A Radioactive Revolution:

Marie Curie's Legacy

Sarah Ramzan

Sarah Yun

Junior Division

Group Website

Student-Composed Words: 1200

Process Paper Words: 500

Media Length: 2:38

Annotated Bibliography

Primary Sources

"Alexander II, Czar of the Russian Empire." St. James Encyclopedia of Labor History Worldwide, edited by Neil Schlager, vol. 1, St. James Press, 2004. Gale In Context: World History,

https://link-gale-com.access-proxy.sno-isle.org/apps/doc/PC3408987003/GPS?u=sirls_m ain&sid=GPS&xid=1b924d31. Accessed 27 Jan. 2020.

This photograph depicts Alexander II, the Czar of Russia, who ruled over Poland during Marie Curie's childhood. He is wearing a uniform similar to what most Russian officers wore, showing a facet of their precise, strict focus on order, which many Polish people despised. This gave us a glimpse of Alexander II's oppressive rule.

Associated Press. "Mme. Marie Curie, Famous Co-Discoverer of Priceless Radium, Dies in France at 66." *Winnipeg Tribune* [Winnipeg], 4 July 1934. *Newspapers.com*, www.newspapers.com/clip/26454270/winnipeg_tribune_winnipeg_manitoba/. Accessed 1 Feb. 2020.

This newspaper article showed us that the public was shaken by Marie Curie's death and her work touched many people. Her legacy continues past her death, giving us an understanding of the monumental impact Marie made on society.

Bronislawa Boguska-Sklodowska (1836-1878), Maria's mother. 1860. PSL Universite Paris, Universite PSL,

explore.psl.eu/en/discover/virtual-exhibits/marie-curie-1867-1934/warsaw-paris-1867-18 91. Accessed 2 Feb. 2020.

This image depicts Marie Curie's mother dressed in a black dress with a white collar and ruffles on her sleeves. She has a calm expression on her face while she poses on a chair, her arm resting on a table. It provided us with a visual of Marie's mother.

"Cartoon Depicting the Partitioning of Poland." *Gale World History Online Collection*, Gale, 1772. *Gale in Context: World History*,

https://link-gale-com.access-proxy.sno-isle.org/apps/doc/QGOWMP013093952/WHIC?u=sirls_main&sid=WHIC&xid=daba967d. Accessed 27 Jan. 2020.

This cartoon is a parody of the Partitioning of Poland in the late 1700s, where Poland was split up between Russia, Prussia, and Austria. It portrays the king of Poland attempting to hold on to his crown while the leaders of Prussia, Russia, and Austria split

apart a map of Poland. This showed us how the Polish people, like Marie Curie's family, struggled to hold on to their culture and traditions. We used it to give a visual suggestion for what her childhood was like.

"Chemist Marie Curie, Circa 1911." *Gale Biography Online Collection*, Gale, 2010. *Gale In Context: Biography*,

https://go-gale-com.access-proxy.sno-isle.org/ps/i.do?p=GPS&u=sirls_main&id=GALE| PC4295800825&v=2.1&it=r&sid=BIC&asid=0f07fb79. Accessed 23 Jan. 2020.

This photo portrays Marie Curie in her laboratory, which was very simple and small. Marie is wearing a dark dress so any stains from her experiments do not show up. This shows how she did not need an extravagant, spacious workspace in order to be successful and that she was still able to make revolutionary discoveries. It provides a glimpse into the environment Marie spent so much time doing research in.

Chlebowski, Stanislaus von. *Polish insurrectionists of the 1863 rebellion, 1860-1869.* 1863. *ArtNet*,

www.artnet.com/artists/stanislaus-von-chlebowski/polish-insurrectionists-of-the-1863-re bellion-4Vx5uwOX j -qsk-paP XQ2. Accessed 2 Feb. 2020.

This website contains an image of a painting by Stanislaus von Chlebowski that depicts one of the many Polish rebellions. During this time, Russia controlled and oppressed a part of Poland, which angered many Poles. They rebelled against their rulers several times, but to no avail. This shows the political situation Marie Curie grew up in and helped us understand what her childhood was like under Russian rule.

Corcuera, Bob. *Exploring History*. Exploring History.

This website contains images that depict the Partitions of Poland in a detailed way that shifted our perspective of the impact it had on Marie's life. The pictures include a cartoon and a protest that furthered our understanding of the event.

Curie, Eve. *Madame Curie: A Biography*. Translated by Vincent Sheean, 2nd ed., Da Capo Press, 2001.

This book, a biography of Marie Curie written by her daughter, provides some firsthand information of Eve's interactions and experiences with her mother. Eve chronicles Marie's determination to succeed despite the number of people who told her she could not. Even from a young age, Marie encountered many barriers, but found a way to rise over them. This showed us Marie's perseverance in the face of adversity, with an insight to what she was like from a person who had a close relationship with her.

Curie, Marie. *Pierre Curie*. Translated by Charlotte Kellogg and Vernon Kellogg, New York, Macmillan, 1923.

This book is a biography of Pierre Curie written by Marie Curie, along with some autobiographical notes by Marie. It was an excellent source for quotes that provided a firsthand glimpse into what Marie and Pierre's life was like. Marie talks about her husband and includes details from her life, which gave us an idea of what Marie was thinking and feeling when she conquered the barriers she faced. She talks about her family and her career with a degree of affection, which showed us the level of importance both those things had in her life.

Curie, Marie. "Radium and the New Concepts in Chemistry." 11 Dec. 1911. *NobelPrize.org*, Nobel Media AB, www.nobelprize.org/prizes/chemistry/1911/marie-curie/lecture/. Accessed 25 Jan. 2020. Lecture.

This lecture by Marie Curie herself gave us some knowledge into the scientific aspect of her work. She talks about her pioneering research in the field of radioactivity, which allowed scientists to predict dozens of new elements. These predictions were largely based on the hypotheses Marie made, which even today are some of the fundamental properties of radioactivity. This shows Marie's lasting impact in science.

An 1896 X-ray by Wilhelm Roentgen. 15 June 2009. The New York Times, www.nytimes.com/2009/06/16/health/16firs.html. Accessed 5 Feb. 2020.

This website contains a picture that depicts the first X-ray, taken by Wilhelm Roentgen. Marie was inspired by his work, and wrote her doctoral thesis on a closely related topic, which led her to make her discoveries. This gave us an understanding of what encouraged Marie's research and how she was inspired.

Harrow, Benjamin. "One of an Immortal Pair: Mme. Curie on the Struggles of a Scientist." *The New York Times* [New York], 6 Jan. 1924. *ProQuest Historical Newspapers*, search-proquest-com.access-proxy.sno-isle.org/hnpnewyorktimes/docview/103416857/66 09AEAAB4B2423DPQ/2?accountid=1168. Accessed 7 Feb. 2020.

This newspaper article talks about Marie Curie's life along with some analysis from the author that shows one of the perspectives people at the time had of Marie Curie. Also, it contains some context about science at the time and how Marie broke those barriers. This gave us a glimpse of what society was like during Marie's time.

"A Honeymoon Glimpse of Marie and Pierre Curie." *Gale World History Online Collection*, Gale, 2012. *Gale In Context: World History*,

https://go-gale-com.access-proxy.sno-isle.org/ps/i.do?p=WHIC&u=sirls_main&id=GAL E|MOYOOX013328635&v=2.1&it=r&sid=WHIC&asid=1d5aeb45. Accessed 5 Feb. 2020.

This photo depicts Marie and Pierre Curie on their honeymoon. The couple poses with bicycles, which they used for several days to go cycling along northwestern France. It gave us an idea of the type of relationship Marie and Pierre had.

Irène Joliot-Curie. Nobel Prize.org, Nobel Media AB,

www.nobelprize.org/womenwhochangedscience/stories/irene-joliot-curie. Accessed 6 Feb. 2020.

This website contains a picture of Marie Curie working with her daughter Irene at the Radium Institute, which was a research center Marie founded for the study of radioactivity. The Radium Institute still exists today and focuses on fighting cancer. Irene followed in her mother's footsteps and later got a Nobel Prize for discovering artificial radioactivity. This shows how Marie made an impact in science by inspiring others to continue her work.

Letter from Marie Curie to President Herbert Hoover. 3 Nov. 1929. DocsTeach, www.docsteach.org/documents/document/letter-from-marie-curie-to-president-herbert-ho over. Accessed 5 Feb. 2020.

This picture depicts a letter that Marie Curie wrote to President Herbert Hoover, thanking him for welcoming her into the White House. He presented her with 50,000 dollars, raised by some American women, to buy a gram of radium which would help her in her research. This is important in showing the support and honor she received throughout her lifetime of work.

"Marie Curie." *Gale Science Online Collection*, Gale, 2018. *Gale In Context: Science*, https://go-gale-com.access-proxy.sno-isle.org/ps/i.do?p=SCIC&u=sirls_main&id=GALE| FKGIWM421511988&v=2.1&it=r&sid=SCIC&asid=71e3e395. Accessed 27 Jan. 2020.

This picture portrays Marie Curie posing by a desk, wearing a dark dress that would not show stains from her work in her laboratory. This gave us an idea of how Marie's research influenced aspects of her life, such as the way she dressed.

Marie Curie. NobelPrize.org,

www.nobelprize.org/womenwhochangedscience/stories/marie-curie. Accessed 4 Feb. 2020.

This website contains several images that depict various events in Marie Curie's life. They provide a glimpse into Marie's family, laboratory, and discoveries. This helped show us the broad variety of things Marie did. We were able to see Marie working and interacting with her family and students, which helped us visualize our topic.

Marie Curie - Documentary. *NobelPrize.org*, Nobel Media AB, www.nobelprize.org/prizes/physics/1903/marie-curie/documentary/. Accessed 4 Feb. 2020.

This website contains two videos of Marie Curie, one of her working in her laboratory and one of her visiting President Warren Harding. We were able to see what Marie's laboratory looked like and what type of equipment she used. Also, we saw the recognition Marie received from her research, and how various people honored her discoveries. She received a gram of radium from several American women, which showed us how many people were inspired by Marie.

Marie Curie Herbert Hoover. 30 Oct. 1929. Sioux City Journal, siouxcityjournal.com/marie-curie-herbert-hoover/image_c4f00c4e-0d7b-5bb1-8268-f6feb 9a9188b.html. Accessed 5 Feb. 2020.

This photo depicts Marie Curie standing with President Herbert Hoover after receiving \$50,000 to purchase a gram of radium for a cancer research hospital. This showed us the recognition people gave Marie.

"Marie Curie in Her Laboratory." *History of Modern Science and Mathematics*, edited by Brian S. Baigrie, Charles Scribner's Sons, 2002. *Gale in Context: Science*, https://go-gale-com.access-proxy.sno-isle.org/ps/i.do?p=SCIC&u=sirls_main&id=GALE| CV2210064103&v=2.1&it=r&sid=SCIC&asid=afb58536. Accessed 22 Jan. 2020.

This image depicts Marie Curie in her laboratory, providing a visual for her workspace. Her laboratory is where she made all her remarkable discoveries, but it was not very big or extravagant. This shows that Marie just had a deep, innate passion for science, no matter what type of workspace she was in. It is interesting to see the setting she worked in and the materials she worked with, which made it ideal for the photograph on our homepage.

Marie Curie Nobel diploma. 1911. NobelPrize.org, Nobel Media AB, https://www.nobelprize.org/prizes/chemistry/1911/marie-curie/diploma/. Accessed 5 Feb. 2020.

This photo depicts Marie Curie's Nobel Diploma for winning the 1911 Nobel Prize for chemistry. She got the full share of the prize in recognition of discovering radium and polonium. This showed us one of the greatest honors Marie's research earned her.

Marie Curie - Photo gallery. *NobelPrize.org*, Nobel Media AB, www.nobelprize.org/prizes/physics/1903/marie-curie/photo-gallery/. Accessed 1 Feb. 2020.

This website contains several pictures of Marie Curie. It gave us a visual of different events in her life and we used them in our website to allow the reader to see some of the things we describe, which include her family and work life.

"Marie Curie receives ACR Gold Medal." *YouTube*, uploaded by RadiologyACR, 16 Oct. 2013, www.youtube.com/watch?v=hZEaqsXNROU. Accessed 6 Feb. 2020.

This video shows Marie Curie receiving the ACR Gold Medal and a short thank you she gives to the audience. It is the only known video of Marie talking. This gave us an idea of what it was like for Marie to receive a multitude of medals and awards.

Nelson, Francis. "The Mother of Radium." *Syracuse Herald* [New York], 27 Nov. 1927. *Ancestry*, blogs.ancestry.com/ancestry/2018/03/10/timeless-marie-curie-and-wwi/. Accessed 7 Feb. 2020.

This newspaper article was an insightful image that provided us with a better understanding of how the public viewed Marie Curie. She was very successful in her work and people recognized and commemorated that.

"A New Life in Paris (1891-1897)." *PSL Universite Paris*, Universite Paris, explore.psl.eu/en/discover/virtual-exhibits/marie-curie-1867-1934/new-life-paris-1891-18 97. Accessed 5 Feb. 2020.

This website contains pictures of Marie and Pierre Curie's laboratory where they worked with radioactivity and discovered two new elements. It was sparse and small, which gave us insight into how they were able to do so much with so little.

The Pantheon, Paris, France. 1890. Library of Congress, www.loc.gov/item/2001698512/. Accessed 6 Feb. 2020.

This picture depicts the Pantheon, where Marie Curie is buried. It is a great honor to be buried there, and Marie was the first woman to achieve this in recognition of her own work. This showed us how people remembered Marie even after she died and how her legacy still lives.

Parents de Marie Curie. Geneanet,

gw.geneanet.org/titeufs6?lang=en&n=boguska&oc=0&p=bronislawa+marianna. Accessed 2 Feb. 2020.

This image shows Marie Curie's parents, who raised and educated Marie and her four siblings. It gave us a visual of what her parents, both talented individuals who Marie spoke very fondly of, looked like.

"Pierre Curie." *Gale Science Online Collection*, Gale, 2004. *Gale In Context: Science*, https://go-gale-com.access-proxy.sno-isle.org/ps/i.do?p=SCIC&u=sirls_main&id=GALE| CV2645800297&v=2.1&it=r&sid=SCIC&asid=4bf1dc57. Accessed 5 Feb. 2020.

This picture depicts Pierre Curie, Marie Curie's husband. She describes him very affectionately, so this picture helped us visualize what Pierre looked like and if he compared to her descriptions of him.

Pres. Harding & Marie Curie, 5/20/21. 20 May 1921. Library of Congress, www.loc.gov/item/2016830411/. Accessed 1 Feb. 2020.

This picture depicts Marie Curie standing with President Harding, along with several women who gifted Marie radium. This shows the honor they bestowed upon Marie and the high regard they held her to, which helped us understand the respect Marie's discoveries garnered her.

Pres. & Marie Curie, 5/20/21. 20 May 1921. *Library of Congress*, www.loc.gov/item/2016830412/. Accessed 4 Feb. 2020.

This photo depicts Marie Curie walking down a staircase along with President Harding and some American women after being presented with radium. This gave us insight on her remarkable discoveries and how people admired them.

Romer, Eugeniusz. *History*. 1916. *Library of Congress Blog*, Library of Congress, blogs.loc.gov/loc/2017/01/world-war-i-restoring-poland/. Accessed 28 Jan. 2020.

This website includes a picture of a map illustrating the various Partitions of Poland during the eighteenth century. It shows the land disputes that occurred and provides a good visual for what Poland looked like at the time. We got an idea of the turmoil occurring in Poland during Marie Curie's childhood.

The two-time Nobel prize winner Marie Curie was born 150 years ago. *DW*, Deutsche Welle, www.dw.com/en/the-two-time-nobel-prize-winner-marie-curie-was-born-150-years-ago/g-41262435. Accessed 2 Feb. 2020.

This website contains various pictures from Marie Curie's life. Some depict Marie with her four siblings. She had three sisters and one brother, and she was the youngest out of all of them. This gave us a visual of Marie's family. Others pictures illustrate Marie working and her accomplishments. These showed us the impact of her work and the recognition she got for it.

An undated picture showing Marie Curie-Skolodowska with Pierre Curie, working in their laboratory in Paris, The Curies helped rip aside the veil hiding radioactivity, even coining the term for it. They discovered two new elements, polonium and radium, and made artificial radioactivity from stable elements such as boron and magnesium. Phys.org, Science X Network, phys.org/news/2012-09-curie-museum-veil-glory-days.html. Accessed 7 Feb. 2020.

This illustration depicts Marie and Pierre Curie working together in their laboratory. This shows us what their work environment was like and gives us a better understanding of their life.

Wilhelm Conrad Röntgen. NobelPrize.org, Nobel Media AB, https://www.nobelprize.org/prizes/physics/1901/rontgen/facts/. Accessed 5 Feb. 2020.

This picture portrays Wilhelm Roentgen, who discovered X-rays. Marie was inspired by his work, so it gave us insight as to what Marie used as a launching pad for her research.

Secondary Sources

Allen, John. Marie Curie. San Diego, ReferencePoint Press, 2016.

This book has a lot of information on the heavy focus Marie Curie put on her education and her love for science. It also talks about her personal life, especially her relationship with her husband Pierre, who helped her do her research, showing how she balanced her work with her family. We got an idea of Marie's character, and how that was reflected in her work, which broke gender barriers at the time. She did not let the overwhelming majority of men in science daunt her, and paved her own path to success, creating an inspiring legacy that has influenced many future discoveries.

Amson-Bradshaw, Georgia. "Marie Curie." *Pioneers of Science and Technology*, illustrated by Rita Petruccioli, Hauppauge, Barron's, 2018, pp. 17-20.

This book talks about Marie Curie's discoveries and what impact they had in science. To this day, her findings have played an important role in our comprehension of both physics and chemistry. Marie's contributions to science were groundbreaking during her time, and have been the foundation for many more important advancements after her death. It showed us that she truly had a deep love and devotion to her craft, which fueled her tiresome work and made her revolutionary discoveries possible.

Brian, Denis. *The Curies: A Biography of the Most Controversial Family in Science*. Hoboken, Wiley, 2005.

This book provides a detailed account of Marie Curie's life, especially her years of meticulous focus on her research and the impact it had in the world of science. Brian elucidates the effect of her discoveries on the development of physics and chemistry and how other scientists drew inspiration from her. We were able to understand Marie's tiresome work ethic and endless perseverance in her research, which were a foundation for many more advancements in the years to come.

Cropper, William H. "Opening Doors: Marie Curie." *Great Physicists: The Life and Times of Leading Physicists from Galileo to Hawking*, New York, Oxford UP, 2001, pp. 295-307.

This book expounds on the camaraderie between Marie Curie and her husband Pierre, who had completed studies on magnetism and was skilled at working with delicate scientific instruments. After they got married, Pierre recognized the importance of Marie's work and abandoned him to help her. Together, they surveyed and tested various elements and found polonium and radium in a compound called pitchblende. This shows that Pierre was always there to support Marie and that their deep friendship played a role in the success of their work.

Des Jardins, Julie. "Madame Curie's Passion." *Smithsonian Magazine*, Oct. 2011, www.smithsonianmag.com/history/madame-curies-passion-74183598/. Accessed 30 Jan. 2020.

This article explicates the recognition Marie Curie received from her research. She was the first woman to receive a Nobel Prize and is still the only woman to have won two. Marie also received various grants, medals, and awards for her discoveries. She did not expect any of her fame, which showed us that Marie was happy to do what she was passionate about, regardless of the recognition it earned her.

Emling, Shelley. *Marie Curie and Her Daughters: The Private Lives of Science's First Family*. New York, Palgrave Macmillan, 2012.

This book delves into Marie's personal life and what role it played in her career. She was able to manage raising two daughters alongside doing her time-consuming, difficult research, a commendable feat. Also, she refused to make a profit from her discoveries, and believed that they should be used for the good of science. This gave us an idea of Marie's character and how it was reflected in her work.

Fröman, Nanny. "Marie and Pierre Curie and the discovery of polonium and radium." 28 Feb. 1996. *NobelPrize.org*, Nobel Media AB, 1 Dec. 1996, www.nobelprize.org/prizes/themes/marie-and-pierre-curie-and-the-discovery-of-poloniu m-and-radium. Accessed 21 Jan. 2020. Lecture.

This lecture goes into detail on the various things Marie Curie discovered, such as polonium, radium, and radioactivity, placing an emphasis on the recognition she got from them. These include two Nobel Prizes, one in physics, and one in chemistry. Also, it mentions several of her firsts, such as being the first woman to be buried underneath the Pantheon of her own accord and be elected to teach at the Sorbonne University in France. These accomplishments, a result from her passion and perseverance, showed us her legacy and the impact of her work.

Gende, Dolores. "After 110 Years: The Legacy of Marie Curie." *College Board*, apcentral.collegeboard.org/courses/resources/after-110-years-legacy-marie-curie. Accessed 28 Jan. 2020.

This article describes an interpretation of Marie Curie's legacy and how society today can benefit from it. Not only can we utilize her contributions to science, but we can take an example from her determination and motivation when she faced barriers. This

showed us how Marie often had to fight for what she had, which resulted in her successes.

Ghose, Shohini. "The genius of Marie Curie - Shohini Ghose." *TED-Ed*, TED Conferences, 8 June 2017, ed.ted.com/lessons/the-genius-of-marie-curie-shohini-ghose. Accessed 23 Jan. 2020.

This website includes a video about Marie Curie's life, specifically on her revolutionary discoveries, which changed science's view of the atom at the time. She proposed that radiation was a result of a phenomenon occurring inside the atom. This led her to perform further research into elements with radioactivity, resulting in the discovery of radium and polonium. These new elements and Marie's ideas behind them showed us the influence she had on the understanding of atomic structure.

Goldsmith, Barbara. *Obsessive Genius: The Inner World of Marie Curie*. New York, W.W. Norton, 2005.

This book provides a deeper glimpse into the overlap between Marie Curie's personal life and career. It explains how Marie often faced discrimination for being a woman, but did not let that discourage or have a negative influence on her. This showed us that Marie's discoveries were even more monumental because she was able to make them as a woman, which meant that everything was much harder for her and that there were even more barriers in her way.

Grady, Monica. "Is Marie Skłodowska Curie still a good role model for female scientists at 150?" *The Conversation*, Conversation US, 7 Nov. 2017, theconversation.com/is-marie-sklodowska-curie-still-a-good-role-model-for-female-scien tists-at-150-8025. Accessed 12 Apr. 2020

This website talks about the legacy Marie Curie left behind and how she is an excellent role model for young girls, especially in the science field, which is male dominated. Grady talks about the hurdles she had to overcome to become as successful as she was and how this is an inspiration for many people to follow. Marie was honored in many ways after her death, including having an element named after her.

Krieg, Katherine. *Marie Curie: Physics and Chemistry Pioneer*. Minneapolis, Abdo Publishing, 2015.

This book describes Marie Curie's experiments and research with radioactivity. Krieg explains how Marie went on to use this knowledge to set up and teach others how to use X-ray equipment during World War One, which helped injured soldiers. This

showed us how Marie added on to her original discoveries to have an impact on the lives of others, both through her medical treatment and inspiring others to follow in her footsteps.

Krull, Kathleen. *Marie Curie*. Illustrated by Boris Kulikov, New York, Viking Children's Book, 2007.

This book illustrates Marie Curie's dedication to her research and the legacy she left behind. After her discovery of radioactivity, radium, and polonium, Marie built the Radium Institute, which she planned to be a research center. She taught many students there, which provided the next generation with a foundation to continue her work. This helped us understand some of Marie's other accomplishments, especially the Radium Institute, which still exists today.

Krull, Kathleen. "A Blue-Green Glow: Marie Curie." *Lives of the Scientists: Experiments, Explosions (and What the Neighbors Thought)*, illustrated by Kathryn Hewitt, Boston, Harcourt Children's Books/Houghton Mifflin Harcourt, 2013, pp. 55-59.

This book goes into detail on Marie Curie's dedication to her education, specifically her affinity towards science, which led her to discover polonium, radium, and extract radium in its purest form, a tedious process that took a toll on her health. Her passion extended to her daughters, Irene and Eve, who were inspired by their mother's work ethic. Krull elucidates on the major role Marie played in Irene's life, who went on to be the second woman to earn a Nobel Prize in chemistry, and Eve's life, who wrote a moving biography about Marie despite lacking a strong connection with her like Irene did since she was more interested in music. Marie's endless perseverance was evident, resulting in success for her and her daughters.

"Marie Curie." *Atomic Heritage Foundation*, www.atomicheritage.org/profile/marie-curie. Accessed 27 Jan. 2020.

This website provides a basic outline of Marie's scientific research. She and her husband, Pierre, often spent their days and nights in their laboratory doing exhausting work. This showed us the dedication Marie had.

"Marie Curie and the Science of Radioactivity." *History.aip.org*, American Institute of Physics, history.aip.org/history/exhibits/curie/brief/01_poland/poland_1.html. Accessed 1 Feb. 2020.

This website contains a detailed biography of Marie's life. She faced barriers even as a child, living in Russia-controlled Poland, where Polish culture was being wiped out.

Many things, such as receiving an education, were very hard for Marie to get because she was a woman, so she persevered to find a way to get them. This led to her success, which showed us that Marie's endless determination broke through the barriers she faced.

"Marie Curie (1867–1934): her life, achievements and legacy." *History Extra*, Immediate Media Company, 7 Nov. 2018,

www.historyextra.com/period/first-world-war/life-of-the-week-marie-curie/. Accessed 25 Jan. 2020.

This website discusses Marie Curie's accomplishments, focusing on her important role in helping soldiers in World War I. She developed a mobile X-ray unit to treat those injured during the war. This showed us how Marie's work extended beyond discovering radium, polonium, and radioactivity and that she was able to utilize her discoveries to help people.

"Marie Curie (1867 - 1934)." *BBC*, www.bbc.co.uk/history/historic_figures/curie_marie.shtml. Accessed 21 Jan. 2020.

This website gives a brief overview of Marie Curie's life and gave us a starting point for our research. It mentioned the impact of her research on both science at the time and science in the future, such as more advanced x-rays and radiation therapy. Also, it talked about the prejudices Marie experienced as a woman and how she was still able to succeed in what she set out to do, showing her perseverance in the face of adversity.

McClafferty, Carla Killough. *Something out of Nothing: Marie Curie and Radium.* New York, Farrar Straus Giroux, 2005.

This book provides a closer look into Marie Curie's various accomplishments, including discovering radium and polonium, which she used to build X-ray machines in World War I to assist wounded soldiers. These discoveries influenced the development of nuclear energy, radiocarbon dating, and electricity plants. This showed us the lasting impact of Marie's legacy.

Oudar, Nathalie. "Our History." *institutCurie*, 30 May 2017, institut-curie.org/page/our-history. Accessed 4 Feb. 2020.

This website provides the history of Institut Curie(Curie Institute), that was formerly known as the Radium Institute, which Marie Curie founded to become a research center for radioactivity. Today, her efforts live on, and the Institut Curie has become a world renowned research center that works on treating cancer. This showed us

an aspect of Marie's legacy that still persists and works towards furthering what Marie originally built it for.

Periodic-table.com. The Element Curium.

This is a photograph of the element Curium which was named after Marie Curie. Our research on this element gave us a better understanding of her legacy and impact on science after her death.

Robinson, Andrew. "Marie Curie: Discovery of Radium." *Sudden Genius?: The Gradual Path to Creative Breakthroughs*, Oxford, Oxford UP, 2010, pp. 159-176.

This book explicates the significance of Marie Curie's discoveries, which led to more theories and hypotheses on radioactivity, a new concept at the time. Robinson talks about scientists at the time whose ideas Marie drew inspiration from and others who in turn, were influenced by her findings. This shows how science is a complex subject in which each of its parts is connected, and how brilliant scientists like Marie are inspired to reveal one of its facets and motivate others to uncover another.

Steele, Philip. *Marie Curie: The Woman Who Changed the Course of Science*. Washington D.C., National Geographic, 2006.

This book talks about how Marie Curie's education as a child was imperative to the revolutionary discoveries she later went on to make. Her passion for education was instilled in her as a child by her parents, and stuck with her for the rest of her life. It gave us an idea of how committed Marie was to her research and the work she put in to accomplish something that was important to her.

Whitlock, Catherine, and Rhodri Evans. "Marie Curie." 10 Women Who Changed Science and the World, New York, Diversion Books, 2019, pp. 52-80.

This book elucidates on the various obstacles that Marie Curie faced throughout her life. Ever since she was a young girl, growing up in Russia-controlled Poland and losing her mother very early in her life, Marie persevered to get where she wanted to be. Later in her life, even as she garnered a reputation, she still faced many gender barriers, but she did not let that undermine her intellect, and earned two Nobel Prizes. This showed us the result of her hard work and determination.

Zameiroski, Kirk. "Women in Chemistry: Heroes of the Periodic Table." *ACS Chemistry for Life*, American Chemical Society, 20 Mar. 2019,

 $www.acs.org/content/acs/en/pressroom/reactions/videos/2019/women-in-chemistry-heroes-of-the-periodic-table.html.\ Accessed\ 23\ Jan.\ 2020.$

This website contains a video about the scientific process Marie Curie went through to discover radium and polonium and all her hypotheses and thinking along the way, some of which are fundamental properties of radioactivity today. It showed us her thorough and precise experiments and gave us an idea of the complicated scientific procedures she performed.