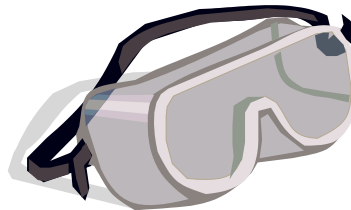


Chemists in France

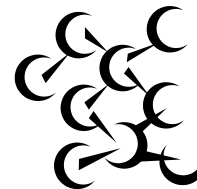
As in other sciences, France and French-speaking countries have played an important role in the development of chemistry. See how much you know with the following items.

1. How many French-speaking chemists have won Nobel Prizes?
 - a. 4
 - b. 12
 - c. 15
 - d. 6



2. When did the Marie Meurdrac, the first woman to publish a book about chemistry write *La Chymie charitable et facile, en faveur des Dames*?
 - a. 16th century
 - b. 17th century
 - c. 18th century
 - d. 19th century

3. Which famous French chemist was guillotined during the French Revolution?
 - a. Antoine Lavoisier
 - b. René Descartes
 - c. Jean-Baptiste Guimet
 - d. Pierre-Joseph Pelletier



4. Which French microbiologist did important work on crystals as well as on germ theory?
 - a. Joseph-Louis Proust
 - b. Louis Pasteur
 - c. Marie-Adolphe Carnot
 - d. Jean-Baptiste Poquelin



5. Michel Eugène Chevreul, the greatest organic chemist of France in the nineteenth century, is credited with inventing which of the following?
 - a. lipstick
 - b. chemical influences in heredity
 - c. vitamins
 - d. margarine





6. Which French woman scientist won a Nobel Prize in chemistry as did her mother before her?
- Isabelle Mercier
 - Marguerite Perey
 - Marie-Anne Lavoisier
 - Irène Joliot-Curie

7. In which French-speaking country did Moscow-born Ilya Prigogine, Nobel laureate in chemistry and author of *La Nouvelle Alliance*, live and work?
- Belgium
 - Switzerland
 - Luxembourg
 - Senegal



8. Which Frenchman shared the Nobel Prize for chemistry in 2008?
- Jean Ferrat
 - Yves Chauvin
 - Serge Reggiani
 - Gilbert Bécaud



Chemistry in French

As in other sciences, France and French-speaking countries have played an important role in the development of chemistry. See how much you and your students know with the following items.

The questions can be used as a "bell-ringer" activity—a short activity usually done at the beginning of class to help students focus on the subject of that class.

Correct answers are indicated by an asterisk. Brief explanations for the items, as well as source information, are given at the end of the document.

1. How many French-speaking chemists have won Nobel Prizes?
 - a. 4
 - b. 12
 - c. 15
 - d. 8*
2. When did Marie Meurdrac, the first woman to publish a book about chemistry, write *La Chymie charitable et facile, en faveur des Dames*?
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 - a. Belgium*
 - b. Switzerland
 - c. Luxembourg
 - d. Senegal

 8. Which Frenchwoman shared the Nobel Prize for chemistry in 2020 for her work on genome editing, known as CRISPR-Cas9?
 - a. Jean Ferrat
 - b. Emmanuelle Charpentier*
 - c. Irène Joliot-Curie
 - d. Gilbert Bécaud
-

Explanations:

1. Nobel laureates from France were: Henri Moisson (1906), Marie Curie (1911), Irène Joliot-Curie and Jean Frédéric Joliot (1935), Jean-Marie Lehn (1987), Yves Chauvin (2005), Jean-Pierre Sauvage (2016), and Emmanuelle Charpentier (2020)
(<https://www.britannica.com/science/Winners-of-the-Nobel-Prize-for-Chemistry-1846695>)
2. Marie Meurdrac was a “practitioner of chemical arts” in Paris in the 17th century; her book was published in 1666.
(http://www.chemheritage.org/women_chemistry/know/meurdrac_marcet.html)
3. Antoine Laurent de Lavoisier, often called « father of modern chemistry,» recognized and named *oxygen* and, with Claude-Louis Berthollet, devised the first extensive list of elements. At the height of the French Revolution, he was accused by Marat of several crimes (including selling watered-down tobacco!) and beheaded.
(<http://www.answers.com/topic/antoine-lavoisier>)
Philosopher René Descartes, of course, lived in the 17th century, while Guimet, an industrial chemist known for the commercial development of ultramarine, was born in 1795, and Pelletier, a chemist who worked on alkaloids and first isolated chlorophyll and quinine was born in 1788.

4. Pasteur discovered that bacteria caused diseases and invented pasteurization, but his initial work was on crystals.
http://en.wikipedia.org/wiki/Louis_Pasteur
 Proust (NOT Marcel) was a chemist who is known for opposing Berthollet and proposing Proust's Law of Definite Proportions.
http://en.wikipedia.org/wiki/Joseph_Proust
 Carnot was professor at the Ecole des Mines in the 19th century and is known for his chemical analysis of minerals.
http://en.wikipedia.org/wiki/Marie_Adolphe_Carnot
 J-B Poquelin was, of course, Molière's real name, and his chemistry was more about comedy than minerals.
5. Chevreul, who died at 102 in 1889, was famous throughout Europe for his work on color contrasts in the yarns used at the Gobelins tapestry works of which he was director, and for his earlier work on fatty acids, which led to the development of margarine and a form of soap.
http://en.wikipedia.org/wiki/Michel_Eug%C3%A8ne_Chevreul
6. Irène Joliot-Curie married Jean Frédéric Joliot and they continued the work of her parents Pierre and Marie Curie on radioactivity, for which they were awarded the Nobel Prize in chemistry, as Marie had been earlier.
http://nobelprize.org/nobel_prizes/chemistry/laureates/1935/joliot-curie-bio.html
 Marguerite Perey was the first woman elected to the French Académie des Sciences to which Mme Curie, for whom Perey worked for many years, was never admitted. Perey discovered the 87th element, which she called "francium" in honor of France.
<http://www.bookrags.com/biography/marguerite-perey-woc/>
 Marie-Anne Lavoisier was the wife of Antoine (she was 13 when they married), but collaborated with him as the artist and translator of his works. She continued her interest in science long after he was executed.
http://en.wikipedia.org/wiki/Marie-Anne_Pierrette_Paulze
 Isabelle Mercier from Quebec has "chemistry," but she is known worldwide as a champion poker player. "No Mercy," as she is called, just also happens to have a law degree from the Sorbonne.
7. Ilya Prigogine won the 1977 Nobel Prize for chemistry. His family had fled Russia while he was a child and he was educated in Brussels, where he spent most of his career. Read his autobiography at
http://nobelprize.org/nobel_prizes/chemistry/laureates/1977/prigogine-autobio.html
8. Charpentier shared the Nobel Prize with American Jennifer Doudna for the development of the revolutionary gene-editing technology known as CRISPR-Cas9. It "allows researchers to accurately delete, add, or modify specific regions of the genome" and is widely applied across many areas of science. ([source here](#))
<https://www.invent.org/inductees/emmanuelle-charpentier>