

## The Nobel Prize in Physics

- I. What do you know about Alfred Nobel?
- II. How many physicists with Nobel prize do you know about? What did they get the prize for and when?
- III. Match the names with discoveries and dates.
- IV. Match the words below with their definitions.

*wreath, bay laurel, meet (n), eligible, cornucopia, resemble, austere, inscription, enhance, engraved*

- a) a competition
- b) a decorative object shaped like an animal's horn, shown in art as full of fruit and flowers
- c) to increase or further improve the good quality, value or status of somebody/something
- d) a circle of flowers or leaves worn on the head, and used in the past as a sign of honour
- e) able to have or do it because you have the right qualifications, are the right age, etc.
- f) strict and serious in appearance and behaviour
- g) words written in the front of a book or cut in stone or metal
- h) a bush with dark smooth shiny leaves that remain on the bush and stay green through the year
- i) to look like or be similar to another person or thing
- j) words or designs cut on wood, stone, metal, etc

- V. Read the text (source: [www.nobelprize.com](http://www.nobelprize.com)) and answer the questions:

1. Who received the very first Nobel Prize in physics? What for?
2. How many laureates have been awarded so far?
3. Did anyone receive it twice?
4. How many women have been awarded so far?
5. Why was it not awarded in certain years?
6. Who was the youngest physicist awarded so far?
7. How many people can get one prize? Under what conditions?
8. How does a person become a nominee?
9. How long is the whole selection process?
10. What does the medal of The Royal Swedish Academy of Science look like?

*“The said interest shall be divided into five equal parts, which shall be apportioned as follows: /- - / one part to the person who shall have made the most important discovery or invention within the field of physics ...”*

(Excerpt from the will of Alfred Nobel)

Physics was the prize area which Alfred Nobel mentioned first in his will. At that time, at the end of the nineteenth century, many people viewed physics as the foremost of the sciences, and perhaps Nobel saw it this way as well. His own research was also closely tied to physics.

In 1901 the very first Nobel Prize in Physics was awarded to Wilhelm Röntgen for his discovery of X-rays. In more recent years, the Physics Prize has been awarded for both pioneering discoveries and groundbreaking inventions. It is awarded by the Royal Swedish Academy of Sciences, Stockholm, Sweden.

The Nobel Prize in Physics has been awarded 105 times to 192 Nobel Laureates between 1901 and 2011. John Bardeen is the only Nobel Laureate who has been awarded the Nobel Prize in Physics twice, in 1956 and 1972. It was not awarded on six occasions: in 1916, 1931, 1934, 1940, 1941, and 1942.

Why was it so? In the statutes of the Nobel Foundation it says: "If none of the works under consideration is found to be of the importance indicated in the first paragraph, the prize money shall be reserved until the following year. If, even then, the prize cannot be awarded, the amount shall be added to the Foundation's restricted funds." During World War I and II, fewer Nobel Prizes were awarded.

It also says: "A prize amount may be equally divided between two works, each of which is considered to merit a prize. If a work that is being rewarded has been produced by two or three persons, the prize shall be awarded to them jointly. In no case may a prize amount be divided between more than three persons."

To date, the youngest Nobel Laureate in Physics is Lawrence Bragg, who was 25 years old when he was awarded the Nobel Prize with his father in 1915. The oldest Nobel Laureate in Physics to date is Raymond Davis Jr., who was 88 years old when he was awarded the Nobel Prize in 2002.

Of the 191 individuals awarded the Nobel Prize in Physics, only two are women.

1903 - Marie Curie (also awarded the 1911 Nobel Prize in Chemistry.)

1963 - Maria Goeppert-Mayer

The word "Laureate" refers to being signified by the laurel wreath.

In Greek mythology, the god Apollo is represented wearing a laurel wreath on his head. A laurel wreath is a circular crown made of branches and leaves of the bay laurel (In latin: *Laurus nobilis*). In ancient Greek laurel wreaths were awarded to victors as a sign of honour - both in athletic competitions and in poetic meets.

The candidates eligible for the Physics Prize are those nominated by qualified persons who have received an invitation from the Nobel Committee to submit names for consideration. No one can nominate himself or herself. How are the Nobel Laureates selected? In September nomination forms are sent out. The completed nomination forms must reach the Nobel Committee no later than 31 January of the following year. March-May is the time for consultation with experts. In June-August the Nobel Committee puts together the report with recommendations to be submitted to the Academy. The report is signed by all members of the Committee. In September the Committee submits final recommendations. In early October, the Academy selects the Nobel Laureates in Physics through a majority vote. The decision is final and without appeal. The names of the Nobel Laureates are then announced. The Nobel Prize Award Ceremony takes place on 10 December in Stockholm, where the Nobel Laureates receive their Nobel Prize, which consists of a Nobel Medal and Diploma, and a document confirming the prize amount.

The medal of The Royal Swedish Academy of Sciences represents Nature in the form of a goddess resembling Isis, emerging from the clouds and holding in her arms a cornucopia. The veil which covers her cold and austere face is held up by the Genius of Science.



The inscription reads: *Inventas vitam juvat excoluisse per artes*. Loosely translated "And they who bettered life on earth by their newly found mastery." (Word for word: inventions enhance life which is beautified through art.) The name of the Nobel Laureate is engraved on the plate below the figures, and the text "REG. ACAD. SCIENT. SUEC." stands for The Royal Swedish Academy of Sciences.

**VI. Complete the sentences below with appropriate prepositions or adverbials**

1. Iran's nuclear physicist tied \_\_\_\_ Mausavi was killed by a bomb.
2. The Nobel Prize for peace can be awarded \_\_\_\_ institutions.
3. AS level physics students at Coleg Sir Graig campus have been awarded \_\_\_\_ engineering solution.
4. UK and EU resident students are eligible \_\_\_\_ a training grant hen undertaking a physics PGCE.
5. PGCE stands \_\_\_\_ 'Postgraduate Certificate in Education' (a British teaching qualification taken by people who have a university degree).
6. The course consists \_\_\_\_ ten core modules and five optional modules.

**VII. Complete the sentences with words made from the ones in brackets (you cannot use the same word).**

1. The Physics \_\_\_\_\_ (fund) supports the School of Physics by promoting its achievements, funding its alumni publications and communications.
2. What is the \_\_\_\_\_ (important) of physics to the society?
3. Konstantin Novoselov, a professor of physics at Manchester University, is the youngest Nobel \_\_\_\_\_ (laurel) since 1973.
4. It seems there is a worldwide shortage of \_\_\_\_\_ (quality) physics teachers.
5. Today's topic discusses \_\_\_\_\_ (consultant), or extra help, or tutorial, or whatever your school calls unstructured time when students can drop in to talk.
6. The \_\_\_\_\_ (script) sets out Epicurus' teachings on physics, epistemology, and ethics.

**VIII. Watch the video and answer the questions:**

1. What do the interviewed physicists specialize in?
2. When did they make their discovery?
3. How many teams work on it?
4. Why were some sections of the community happy with the observations?
5. What were some people sceptical about?
6. How many per cent of the matter was found to be dark energy?

**IX. Choose one physicist (not mentioned in the lesson) who received the Nobel Prize (or should (have) receive it in your opinion) and prepare his/her short presentation for the following lesson.**