private Pasteur Foundation to fund Radium Institute. ([www. spaceandmotion. com/physics-marie-curie-biography. htm](http://www.spaceandmotion.com/physics-marie-curie-biography.htm))

In 1911 Marie was awarded her second Nobel prize in Chemistry. " in recognition of her services to the advancement of chemistry by the discovery of the elements radium and polonium by the isolation of radiation and the study of the nature and compounds of the element" Not only was Marie the first female professor of Sorbonne she was also the first woman to receive two Nobel prizes.

Some scientists disagreed with Marie winning the prize again, stating that the discovery of the elements were part of the first prize in 1903. Thus saying she had won two prizes for the same discovery, and it was more out of sympathy than anything. This was ignored; most chemists considered that the discovery and isolation of radium was the greatest event in chemistry since the discovery of oxygen. ([nobelprize. org/nobel\\_prizes/physics/articles/curie/](http://nobelprize.org/nobel_prizes/physics/articles/curie/))

During the first a World War, most of Marie's staff had enlisted, so scientific research was forced to halt, so Marie looked for ways she could help with science. She then publishes new uses for mobile radiography units; they would be used for the treatment of wounded soldiers. These mobile units were powered using tubes of radium emanation.

This colorless radioactive gas would later be identified as radon. Marie personally milked the radium and filled the tubes. (www. spaceandmotion. com/physics-marie-curie-biography. htm)

Marie trained women in simple x-ray technology, and was a driver for one of the vans that located metal splinters. And sometimes found herself giving lessons to doctors in geometry. After the war most of her time was spent raising money for the Radium Institute. (nobelprize.

org/nobel\_prizes/physics/articles/curie/) Marie Curie died July 4th 1934 from aplastic pernicious anemia, which is a disorder in which the bone marrow greatly decreases or stops production of blood cells. It's believed it is almost certainly due to her massive exposure to radiation throughout her work.

Her daughter. Running Head: Life and Accomplishments of Madam Curie  
Irene won a Nobel Prize in Chemistry in 1935, a year after her mother's death. Marie's younger daughter, Eve wrote her biography after her death. (www. spaceandmotion. com/physics-marie-curie-biography. htm) Marie "Madame" Curie was essential to the discovery of radium and polonium. If it was not for her and her husband Pierre Curie, radiology would not be what it is today. Without her studies who knows how long it would have taken for another scientist to discover the two elements. It is thanks to Marie Curie that we are as far advanced in radiology that we are.

## **References**

[nobelprize.org/nobel\\_prizes/physics/articles/curie/](http://nobelprize.org/nobel_prizes/physics/articles/curie/)

[www.spaceandmotion.com/physics-marie-curie-biography.htm](http://www.spaceandmotion.com/physics-marie-curie-biography.htm)

[inventors.about.com/library/inventors/blMarieCurie.htm](http://inventors.about.com/library/inventors/blMarieCurie.htm)