

Marie Curie: A Legacy of Science

Warm-up

Let's discuss these

interesting questions!

1. Have you ever heard of Marie Curie?
2. What are some of the dangers associated with Marie Curie's research?
3. Why do you think Marie Curie's discoveries were important?



If you want to see Marie Curie's manuscripts, you will have to put on protective clothes to cover yourself from radiation contamination. Madame Curie's remains, too, were buried in a special coffin that keeps the heart of her research and the cause of her death – radiation.

Young Marie grew up in

Warsaw, Poland. Originally named Maria Skodowska, she was a brilliant student, but faced some difficulties. Being a woman, she was banned from receiving higher education. As an act of disobedience, Marie entered

a secret institution that provided education to Polish young people. By saving money and working as a governess and tutor, she was then able to move to Paris to study at the Sorbonne, where Marie got a degree in physics and mathematics.

She was surviving mostly on bread and tea and sometimes fainting from near starvation. In Paris, Marie met the physicist Pierre Curie, who shared his lab and his heart with her, but she wanted to go back to Poland though. When she returned to Warsaw, she found that achieving an academic position as a woman was still a challenge. Back in Paris, she got married to Pierre and the pair quickly became a scientific team.

After a while, Marie was captivated by another physicist's work. In 1896, Henri Becquerel discovered that uranium spontaneously emitted a mysterious X-ray-like radiation. Curie soon found that the strength of the radiation was not affected by physical or chemical changes. This led her to conclude that radiation was coming from something within the atoms of each element. The idea was radical and helped to contradict the long-standing model of atoms as indivisible objects. Next, the Curies realized that uranium alone couldn't be creating all the radiation. In 1898, they reported two new elements, polonium, named for Marie's native Poland, and radium, the Latin word for ray. They also invented the term radioactivity. Later, Pierre Curie and Henri Becquerel were nominated for the Nobel Prize in Physics, but Marie was failed to notice. However, Pierre supported

- contamination – заражение
- coffin – гроб
- disobedience – неподчинение
- governess – гувернантка
- starvation – голод
- bone marrow – костный мозг
- exposure – контакт

his wife's recognition. Both Curies and Becquerel shared the 1903 Nobel Prize which made Marie Curie the first female Nobel laureate.

Couple's prosperous life was interrupted by Pierre's sudden death in 1906. Devastated Marie dipped herself in her research and replaced Pierre's teaching position at the Sorbonne, becoming the school's first female professor. In 1911, she won another Nobel in chemistry for her earlier discovery of radium and polonium, and her analysis of pure radium. This made her the first person to win Nobel prizes in two different sciences.

Professor Curie's work has changed the vision of medical research and treatments. However, these benefits to humanity were to be highly paid. Curie died in 1934 from a bone marrow disease, which is thought was caused by her radiation exposure.

Marie Curie's revolutionary research laid the foundation for our understanding of physics and chemistry, great achievements in oncology, technology, medicine, and nuclear physics. Her discoveries in radiation launched a new era, breaking out some of science's greatest secrets.

PROJECT

Find additional information and create a group project on one of the given topics.

Three most interesting things I learned about Marie Curie's life.

How Marie Curie inspires me to pursue my dreams.

I could meet Marie Curie, what questions would I ask her?

MARIE CURIE'S LIFE

Can you tell which statements are true and which are false?

1. Marie Curie's remains were buried in a coffin that protects from radiation.
2. Marie Curie was born in Paris, France.
3. Marie Curie faced difficulties in receiving higher education because she was a woman.
4. Marie Curie discovered that uranium emitted radiation.
5. Marie Curie was the first person to win Nobel prizes in two different sciences.
6. Marie Curie died from a bone marrow disease caused by radiation exposure.