

Judging Criteria & Procedures

PROCEDURES

All Exhibits will be judged in one of three divisions: the Junior/Middle School (7th and 8th grades); the Ninth (9th grade); and the Senior (10, 11, & 12th grades) Divisions. Team Projects are allowed to compete only in the Junior and Ninth grade divisions. Each division is subdivided into subject classifications such as chemistry, engineering, zoology, botany, etc. Prior to judging, all project displays must be inspected and approved by the Rules/Safety Committee and the Scientific Review Committee on Thursday evening. Projects not approved must be removed from the Exhibition Hall prior to judging.

The judging process takes place in three phases. Phase I occurs during the morning of the judging day and involves only judges for the SEFH place awards. All exhibits are visited individually by the members of a judging team. During the judging interview judge will normally ask the exhibitor to present a 3-5 minute description of the project. This will be followed by a series of specific questions by the judges. The exhibitor may also ask questions and seek advice from the judges at this point. Each judge should obtain all the information necessary to make a professional evaluation of each criterion listed on the project scoring sheet. After completing these interviews, the judges will gather as a team to discuss their findings and arrive at their own ranking of the projects. Each judge "normalizes" his/her scores by assigning a score of 100 to the top-ranked project, 95 to the second-ranked project, etc. The team captain compiles the judges' normalized scores and delivers the collective rankings to the category coordinator. The coordinator and team captain will then decide which projects will advance to Phase II judging.

During Phase II, the SEFH place award judging for almost 200 awards continues and the Special Award judging begins. The 80-90 special awarding agencies may or may not all use the SEFH judging sheets. Some agencies will judge just projects in particular categories while others will be interested in all categories. They determine their own judging criteria, procedures and awards. SEFH place award judging continues in the same manner as Phase I; however, different judges may be involved. Place award judges meet during and after Phase II to determine the place awards for each division and category. Normally no scores are tabulated for this process; rather, the judges arrive at their rankings through in-depth discussions and by consensus. Place award winners are eligible to enter the State SEF. Junior place award winners are eligible to enter the national Discovery Competition.

During Phase III (held in the early evening), Special award judging continues and the SEFH category coordinators (or their deputies) meet with the judging chair to evaluate the first place award winners in each of the three divisions. These judges normally work in small teams so that a wide spectrum of expertise can be brought to bear during each interview. After the teams complete their interviews, the overall division award winners; 3 for the Junior/Middle School Division, 3 for the Ninth Grade Division and 4 for the Senior Division are determined. The 4 senior winners represent SEFH at the International Fair in May. Also during Phase III, the special award judging for approximately 400 awards is concluded.

Throughout the judging process judges must not attempt to learn the student's name, their school, or the name of their advisor. Such information may be requested from the category coordinator after the judging is complete. Judges are free to introduce themselves and identify their affiliation (in fact, the badge worn by each judge should contain this information), but the anonymity of the exhibitors must be preserved. In addition, judges must be aware that eager ears are listening to their conversations with other judges. Thus, judges are encouraged to interact as little as possible in the exhibit area and to retire to the judging auditorium to discuss the projects. The official scoring sheets and other notes kept by judges should be concealed while in the exhibit area. After each judging phase, the scoring sheets and any notes taken by judges will be collected and destroyed.

All judging results are confidential and will be known only to the judges involved in the decision and the officials of the fair until they are publicly announced at the awards ceremony held on the day following the judging.

CRITERIA

The **Official Scoring Sheet** contains a complete summary of the criteria to be used by the judges in evaluating each project. The sheet is deliberately detailed to provide guidance for judges as well as for exhibitors and to insure that the judging process is carried out as equitably as possible.

A careful study of the official scoring sheet is critical. The salient points to be assessed by each judge have been broadly divided into five categories: objectives, design, execution, conclusions, and presentation. Note that it is not essential for a project to be completely original. It is essential; however, for the student to clearly acknowledge the source(s) of ideas that went into his or her project. Appropriate recognition will be given to those projects that do contain clearly original ideas and that demonstrate the student's creativity - both in the genesis and the execution of the project. Judges will ascertain whether the student has applied the proper scientific and/or engineering principles in the design and execution of the experiment and carried out their data collection and analysis in a systematic manner. The project's conclusions should follow logically from the data analysis and reflect careful consideration by the student of possible errors in the experiment. Finally, judges will evaluate the quality of the student's presentation. Note that a student who fails to keep their presentation within the time limits set by the judge may be scored appropriately. Judges are prepared to hear very polished presentations from the more experienced students. Judges will go beyond the student's prepared presentation by posing questions that can determine the student's level of understanding of the principles underlying their project. Students who do not have a good understanding of the science/engineering related to their projects will be downgraded accordingly by the judges.

**SCIENCE ENGINEERING FAIR OF HOUSTON
SCORING SHEET FOR INDIVIDUAL PROJECTS**

A copy of the scoring sheet used for the SEFH place award judging of individual projects is shown below. Special Award judges may or may not use a similar scoring method since the nature and purpose of their awards varies from agency to agency.

PROJECT TITLE _____ PROJECT NO. _____

JUDGING PHASE _____ JUDGE _____ JUDGING TEAM _____

ASSIGN A MAXIMUM SCORE OF 10 POINTS IN EACH CATEGORY BELOW

PROJECT OBJECTIVES	1. Creativity and originality	
	2. Clear statement of objectives; identification of all relevant variables	
PROJECT DESIGN	3. Creativity and originality	
	4. Knowledge and understanding by each team member of the scientific or engineering principles relevant to the project	
PROJECT EXECUTION	5. Adequacy of scientific or engineering approach used; use of relevant literature	
	6. Thoroughness of experimentation or development used to reach objectives; proper recording of data in laboratory notebook	
PROJECT CONCLUSIONS	7. Level of skills and effort used by the student to carry out the project; amount of work done by the student; understanding of equipment or techniques used to obtain data.	
	8. Conclusions consistent with the data obtained and with the relevant principles of science or engineering (if not, is there an adequate explanation of the inconsistency)	
PROJECT PRESENTATION	9. Quality and coherence of the oral presentation within the time allotted (usually about 5-10 minutes)	
	10. Quality and clarity of the display, including the organization and presentation of data	
	TOTAL SCORE (maximum = 100)	
Obtain normalized score by ranking projects according to total score and assigning a normalized score of 100 to the first project, 95 to the second, etc.		
NORMALIZED SCORE		

- NOTES:**
- Projects continued from previous year(s) should be clearly identified as such with a Roman numeral at the end of the project title. For example--"Pollution in Lake Houston, II" would indicate a continuing project being entered in the fair for the second time. These projects should be judged only on what has been done since the last fair.
 - Judges should not solicit any information from an entrant that would identify the student, their sponsor, or their school. If such information is required, the judge should contact the judging chairman.

COMMENTS:

**SCIENCE ENGINEERING FAIR OF HOUSTON
SCORING SHEET FOR TEAM PROJECTS**

A copy of the scoring sheet used for the SEFH place award judging of individual projects is shown below. Special Award judges may or may not use a similar scoring method since the nature and purpose of their awards varies from agency to agency.

PROJECT TITLE _____ PROJECT NO. _____

NO. OF STUDENTS ON TEAM ____ NO. OF STUDENTS PRESENT FOR JUDGING ____

JUDGING PHASE ____ JUDGE _____ JUDGING TEAM _____

ASSIGN A MAXIMUM SCORE OF 10 POINTS IN EACH CATEGORY BELOW:

PROJECT OBJECTIVES	1. Creativity and originality	
	2. Clear statement of objectives; identification of all relevant variables	
PROJECT DESIGN	3. Creativity and originality	
PROJECT EXECUTION	4. Knowledge and understanding by each team member of the scientific or engineering principles relevant to the project.	
	5. Adequacy of scientific or engineering approach used; use of relevant literature	
	6. Thoroughness of experimentation or development used to reach objectives; proper recording of data in laboratory notebook	
PROJECT CONCLUSIONS	7. Level of skills and effort used by each team member; understanding of equipment or techniques used to obtain data on the part of each team member; appropriate division of responsibility within the team	
	8. Conclusions consistent with the data obtained and with the relevant principles of science or engineering; (if not, is there an adequate explanation of the inconsistency)	
PROJECT PRESENTATION	9. Quality and coherence of the oral presentation by the team members within the time allotted (about 3-5 minutes)	
	10. Quality and clarity of the display, including the organization and presentation of data	
	TOTAL SCORE (maximum = 100)	
Obtain normalized score by ranking projects according to raw score and assigning a normalized score of 100 to the first project, 95 to the second, etc.		
NORMALIZED SCORE		

- NOTES:**
- Projects continued from previous year(s) should be clearly identified as such with a Roman numeral at the end of the project title. For example -- "Pollution in Lake Houston, II" would indicate a continuing project being entered in the fair for the second time. These projects should be judged only on what has been done since the last fair.
 - Judges should not solicit any information from an entrant that would identify the student, their sponsor, or their school. If such information is required, the judge should contact the judging chairman.

COMMENTS: