

A) ADEQUACY OF THE PROJECT:

Admission to the *Experimenta fair-competition* is based on the information submitted by the participating groups in the project sheet. Compliance with the competition rules, as well as the clarity and correctness of the content, are aspects that are taken very much into account. On the other hand, in order to admit as many projects as possible, the committee may request the correction of errors or improvements in the descriptive sheets of the works, before the admission to the fair.

-TYPE OF WORK: One of the objectives of the *Experimenta fair-competition* is to promote experimental work by students as a necessary formative element, linked to the more theoretical understanding of the fundamentals. For this reason, the rules do not contemplate bibliographic works, simulations or models that illustrate an experience. **The aim is for the students to carry it out, and to observe and reason out their own conclusions.**

- RELATIONSHIP EXPERIMENT -THEORY, RELATIONSHIP PHYSICS – TECHNOLOGY OR OTHER SCIENCES. The competition categories 'Physics demonstrations or experiments' and 'Technological applications' respond to the existence of these two curricular areas in secondary education (Physics and Technology), but this does not mean that they are considered as separate subjects or as separate categories. On the contrary, the aim of this competition is to promote **the close relationship between physics and technology that really exists** - and historically has always existed - at secondary school level. Many important theoretical developments in physics have arisen from research that was initiated in response to problems of a technological nature, and from basic results in physics, technological developments have been carried out that have had a profound impact on our societies. This is why it is particularly appreciated that **all the projects highlight this relationship**, even if some are more technologically oriented and others more scientific oriented.

B) EXPLANATION OF THEIR PROJECT both in the project sheet and in the oral presentation on the day of the fair. As indicated in the participation rules, particular value is placed on the understanding of the fundamentals, implications of the project carried out by students and the clarity they demonstrate when explaining their own work. That is to say, the ability to identify and focus on the essentials, demonstrating that they have a grasp and basic understanding of the project that they themselves have carried out.

- THE PROJECT SHEET DESCRIPTION should be clearly written, giving information about the purpose of the project. It should be brief, but include all the essentials: objectives, theoretical, methodological and experimental principles and results obtained or expected to be obtained. It should not be copied verbatim (*) from web pages (**) or books. Tutors should review the project sheet and indicate modifications or corrections to their students before registering it on the registration form. Modifications may also be introduced in the review process by the scientific committee.

-EXHIBITION AND EXPLANATION AT THE FAIR: of course, the details of the assembly, resolution of difficulties encountered during the development of the project, distribution of tasks among the members of the group, etc. are important aspects that evidence the involvement of the participants, but it will be especially valued that **the students understand their work beyond the strictly manual and contingent aspects**. In other words, an understanding of the relationships with the physical foundations on which its operation is based or of the technological implications derived from it, the ability to justify different aspects of the work on the basis of simple conceptual, qualitative and/or quantitative arguments of scientific and technological nature. This aspect is further elaborated in the next points.

(*) Follow the established rules on quotations: if any text is copied verbatim, it must be quoted in quotation marks and the source from which it was taken must be cited.

(**) Some websites, including Wikipedia, often contain serious errors. Or they give explanations that students do not understand. It is preferable to avoid copying what you do not understand and to write what you intend to do in a correct but simple way. And consult information with guarantees of veracity.

C) QUALITATIVE AND QUANTITATIVE DISCUSSION: Students ability to obtain and present information based on their own measurements and observations is particularly valued. In particular, that they have carried out a **basic quantification of the quantities involved** in the demonstration, experiment or application. Even in projects of a more qualitative nature, it is possible to observe **how some quantities depend on others, how some vary when others change** (increase, decrease?), **what orders of magnitude** the relevant quantities may have, or what other phenomena they have in common with the one being presented that may facilitate their understanding. This is also very important in the case of technological applications, since a necessary step in the design of any prototype that includes structures, circuits, etc., however simple it may be, consists precisely in the analysis of the phenomena that may be present. - however simple it may be - consists precisely in carrying out this type of prior estimation.

D) DISCLOSURE AND SUPPORT MATERIAL: DISCLOSURE ATTITUDE towards the public, having thought about the ideal way of explaining the project itself, **both in terms of content and form** (the provision of graphics, printed or poster explanations, a video, etc.). In any case, it is not so much a question of making a disproportionate deployment of resources, but of putting them at the service of clarity, understanding and enjoyment of the day by the public.

E) ORIGINALITY AND/OR DIFFICULTY OF THE PROPOSALS: Of course, **originality, novelty and difficulty are valued. But the fundamental weight lies in the work actually carried out by the students and their understanding of the project they exhibit and explain.** The participating groups may have contributed novel elements both in the design of the project and in the explanation or presentation, or in the combination of demonstrations and applications they provide to explain their work, or in the type of observations, analysis, relationships between apparently distant aspects, etc.