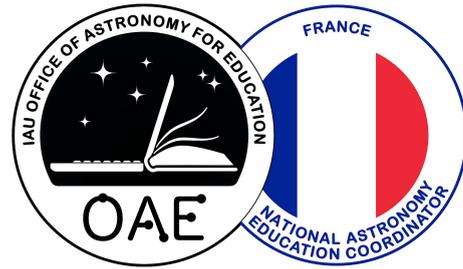


Astronomy Education in France



This overview is part of the project "Astronomy Education Worldwide" of the International Astronomical Union's Office of Astronomy for Education.

More information: <https://astro4edu.org/worldwide>

Structure of education: Instruction is compulsory from at the age of 3, but not necessary at school (distance education and home schooling are allowed). The educational system in France is divided in four steps: three years of pre-school (age 3 to 5); five years of primary school (age 6–10); four years of middle school (age 11–14); and three years of high school (age 15–17). Until the first year of high school, all students follow more or less the same teaching (apart from foreign languages and a few optional courses). In the second year of high school, they choose three majors ("Mathematics", "Physics and Chemistry", and "Life and Earth sciences" for instance); and in the last year, they drop one of the three. At the end of high school, students take the "baccalauréat", which is the university entrance exam.

Most students (83%) go to public non-religious schools; the remaining 17% of the pupils attend private schools, most of which are Catholic and have the same educational programs as public schools. The official teaching language is French but there exist a limited number of bilingual schools that offer a teaching partly in regional languages (Basque, Occitan, Breton, etc.) or foreign languages (English or German schools for instance).

Education facilities: 23 pupils is the average class size in French primary schools, 25 in middle schools, and 29 in high schools. In secondary schools, practical subjects like "Life and Earth sciences", "Physics and Chemistry" are often run in smaller groups (half-classes typically) for lab works. Some small primary schools in the countryside only have a few pupils per school year with teachers teaching groups from multiple years together. All French schools have access to running water and most of them have an internet connection (not always good though). School buildings are generally well maintained but it is not uncommon for students to spend part of their education in temporary classrooms due to maintenance problems/lack of space.

Governance and organisation: Depending on the level of teaching, public schools are run by the city councils (primary schools), county councils (middle schools), or regional councils (high schools). Most private schools are "under contract" with the State and run by a non-governmental association, but the Ministry of education pays the teachers. A minority of private schools are outside the educational system, and therefore not subsidised by the government. The curricula are adjusted every now and then. The curriculum and organisation of teaching in high schools is being completely reformed (2019–2021): high schools used to offer pathways (literature, economics, and sciences); now all students follow the same core teaching with optional courses.

Teacher Training: All teachers, whatever the level and subject they teach have to go through a master's programme and take a competitive exam. In-service teachers may attend training sessions – typically one or two full days – in the course of the school year (each year, all the trainings offered are

published and teachers may apply to the ones they are interested in). In astronomy, summer schools for teachers are also organised by the French space agency (CNES) or by a non-profit and non-governmental organisation (CLEA).

Astronomy in the curriculum: Astronomy is no longer taught as such in French schools but elements of astronomy are found in the general science course of primary school, and mainly in the “Life and Earth sciences” and “Physics and Chemistry” classes in middle and high schools. It is tackled first at the end of primary school when teachers talk about “light and shadows” during science class. The Sun, Earth, Moon and the eclipses are then explained. In the first years of middle school, children learn about the orbit of the Earth around the Sun and seasons and the solar system. Then, in high school, students learn about gravity and Kepler’s law, spectroscopy and black body applied to stellar physics, the Earth in the Universe (including its shape), Moons phases, and the Sun as a star and its source of energy. In the last year of high school, the Philosophy course deals with the representations of the world (geocentric vs. heliocentric systems).

Astronomy education outside the classroom: Several middle and high schools have their own astronomy club and children are free to enrol and attend if they wish. Apart from that, most big cities host a science centre entirely or partly devoted to space science and astronomy, some of them with a planetarium. About 900 astronomy clubs are affiliated to the French astronomy association and those clubs are rather well distributed across the country so almost everyone can access one close to their place. They often have an agreement with the national education system that allow them to propose in-class activities for children. A few of those clubs run former historical observatories abandoned by the professional astronomers.

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For specific information about astronomy education in France or on this document please contact the Office of Astronomy for Education (oea@astro4edu.org).