**Local Event Logistics** for Science, Engineering and STEM Fairs - by *Michelle Howe and Gary Stresman*

Conducting a Science Fair is an “event” … and, therefore, requires proper planning. There are, of course, various levels of planning, depending on your level of interest. All fairs should give the students a chance to show AND explain their projects to qualified adults. The “showing” part is, traditionally, the tri-fold board and the “explaining” part is the interview. The greater the pre-planning the more rewarding and enjoyable the fair. Pre-plan by reserving rooms, recruiting volunteers and judges, purchasing awards, ordering food and preparing students. The meaningfulness of the fair increases as you observe attention-to-details like dress code (for students and adults), emphasize time schedule (no tardies allowed), clear instructions are given and there are a lot of adult volunteers around to answer questions. Post-fair details are equally critical … details like follow-up “thank you” notes, press releases and feedback/reflection sessions will help establish a reputation making future fairs more successful.

1. Location: The event being planned and the number of students involved will dictate how much space, time, etc. are needed. Following are bullet point factors to consider.
   1. Space: allow for 5 feet of table space if using the traditional 4 foot wide tri-fold display board. Provide chairs for each student. Provide enough table space for log-book and and equipment display as well as project number display … be sure this doesn’t get covered up. Always err on the side of EXTRA space instead of too little. A gymnasium or cafeteria are ideal.
      1. [Sample Layout](https://docs.google.com/document/d/1NkiO75V6c3JKJIZxpBZSWsed6dlhy7X_oYdWI7Gh6ag/edit?usp=sharing)
   2. Sound: A comfortable conversation volume is critical. Be aware of echoing, reverberation, outside noise interference, etc. As such, a high ceiling is ideal. Similarly, be sure the noise you create is not interfering with other peoples’ activities.
   3. Lighting: It may seem obvious but this is equally critical. A judge/interviewer must have enough light to read all components of the display. Be aware of the shadows that are often created by the display board and, often, your judges/interviewers are older, using eyeware that requires appropriate distance viewing.
   4. Time: Be sure to allocate an uninterrupted time frame that is appropriate for the planned event … weekend would be ideal. Student energy will be higher and community adult support will be more reliable than an after-school time.
      1. Provide appropriate time for judges/interviewers to review the display WITHOUT the student present. Two minutes to 10 minutes depending on age group.
      2. Provide 5-8 minutes of interview time per project.
      3. Student orientation is necessary but can be done in the classroom leading up to the event.
      4. Judge orientation requires 15-30 minutes.
      5. Award ceremony should be at least 30 minutes but no longer than 1 hour.
   5. Miscellaneous:
      1. Provide electrical outlets and students can provide their own extension cords.
      2. Provide refreshments/snacks for judges/interviewers and volunteers.
      3. If event extends over lunch then lunch should be provided for everyone (students as well) or time needs to be allocated for people to go off-site for lunch)
2. Ethics and Safety -
   1. Pre-event student research must be done with utmost attention to safety and, when appropriate, ethical practices. When procedures don’t pass the “smell test” for either of these issues then a qualified professional should be consulted.
      1. At the high school level the teacher should form a scientific review committee to evaluate and approve (or disapprove) project protocols BEFORE EXPERIMENTATION. This committee should include science/engineering professionals that understand risk assessment.
      2. At the elementary and junior high level this responsibility can fall on the teacher and/or parent. However, the event sponsoring person/organization cannot include a project that has been performed with blatant disregard for safe or ethical experimentation.
      3. For more information you can refer to <http://www.bssef.org/forms_list> or <http://www.bssef.org/junior-high-home-page>
   2. Event project display also must be monitored … for example: open electrical circuits, dissection images, personal survey information, etc. should not be displayed. Again, use the “smell-test” here and for more info refer to https://student.societyforscience.org/intel-isef-display-and-safety-regulations#notallowed
3. Judging or audience, reward, award (assessment linked to standards). Audience - jot down notes as they ask questions to participants. Formative feedback to teacher on students ability to communicate science. Project numbers. a
   1. [Aspects to Consider when Judging](https://docs.google.com/document/d/1B_l1lEqg7X-1SNOdkZrzfKLzxN1SkJIfXACmVwJwAl4/edit?usp=sharing)
   2. [Sample Evaluators Question Form](https://docs.google.com/document/d/1CsczJV760fKrNP6NsVUSaJhnXKQ_mezFajAcqAM7nJQ/edit?usp=sharing)
   3. Preparation of Evaluator- explain rubric
   4. Who are good evaluators? university professors, other teachers, community business representatives, past participants and more!
   5. [Rubric Example #1](https://drive.google.com/open?id=13TOtGtt6DoDjQEfUepJWv5LD6HwjpklHo0J7v6klLYE)
   6. [Rubric Example #2](https://docs.google.com/document/d/1lzm_wJwJeLqQw3x3Wgf5AScKbKD1UpTefnm1AWZZr9s/edit?usp=sharing)
4. Community involvement: Involving the community is an important aspect. If the community is involved it will gain more positive attention for the great things that are happening. Ask the community and businesses for support such as:
   1. Financial support
   2. Supplies for students
   3. Professionals with STEM knowledge (how do do surveys, background information etc.)
   4. Donations of coupons for items for awards
   5. Donations of service (printing, catering etc)
   6. Outside of the school evaluators/judges
5. Colleague and administrative support-make sure you have support from administration. Get prior approval and share your ideas and needs. Make sure to get the date on the school calendar and reserve that facilities that you will use. If students are pulled from other classes make sure staff know in advance.
6. Resources to start a STEM project in your classroom
   1. [Starting a Local STEM Fair Questionnaire](https://drive.google.com/open?id=19Mr7JUdvPOOWk3KkIjScO6GAVsDfGhtWdmoOtR20bSM)
   2. [Choosing a Research Topic](https://drive.google.com/open?id=1l0lLENxf7dBLeWyw5SfBLynfQ3t6l4fb3g9oYwe23to)
   3. [Sample Science Fair Packet](https://drive.google.com/open?id=16pCcBE476HbW3aFe5522bqenh5mxHEEe4b7k5_0yP04)
   4. [Sample Timeline](https://docs.google.com/document/d/1sb1DVBbyqLwsE447HV8S0YqybLYMKlmfT3GKgTkSodA/edit?usp=sharing)
   5. [Sample letter to judges before event](https://drive.google.com/open?id=1xnGLZPbcjjuQjED0FOA-KQdq7YpyIb1PBG24EMXJi5g)
   6. [Sample Hall Pass for participants for judging](https://drive.google.com/open?id=1ChEWiswqOspsZg40azU_jiQitlFAKASwNFg0octBSuE)
   7. [Judging orientation powerpoint](https://drive.google.com/file/d/1ISTo47x0-UGw-A_UARxrxoGG1yvTM82q/view?usp=sharing)
   8. [Sample Letter to Businesses thanking them for their support](https://docs.google.com/document/d/1m7B2aozQh0z7FR6VHXnmcLRQgU36P-ROYt8F683YHWE/edit?usp=sharing)
   9. [STEAM/Science Fair ideas for students](https://drive.google.com/open?id=1HfVgE6cXh-3Fn549j9nK0a-O-9HcEdS7zXT8i3GsMyk)
   10. [Score input sheet for judges scores with formulas entered](https://drive.google.com/open?id=1vttW_yJjDOh0yl3v8z7uUAFKfi6dOv5mRsJB82zdMDE)