

## DVSF Judging Procedures - Category Awards

Congratulations on joining us in our annual quest of “**Selecting The Best and Encouraging The Rest**” of the brightest young minds in our region. Science Fairs are a very rewarding experience for both the judges and our students. You get to interact with future STEM leaders that will renew your hope for our future, and they get to learn from adults that serve as their role models for their future STEM careers.

### **Before the Judging Day:**

All judges will need to [register through STEM Wizard](#). [Returning judges can use your previous login](#) information to register for the current year’s fair. You must complete all milestones so that we can share important updates and information, assign judges to grade levels and categories, and give you access to project abstracts prior to judging day.

- 1) You’ll be asked to select the grades and categories that you would prefer to judge.
  - a) The grades are divided into 6 separate science fairs: 12th, 11th, 10th, 9th, HS TEAMS (grades 9-12), and MS 6th-8th.
  - b) DVSF’s categories are: Behavioral & Social Sciences, Biochemistry, Botany, Chemistry, Computer, Earth and Space Sciences, Engineering, Environmental Sciences, Mathematics, Medicine and Health Sciences, Microbiology, Physics, and Zoology. The MS 6th-8th Grade Fair also includes the Middle School Teams projects and a Consumer Sciences category.
    - i) A TEAM project may be any category or a combination of categories
  - c) DVSF does its best to assign your preferred grade/category, however the projects and judge availability may limit us. Please accept a judging assignment elsewhere if you’re needed there.
- 2) If project abstracts are available before the fair, you may find it very helpful to get an overview of the variety, quality, and specific details of as many projects in your category as possible.

### **Each project will be scored based on the following criteria:**

- 1) **Research Question (10%)**: the explanation of the project’s merit, what was learned, and how it relates to the project.
- 2) **Design & Methodology (15%)**: how well designed it is, its detailed procedures, & appropriate controls.
- 3) **Data Collection & Testing (20%)**: includes systematic data collection, reproducibility of results, and sufficient data collected
- 4) **Analysis & Conclusion (20%)**: appropriate application of mathematical and statistical methods, data supports the interpretation and conclusion, identifies outliers or unexpected data (no hidden data)
- 5) **Creativity & Potential Impact (10%)**: project demonstrates significant creativity in one or more of the above criteria and/or has potential impact in its field or society.
- 6) **Interview (25%)**: the ability of the students to quickly, concisely, & clearly communicate what they learned.
  - a) For Team Projects, the judge is looking for equal work/knowledge from each teammate.

The above 6 criteria are only guidelines to give judges (especially new ones) an idea of relative importance. The main thing all judges should be evaluating is **what the student(s) learned**.

### **Wednesday Judging Day Starts at 8:00 AM**

You must arrive and be ready for an 8:00 AM briefing from our Executive Director. You are welcome to join us at 7:30 AM to meet other judges and enjoy a continental breakfast.

- Many students will be dressed professionally (suits, blazers with dress pants, dresses, etc.); it is up to you if you'd like to do the same.
- Wear comfortable shoes! Even sneakers are OK, since you will be walking around a LOT today.
- Upon arrival at the Greater Philadelphia Expo Center at Oaks, follow signs to park near Hall Entrance B. The building has a digital sign above the entrance, and we have DVSF signs by the door. After entering the hall, pick up your badge from the rectangular tables near the entrance. If your badge is not there, check in at the Judges' Registration (left-most table there). Be sure to wear your badge visibly all day. Anyone on the exhibit floor MUST have a badge!

The 8:00 AM briefing will provide any last minute instructions and introduce your Grade Level Fair Coordinators. You will meet with them before entering the exhibit hall so you can meet your lead judge and get your judging supplies.

**Fair Coordinator and Category Group Meeting:** Your Grade Level Fair Coordinators will distribute materials and answer any questions. We recommend you bring a writing utensil and clipboard or something to lean on when filling in the scoring sheets. Then the Lead Judge for each category will organize their group of judges and projects to ensure every project receives at least two separate reviews.

**Morning Survey of the Projects in Your Category.** (Without students present, from 8:30-11:30 AM.)

- 1) Your Lead Judge will assign which projects you will be responsible to review.
- 2) Budget your time in order to review all your assigned projects' displays and develop specific questions to ask those students. The more detailed and specific to the details of a project, the better.
  - a) Look through all displayed materials and make notes about positive observations, areas to improve, and questions (about specific project details) you may have for the afternoon interview.
  - b) You are judging the relative strengths of the projects today, not comparing those with projects you've seen at other fairs, done by graduate students, or your peers.
- 3) If you think that you know any of the students in your group of projects, then you must inform your Grade Level Fair Coordinators immediately. They will assign you to another team to avoid any perception of a conflict of interest.

Box lunches are provided in the judges' hall from 11:30-12:30. Students will arrive and sit with their projects at this time, so they are ready for interviews after lunch.

**Afternoon Interviews Start at 12:30 PM**

- 1) It is very important that this is ALWAYS a positive experience for every student. Our charter is to "Select The Best, Encourage The Rest." Remember these are students, and they are looking for feedback from you, the STEM professionals. Be kind and do not insult students or their work under any circumstances.
- 2) Students have worked hard on their projects and are eager to share them with you. We understand you have professional and personal obligations that may require immediate attention, but please mute your phones during interviews. The students will greatly value your undivided attention.
- 3) Respect students' & other judges' personal space. We all have different cultural norms.
- 4) Please do not exchange personal information during the interview process.
  - a) Don't attempt to determine the students' identity, school, county, etc.
  - b) Even if well intended, this could be misunderstood as favoritism bias on the part of the judge.
- 5) This is meant to be an *interview* - do not allow the student to give you a 10-minute speech.
  - a) Try to have questions ready for the student. That's part of what the preview time is for.

- b) Reward students that show enthusiasm for their project, do not hide ‘bad’ data, can explain what caused unexpected results, and how they overcame any obstacles.
- c) It is better for each judge to interview students individually, not with a team of judges at once.
- 6) Don’t worry if you are nervous, most of the students are more nervous than you are!
- 7) Don’t worry if you’re not an expert in the project’s nuances. Part of what you’re grading is the student’s ability to explain their project’s purpose, methods, and results to you.
- 8) If you are an expert in their project’s subject, try hard not to correct or add to the student’s answers.
  - a) Otherwise, judges coming after you will think that the student knows more than they actually did.
  - b) We are trying to judge the student/project, hopefully not what you’ve taught them to say.
- 9) Never presume a student “could not have performed the work”. We have some amazing young minds out there that in some cases have already been published internationally and/or patented their work.
  - a) Ask them for details of any aspect of the project you have doubts about & find out for yourself.
  - b) We are aware that AI is a tool that can be used inappropriately. Your questions will help you evaluate if the project is the student’s original work or not.
- 10) All multiyear projects are required to have a Form 7 detailing what was done in previous years. You may ask the student specifically what was done in the last year, but you should only judge on the current year’s work.
- 11) Do not penalize a student for work done in a professional lab; they’ve had to work to even get access to it.
  - a) Read the required Form 1C for specifics of what the student vs. the lab personnel actually did.
- 12) Budget your time to interview each assigned project for the same amount of time, about 10 minutes.
  - a) Due to the large number of 6th-8th grade projects, there’s usually only 5 minutes for their interviews.
  - b) For team projects, interview each team member to find out how much they shared the work and resulting knowledge gained from completing their project.
  - c) Students are very aware of how much time a judge spends with their competitors, so please try to give each student a fair and equal amount of time.
- 13) For categories with a lot of projects, your Lead Judge may ask you to pick your top 2 or 3, allow other judges to interview your top picks, and have you interview their top picks as well. Please do this as quickly as possible so results can be submitted before the deadlines.
- 14) After your interviews are complete, you’ll return to the judges’ area to discuss and decide on your winners.

**Sample INTERVIEW Questions** (specific questions about their project are preferred)

- How did you pick this project?
- What did you do?
- Who did you work with?
- Where did you work?
- How long did you work?
- What is the significance of your results?
- How did you reach your conclusions?
- What did you learn during your project?
- What new skills did you learn for your project?
- How would you continue this research?
- How did you start this project?
- Why did you do it that way?
- What problems did you have to overcome?
- How did you overcome those problems?
- With what resources did you work?
- Who are the authorities in this field?
- How did these authorities influence your work?
- What was the most surprising thing you learned?
- Did you consider doing the project in a different way?
- What would you change if you had to do it over?

**Afternoon Caucus** (Conducted ONLY in the Judges Area, away from all students.)

- 1) Your Lead Judge will facilitate your group as you select your 1st Place winner ASAP
  - a) Your Lead Judge uses the “DVSF 1st Place Category Winner’s Card”, fills in the Project Number and Title, and gives it to your Grade Level Fair Coordinators NO LATER THAN 3:00 PM!

- b) This allows the Medals Judges time to interview every 1st Place Category winner before students leave at 4:30 PM. They need enough time to evaluate the projects and choose the students that will represent DVSF at the International Science and Engineering Fair (ISEF).
- 2) You will then decide on your 2nd Place, 3rd Place, and Honorable Mentions (No more than 10% of category).
  - a) You must choose at least a 1st, 2nd and 3rd place award winner in your category. You must assign all three places, even if you feel a project may not be deserving of a top three prize.
  - b) Your Category Lead Judge uses the "Category Award Winners" Sheet' to fill in the corresponding Project Numbers and Titles, and gives it to your Grade Level Fair Coordinator.
- 3) Your group's final task will be to fill out one "Student Feedback Form" for each project.
  - a) This is to provide as much positive and constructive feedback as possible, to aid the students in their future science research endeavors, which may include competing at ISEF in May (the International Science and Engineering Fair).
  - b) You are encouraged to write as many specific sentences of encouragement and improvement suggestions at the bottom of the form as you can.
  - c) Only ONE form is needed for each project from the entire judging group, not one per interview.
  - d) This is the ONLY written feedback the students receive from the judges. They NEVER see any of your notes, numbers, or other judging materials.
  - e) Your Category Lead Judge shall ensure all your Team's "Student Feedback Forms" are turned into your Grade Level Fair Coordinators, NOT directly to the students.
- 4) Category Lead Judges should remain available until they are dismissed by their Grade Level Fair Coordinators, since the Medals Judges may have questions.
  - a) Medals Judges only interview the 1st place category winners for the grade level they're assigned to. They select the Gold, Silver, & Bronze winners in each grade. The medalists from grades 9-12 will represent DVSF at ISEF.
- 5) Please do not discuss any DVSF awards results with anyone until AFTER the Thursday evening Awards Ceremony, as this is meant to be a surprise for the award winners.
- 6) A Complete Winner's List will be posted on our website ([www.DVSF.org](http://www.DVSF.org)) by Friday afternoon.

Thank you so much for volunteering your time to help advance STEM Education in our region. Your influence can have a lasting effect on these young scientists wherever their lives may lead.