Comparing Projects with Different Levels of Sophistication

Judging projects done in professional labs versus those done at home can be challenging. Judges shouldn't argue that a student would have performed better or worse with different resources. Some students thrive with access to professional facilities, while others may rely on them without significant effort. Each student should be judged on their personal scientific achievements and use of available resources. Students must clearly explain their contributions versus those of professionals, along with their project's results.

Students who work entirely on their own may appear to be at a disadvantage when judged solely based on the project's title and display. If their accomplishments are, in fact, superior to others, the interview is where the playing field is leveled. It is important to identify how the student made a difference in the direction of the project.

Regardless of where the science project is conducted, good scientific principles and engineering practices must be evident. The student's level of scientific understanding should be consistent with the project's level of technical sophistication and complexity. Judges should apply this standard in evaluating the student's project.

Comparing Team Projects With Individual Projects

Judges should focus on evaluating the quality of each student's personal contribution to the science in all projects, regardless of participant numbers. In order for the judge to be able to evaluate the level of science of a team project, it is essential that **all** students in the team participate in the interview (unless otherwise acknowledged).

Both students on the team should have general and specific knowledge of the project such as how the question was conceived and was subsequently answered.

The judge has the freedom to ask a question of either team member. However, the judge should be aware that the team has the equivalent freedom to choose a spokesperson and may refer a particular question to the more knowledgeable student.

In your comparison of a team project with one done by an individual, it is fair to have higher expectations of the team project regarding the overall level of effort involved in the project. In other words, team projects have greater resources (the number of minds working together) and therefore a greater capacity for more research and data collection, more time, effort, and thought spent on the project, and more analysis than someone acting alone.

There also must be evidence of team collaboration and synergy between team members (which should become evident during the interview process). In particular, the judge should try to ascertain how fully the resources of the team have been exploited. Remember that one of the primary goals of team projects is to encourage students to work as a team (mimicking the way science is done in the real world), and to encourage project management. Both team members should have made a significant contribution to the overall project.

Finally, please do not discount any student for having worked in a team (or in a research lab for that matter) because you feel they have had an unfair advantage.