



Project Guide ▶▶▶



## **SPECIFICATIONS FOR RESEARCH PROJECTS CONTEST**

- 1.** MEF Educational Institutions “Research Projects Contest” has been arranged to promote science education in Turkey, to orient students who possess talent in this area toward scientific research, and to enable them to grow up to become the “Scientists of the Future”
- 2.** All students from Turkey or abroad currently enrolled in a post-middle-school high school or its equivalent may take part in the contest.
- 3.** A separate contest shall be held for projects submitted by international participants.
- 4.** Research projects are to be prepared in Physics, Chemistry or Biology.
- 5.** Projects should be in keeping with a character of scientific research and be original. Projects that do not meet these criteria shall be eliminated at the application stage. (Project authors and their adviser-teachers shall be held accountable regarding the originality of their projects.)
- 6.** One project is permitted per student. Projects may be done individually or as a group (maximum 2 students and 1 adviser-teacher). Awards shall be given on a per-project rather than per-student basis).
- 7.** Applying students are to submit their Project Applications online from the [www.mefproje.com](http://www.mefproje.com) website between 1 December 2015-1 March 2016.

Moreover, the following are to be uploaded to the application system;

- A Project Report of no more than 8 pages
- A project summary Video File of no more than 3 minutes
- The student(s)’ application form, approved with the signature of the adviser-teacher and principal.

- 8.** The Projects are to be evaluated by the Jury Members, consisting of university teaching faculty of the MEF Educational Institutions.
- 9.** The committee shall have the right to change the scientific branch of the project on the basis of the project content. For example, if a project submitted under the Chemistry category is more consistent in content with the category of Biology, the project shall be evaluated under the category of Biology.

**10.** Project evaluation shall have as its criteria, within the framework of the principles of originality of thought, and scientificity of thought and application: originality, ability to achieve results, contribution to fundamental scientific and technological applications, and potential for conversion of product for widespread application. Importance will be placed on the oral and written clarity of presentations, mastery of the subject, and the carefulness of the work.

**11.** MEF Schools shall give the project authors and school headships of the projects selected for exhibition suitable advance notice of the date and location of the Research Projects Contest.

**12.** The project authors chosen for participation in the exhibition shall bring all necessary materials that make up the project. MEF Educational Institutions shall solely provide the tables and stands for the exhibition.

**13.** The contest will designate First Place, Second Place, and Third Place awards in each branch. Money prizes in the amounts specified below will be awarded to placing students and their adviser-teachers, along with certificates of participation and memorabilia plaquettes to all participating students and adviser-teachers and/or School Headships.

**14.** Among the projects placing First, Second, or Third in the contest, one will be chosen to receive an Exclusive Innovation Award on the basis of its "ability to convert the results into a product with potential for widespread application".

**15.** The round-trip travel expenses of teachers and students coming from abroad will be their own responsibility.

**16.** Accommodation expenses for contestants from other cities and abroad shall be covered by our institution for the duration of the exhibition. In accordance with the information forms you have filled out and sent in to us, accommodations provide for 2 or 3 persons each.

**17.** Breakfasts, lunches and dinners shall be provided by our institution for the duration of the exhibition.



CATEGORY	STUDENT PRIZE	TEACHER PRIZE
FIRST PRIZE	1600\$	1600\$
SECOND PRIZE	1400\$	1400\$
THIRD PRIZE	1250\$	1250\$

**For detailed information** :Phone: 0090 (212) 362 26 33 (1190-1412)  
:Fax: 0090 (212) 287 46 79  
:E-mail: proje@mef.k12.tr

**Website** :www.mefproject.com - www.mef.k12.tr

**Application Address** :MEF Educational Institutions  
Ulus Mah. Öztopuz Cad. Leylak Sok. 34340  
Ulus-Beşiktaş / İstanbul/Turkey

## **MEF EDUCATIONAL INSTITUTION'S 25th RESEARCH PROJECTS COMPETITION FOR HIGH SCHOOL STUDENTS**

MEF Educational Institution will conduct its annual RESEARCH PROJECT COMPETITION among high school and vocational school students for the 25th time this year. This competition is well known and highly regarded. Projects are designed by participants in the fields of Physics, Chemistry and Biology.

MEF Educational Institution, through the organization of this competition, aims to motivate highly talented and skilled high school students who will create the future Turkey by promoting the study of basic and applied sciences.

The Research Projects Contest deadline is 1st March 2016. High school students who wish to participate in the 25th Research Project Competition should apply electronically at [www.mefproje.com](http://www.mefproje.com) by 1st March, 2016.

A jury of university faculty members will examine the applications and choose which projects will be exhibited.

## **BOARD LAYOUT**

The main purpose of the exhibition is to explain and introduce the project to the visitors who will attend. The student will be provided with a table (dimensions: 190 cm x 50 cm) and a display board (dimensions: 190 x 162 cm). The student will display the experimental device or the application model on the table; and a poster related to the project on the board.

## **EVALUATION**

Projects will be evaluated by the judges based on the following criteria: originality, the ability to achieve results, the contribution of the results to the applied sciences/technology, the potential of the result to become a widely used product. The language used in the Project Report, the Project Summary Video, and clear and intelligible oral presentations during the exhibition that show strong understanding of the project will be crucial in the evaluation of the project. The evaluation will be completed with the visit of the jury members to the exhibition who will interview the students who carried out the project. The evaluations which are made separately by the jury members, will be collated by the Executive Board of the MEF National and International Research Projects Competition. The Executive Board will average the points given by the jury members, rank them in order and prepare the list of the winners. The award winning projects will be announced according to this list. Awards for the place winners and certificates of achievement for all attendees will be presented at a ceremony.

## **WHAT IS SCIENCE AND SCIENTIFIC STUDY?**

Science is the total knowledge that has been systematically built-up by mankind beginning from the stone age up until the present day. This body of knowledge is the result of the accumulated information on the search of humans to understand the creatures that cohabit the earth and to explain the events happening around the world. Scientists from all over the world contribute to science and this will continue since science is universal. The underlying basis of Science, that is, the ability of humans to think, be creative and work systematically is due to the joint efforts of a wide range of scientists.



## **HOW CAN WE CONDUCT A SCIENTIFIC EXPERIMENT?**

1. The subject to be researched is determined.
2. Previous studies in the chosen area are investigated.
3. Preliminary experiments are performed in order to observe the case to be researched; planning is made on the methods to be applied and the experiments to be conducted.
4. The information collected from the experiments is organized.
5. Work is carried out to look for meaningful relations or connections between the information that is gathered.
6. Hypotheses are set up in the light of the discoveries.
7. Conclusions are developed after investigation and discussions.
8. The results obtained and the discoveries made are put on paper to be passed onto future generations.

## **HOW SHOULD THE PROJECT REPORT BE WRITTEN?**

The project report you prepare forms one of the most important steps of your project work. The project report is the manifestation of results obtained by recording observations, experiments and measurement results. The information you obtain as a result of your work will be protected and transferred to others and future generations. Also, it should be noted that your report has an important role in assessment of the work you perform.

Thus, you should pay the utmost care on writing your report both in terms of content and structure. Do not place unnecessary details and repetitions in your project report. Your report should be prepared with single spacing in Times New Roman font, size 12. It should be prepared on A4 paper with 2.5 cm of upper, lower, left and right margins. Write your report by following the sequence below.

### **Project's Name**

Your project's name should be written succinctly as a single sentence and it should be a name which gives an idea of the work done.

### **Introduction and Purpose**

In this part, mention the subject, theoretical foundations, reasons and targets of your project. Explain the factors which directed you to the project, the results you want to obtain at the end of project and your targets. Refer to the works previously done by other researchers around your subject matter. Mention how your work is different to work previously conducted in this area and clearly explain the individuality of your project.

## Tools and Methods

In this part, please state the following:

- The steps you took to complete this project
- Materials and measurement tools that you used
- The efficiency of your tools and methods to reach your project targets
- Your experiments (please state the flow of your experiments schematically if required)
- How you completed your controlled experiments (In Biology projects please state the experimental groups and the applications used in the groups separately)
- Your methods for data collection and statistical evaluation
- Probable error and error sources in your results
- Your observations
- The calculations you used to produce graphics used in brief and clear language

## Results and Discussion

Please state the results obtained from your project in this section. This section is the most important part of your report. Your findings may be numerical values, mathematical equations or verbal expressions. Please state your numerical results in accordance with the international system of units and use charts and graphics as widely as possible.

Please state the limit of validity while discussing your findings and explain the reasons that affect your results negatively (if any). Please compare your findings with previous studies carried out by others. Please state the extent to which you have reached your objectives through your work. Please make suggestions for additional projects that could be conducted for those showing interest in your chosen topic area.

Please place importance on making a note of the contribution of your project results to science/technological applications. If your project could be converted into the production of a widely used product, explain this potential.

## References

Providing references in scientific research is necessary both in terms of scientific ethics and in verifying the foundations and supporting reliability of the study. The objectives of providing references in a scientific study are explained below under the heading "Why Are References Given in Scientific Studies?".



## Acknowledgements

You can express your gratitude to people or organizations for the technical support, equipment, materials, etc. here by indicating briefly the support provided.

## HOW TO PREPARE A PROJECT SUMMARY VIDEO

A 3 minute (maximum) video summarizing the project is expected from the project team. The shoot can be done with a mobile phone or a video camera. The Project Summary Video must be in MP4 format and submitted before the deadline digitally at [www.mefproje.com](http://www.mefproje.com) together with the Project Application Form and Project Report.

## WHY ARE REFERENCES GIVEN IN SCIENTIFIC STUDIES?

### References must be given in scientific research;

1. To identify the contributions of the researcher and to give credit to the sources used to gather information.
2. To support the arguments or the conclusions of the researcher.
3. To provide the reader with the opportunity to verify the given information or to check reliability.
4. To introduce resources to those who are interested in conducting new research in the subject area.
5. All source information provided must be complete and accurate.

## HOW SHOULD YOU REFERENCE YOUR WORK?

### Referencing a book:

**Author's Surname Name** (or initial followed by a period), **Name of the Book**, if available, editor or compiler or translator's name and surname, print edition, **Publisher** (or publishing company), **Publication location**, **Publication date** should be indicated. E.g.

- GÜNDÜZT., **Quantitative Analysis Textbook**, Ankara University Department of Science Publications, Ankara, 1975.
- BRAUN R. D., **Introduction to Instrumental Analysis**, Mc Graw-Hill Book Co., New York, 1987.
- MAHAN B. H., **University Chemistry**, Çev. C. Şenvar ve E. Edgüer, 5th Edition, Hacettepe University Publications, Ankara, 1989.



**Referencing an article:**

**Author's Surname Name** (or initial followed by a period), **Name of the Article, Name of the Magazine** (Full name of the magazine or international abbreviation if available), **Volume Number, Serial Number, Start and finish pages of the Article, Year.** E.g.

- SMITH MA, "The Nature of Distribution Functions for Colliding Systems", Journal of Chemical Education, Volume 7, No: 3, p. 218-223, 1993.

**Referencing an article in any publication:**

- DİNÇKAYA E., "Aljinate peroxidase immobilization", IX. Chemistry and Chemical Engineering Symposium Abstracts Book, KTÜ Faculty of Arts and Science Publications, p 397, Trabzon, 1993.