

Marie Curie

Before you read :

- * Do you know the name of the Indian scientist who got the Nobel Prize in physics?
- * Do you know the name of the India-born scientist who got the Nobel Prize in chemistry?

“The use of X-rays during war saved the lives of many wounded men; it also saved many from long suffering and lasting infirmity.” Marie Curie

Marie Curie was born Maria Salomea Sklodowska on 7 November, 1867 in Warsaw, Poland, when it was under the control of the Russian Empire. She was the fifth and the youngest child of the family. Her parents were well-known teachers. The family lost its property and fortunes because of their patriotic involvements in the revolt which was aimed at restoring Poland’s independence. Even Maria’s father was fired from his job for being a Polish. So Maria and her siblings had to face many difficulties in getting ahead in life.

Maria’s father Wladyslaw Sklodowski taught mathematics and physics. He was also the director of two Warsaw *gymnasia* (schools) for boys. After the Russian authorities removed laboratory instruction from the Polish schools, he brought most of the laboratory equipment home and told his children about their use. Maria liked some of these equipment very much. Her father informed her that these equipment related to the experiments done in physics.

Maria’s mother Bronislawa ran a prestigious Warsaw boarding school for girls before Maria’s birth. After Maria was born she resigned from the post. When Maria



Marie Curie (1867-1934)

was just 10 years old her mother Bronislawa died. After her mother's death Maria attended the boarding school of J. Sikorska. Next she attended a *gymnasium* (school) for girls and from there she *graduated* (to complete a course of education at high school) on 12 June 1883 with a gold medal at the age of 16. She was unable to enrol in a regular institution of higher education because she was a woman. So she and her sister Bronislawa became involved with the clandestine Flying University. It was a Polish patriotic institution of higher learning that admitted women students.

In late 1891 Maria left Poland for France. In France Maria was known as Marie. In Paris she stayed with her sister and brother-in-law for some days. Then she rented a garret near the University of Paris. She studied physics, chemistry and mathematics at the University of Paris. She focused so hard on her studies that sometimes she even forgot to eat. She studied during the day and tutored in the evening only to earn her keep. In 1893 she was awarded a degree in physics and began work in an industrial laboratory of Professor Gabriel Lippman. She continued her study at the University of Paris and earned a second degree in 1894.



Marie met Pierre Curie, Professor in the School of Physics, France in 1894. On 26 July 1895 she married him. It is a very interesting fact that Marie wore a dark blue outfit instead of a bridal gown on her wedding day. This served her for many years as a laboratory outfit later. In 1897 their first daughter Irine was born. Irine also proved herself to be a famous physicist later. In 1906 Marie's husband Pierre Curie was killed in Paris after accidentally stepping in front of a horse drawn wagon.

Marie succeeded her husband as the Head of the Physics Laboratory at Sorbonne University. She was the first female professor of that institution.

The Curies carried out most of their research work under a shed next to the School of Physics. This shed was poorly ventilated and not even waterproof. Marie Curie's efforts with her husband led to the discovery of polonium and radium. She discovered radioactivity as well as radioactive elements like polonium and radium.

Marie and her husband named polonium after Marie's native country, Poland. She also conducted her own experiments on X-ray. Later during World War I (1914-1918) Marie Curie devoted her time and resources helping the wounded people using portable X-ray machines.

In 1903 Marie Curie received the Nobel Prize in physics along with her husband and another scientist named Henry Becquerel for their work on radioactivity. In 1911 Marie won her second Nobel Prize in chemistry for her discovery of radium and polonium. While receiving the award, she shared the honour with her late husband in the acceptance lecture. Marie Curie became the first woman to win a Nobel Prize and the first person to win the award twice in two separate sciences.

Marie Curie died on 4 July, 1934 of aplastic anemia, which was believed to be caused by prolonged exposure to radiation. She used to carry test tubes containing radium in the pocket of her laboratory coat. This took a toll on her health.

Marie Curie is still remembered as a leading figure in science and a role model for women. Several educational and research institutions and medical centres including the *Curie Institute* and *Pierre and Marie Curie University* are named after this famous couple. In 1937, Eve Curie, Marie's second daughter wrote a biography named *Madame Curie* devoted to her famous mother.

Word Notes :

- gymnasia : (plural form of gymnasium) Gymnasium is a school in Germany, Scandinavia, or central Europe that prepares pupils for university entrance.
- Flying University : It was an undergraduate educational enterprise that operated from 1885 to 1905 in Warsaw.
- aplastic anemia : It is the deficiency of all types of blood cell caused by failure of bone marrow development.
- take a toll : (on someone or something) To cause damage or deleterious effects gradually or through constant action or use.
- garret : a room or unfinished part of a house under the roof

Remember the words

property	involvements	clandestine	research	gymnasia
laboratory	equipment	experiments	prestigious	resigned
graduated	institution	involved	patriotic	tutored
physicist	bridal	wedding	ventilated	discovery
radium	acceptance	radiation	polonium	aplastic

For the teacher only

The students are expected to learn the use of different parts of speech of English and correlatives in sentences.

Comprehension :

- Answer the following questions in complete sentences.
 - When and where was Marie Curie born ?
 - What was Marie Curie's birth name ?
 - What did Marie's father teach ?
 - Where did Marie and her elder sister Bronislawa involve themselves for higher education ?
 - When and in which fields was Marie Curie awarded the Nobel Prize ?
 - Name the biography of Marie Curie. Who wrote this biography ?
- Fill in the blanks with appropriate words from the text.
 - Maria's father was the director of two Warsaw — for boys.
 - Maria studied physics, chemistry and mathematics at —.
 - Maria married —.
 - Marie succeeded her husband as the Head of the Physics Laboratory at the —.
 - Marie and her husband named — after Marie's native country, Poland.
- Look at the following example and try to fill in the blanks.

Example : The people of Poland are called — the Polish

- The people of England are called —
- The people of Ireland are called —

- iii) The people of Sweden are called —
- iv) The people of Great Britain are called —

Grammar and Usage :

A. We know that each word in a sentence is called a part of speech. There are eight parts of speech in English, namely : noun, pronoun, adjective, verb, adverb, preposition, conjunction and interjection. We can use the same word as different parts of speech.

Examples :

- 1) You should control your **anger**. (noun)
- 2) His behaviour **angered** me. (verb)
- 3) The **angry** lion is roaring. (adjective)
- 4) Don't react **angrily**. (adverb)
- 5) Tourists visit this place for its natural **beauty**. (noun)
- 6) His good qualities **beautify** his personality. (verb)
- 7) The butterflies are really very **beautiful**. (adjective)
- 8) She wrote the poem **beautifully**. (adverb)
- 9) For the **beautification** of the town the new government has taken up some plans. (noun)
- 10) He had deep **belief** in god. (noun)
- 11) She **believes** that there is god. (verb)
- 12) The colour of **blood** is red. (noun)
- 13) His wound in the leg is **bleeding**. (verb)
- 14) This is a very good **book** on science. (noun)
- 15) We **booked** three tickets to Delhi. (verb)
- 16) Parents always **care** for their children. (verb)
- 17) She was very **careless**, so she lost her gold ring. (adjective)
- 18) He is very **careful** in selecting his dress. (adjective)
- 19) She **carefully** took out the gold ring from the drawer and wore it. (adverb)
- 20) He **carelessly** put the money into the drawer. (adverb)

- 21) There are three primary **colours**. (noun)
- 22) She **coloured** the flower red. (verb)
- 23) No living being can survive without **water**. (noun)
- 24) She **is watering** the flowering plants. (verb)
- 25) We use mustard **oil** in cooking. (noun)
- 26) We should **oil** our hair regularly. (verb)
- 27) Our school took out a **colourful** procession on its foundation day. (adjective)
- 28) He dressed **colourfully** for the show. (adverb)

Activity 1

Use the following words as **noun, verb, adjective** and **adverb** in your own sentences.

comfort, courage, honour, success

B.

Correlatives

There are some conjunctions that go in pairs. They are called correlatives.

Some of the correlatives are :

so	.....	as
such	.....	as
whether	.....	or
no sooner	.....	than
hardly	.....	when
scarcely	.....	before

Examples :

- i) She is not **so** tall **as** her sister.
- ii) He was not **such** a good man **as** you thought.
- iii) I don't know **whether** this incident is known to my mother **or** not.
- iv) **No sooner** *had* he *entered* the room **than** the cat jumped out of the window.
- v) **No sooner** *did* the teacher *come* **than** the students stood up.
- vi) **Hardly** had I reached home **when** it began to rain.
- vii) **Scarcely** had she gone to bed **before** the door bell rang.

Activity 2

Combine the following pairs of sentences using appropriate correlatives.

- i) Leela is intelligent. Her sister is more intelligent than her.
- ii) The police reached the place. The thief ran away.
- iii) The Prime Minister entered the conference hall. The delegates stood up.
- iv) My mother finished cooking. The guests arrived.
- v) He may come here tonight. I am not sure about it.
- vi) The candidate was not smart. The interviewer thought him to be smart.
- vii) The stranger arrived at the gate. The dog started barking.
- viii) She is very busy. I am not so busy.
- ix) The teacher asked the student a question. The student promptly answered.

Phrasal Verbs

- Cry out : The boy **cried out** for help.
- Draw back : The army is now **drawing back**.
- Drive away : The cow **drove away** the flies from its body with the help of its tail.
- Fall out : The two brothers **fell out** for the jumping ball.

Idioms

- At a loss : He was **at a loss** and asked for help from me.
- At a stretch : He can study for two to three hours **at a stretch**.
- At beck and call : He is always **at his teacher's beck and call**.

Writing Activity

Notice Writing

1. You are Pradyut/ Pranjita, the sports secretary of Barbari High School, Dhubri. Write a notice to hang on the notice board of your school giving the details for participation of students in a football tournament to be organised by your school.

NOTICE**(Sports Club)****Barbari High School, Dhubri**

It is hereby notified that a football tournament is going to be organized in our school on 22 August, 2019. The selection for the teams will be made on 10 August, 2019 at 4 p.m. at the school playground. Those who are interested must submit their names to the undersigned by 8 August, 2019. Selection will be made purely on the basis of the performance on the field. Only the students of class VI to XII are eligible for selection.

Pradyut
Sports Secretary
2 August, 2019

2. You are Chinki/ Chintu. As the president of the Literary Club of Holy Faith School, Tinsukia, you have organised an inter-school debate competition on the occasion of the Silver Jubilee Celebration of your school. Write a notice informing the students about the competition.

NOTICE**(Literary Club)****Holy Faith School, Tinsukia**

It is hereby notified that an inter-school debate competition is going to be held in our school on 25 June, 2019 on the occasion of the Silver Jubilee Celebration. The motion of the debate is "The pen is mightier than the a sword". The students from class VI to XII can participate. Interested students must contact the undersigned by 20 June, 2019.

Chintu
President, Literary Club
15 June, 2019

Activity

- i) You are the president of the Literary Club of your school. Draft a notice informing the students about an inter-school quiz competition which will be held in your school.
- ii) You are the sports secretary of your school. Draft a notice to inform the students about an inter-school cricket tournament which will be organised by your school.



Build Up Your Vocabulary

Collocation

1. When I was ill, I had a **high temperature**.
2. Milk has to be kept at a relatively **low temperature**.
3. **Temperatures** remained **moderate** throughout the day.
4. The patient has a **normal temperature** now.
5. This area has a **rich history**.
6. I am going to write about the **early history** of Kamrupa.
7. He has studied the **modern history** of Assam.
8. I **had** a **headache** this morning, but I am all right now.
9. He **has** an **idea** for a movie.
10. He **had** a **bath** and then went to bed.
11. I see you have **had** a **haircut**.
12. I **deeply regret** what I did.
13. I **sincerely regret** that I talked to you rudely.
14. I **truly regret** the events that have placed me in the position I find myself today.
15. I **really appreciate** your writing.
16. He **honestly believes** that he is right.
17. We **firmly believe** that he can't do it.
18. I **truly believe** that he is speaking the truth.
19. Our teacher **greatly encourages** us.
20. My father **highly encourages** me to take part in essay competition.
