

# Appendix

Forms you might want to use:

## LIABILITY FOR EXHIBITS

Every effort will be made to protect your exhibit. However, since the Science Fair Exhibition will be open to the public, the \_\_\_\_\_ COSEE Science Fair cannot and will not accept any liability or responsibility of any nature for any theft of, or loss or damage to, any exhibit or any other property of any exhibitor. Accordingly, it is recommended that each exhibitor take product precautions to prevent any theft, loss or damage to his/her exhibit and/or other property. Each exhibitor should secure and guard his/her exhibit and/or other property at all times during the exhibition, and remove all valuable components, especially those which are easily portable, when the exhibit and/or other property is left unguarded by the exhibitor.

I have read the above paragraph, and understand and accept that the \_\_\_\_\_ Science Fair cannot and will not accept any liability or responsibility for theft or damage to any exhibit.

Single entry participant/Team member #1

\_\_\_\_\_ Date \_\_\_\_\_

Parent/legal guardian signature

\_\_\_\_\_ Date \_\_\_\_\_

Team member #2

\_\_\_\_\_ Date \_\_\_\_\_

Parent/Legal guardian signature

\_\_\_\_\_ Date \_\_\_\_\_

Team member #3

\_\_\_\_\_ Date \_\_\_\_\_

Parent/Legal guardian signature

Supervising

\_\_\_\_\_ Date \_\_\_\_\_

## Media Permission

The \_\_\_\_\_ (Date- Location) \_\_\_\_\_ Science Fair is a significant event and your presence there is newsworthy. The organization or businesses sponsoring awards at the fair may want to publicize their involvement in such an important science competition by using photographs or information about you. Your cooperation may make it possible for other promising young student to get involved in science.

You have my permission to use appropriate information about me for publicity purposes. This includes any photographs, videos, or likeness(es) that may be used by COSEE or the sponsors for the purposes of illustrations, advertising or publication in any manner. I also consent to the use of my name in connection therewith.

Single entry participant/Team member #1

\_\_\_\_\_ Date \_\_\_\_\_

Parent/legal guardian signature

\_\_\_\_\_ Date \_\_\_\_\_

free time. Group ice breakers are the quickest way to initiate interaction among fair participants. Students should know how to introduce themselves in a group, giving their name, Native name (if he/she has one), name of their parents and town/village.

Teachers and chaperones have felt the need for more meaningful interaction among the students, developing long-term, statewide, peer relationships. The relationships will serve as a support system in college and later endeavors. While “icebreakers” seem awkward at times, they accomplish in a few minutes what might take days otherwise. Field trips or other large group activities as well as staying in the same location and sharing transportation all contribute to a sense of community. In the past, during the State Fair, we have hired professionals to do team/peer building activities with excellent results. Students come away with a sense of connectedness to other students from across the State.

Consider a stipend for both sets of judges, or at least a gift of appreciation.

### **Future Fairs**

Once COSEE explores the possibilities of a cyber fair, and works out the details, it wouldn't be surprising to if a Circumpolar Fair emerged with competitors from Russia, Greenland, Canada, Norway etc. This has been the dream since 2002.

## B. Western scientists

Teacher/scientists evaluate an experiment or observation:

- How well did a student explained and understand the scientific principles involved?
- How well the student followed the scientific method? (Experiment)
- Detail and accuracy of data
- Creativity and originality
- Presentation
- Conclusions
- Appearance
- Use of materials

Teacher/scientist evaluate a collection:

- Quality and variety
- Creativity
- Good presentation
- Good data. Where and when items were gathered.

Overall, judges look for well planned work. They look at how significant the project is in its scientific field and to the community. They look for thoroughness.

Judges respond favorably to students who can speak freely and confidently about their research. They are not interested in memorized speeches. They simply want to TALK with students about the research to see if the student has a good grasp of the project from start to finish. Besides asking the obvious questions, judges often ask questions outside the normal scope to test insight into research such as “Why did you pick this project?” and “What would be your next step?”

### Helpful Tips in Running a Fair

There are many ways to organize judging.

**Judge by tables.** Judging time can get quite long for students as they wait for judges to come to their projects. Have the judges interview one row of tables at a time, and tell the students in the next row of tables they are “on deck.” (not in the fair site, but close by) Other students are free until they are “on deck.”

As soon as the first row of tables has been judged, those students are dismissed and the second row of students come into the fair site to be judged. The students whose projects are on the third row are now “on deck.” All other students can be occupied

with board games, or other organized activities. This keeps students from having to stand by their projects for three hours until the last projects are judged.

It also helps to organize tables by category: experiments, observations and collections. This helps judges focus on the appropriate scoring rubrics.

**Students come to project when summoned.** This sounds a bit disorganized, but if all students are in the gym away from their projects, judges can call when the student(s) are next. This works well as long as students have not vacated the gym.

It is not realistic to expect all students to stand by the projects for long periods of time waiting for judges to come to them. The long, long wait has turned many students off to science fairs and projects. They say, “Boring” and it is.

**Practice.** After the students have setup their projects, but before the judges come to interview them, allow the students to practice on each other by doing the following:

- Divide the students into two groups, the presenters and the interviewers. Give each a piece of paper with 1 or 2 on it. Counting off 1,2,1,2... doesn't work!
- Presenters stand by their projects and interviewers spread out in front of the presenters. At a signal, the presenters share their project with the interviewers for 3-5 minutes, when the time is up, the interviewers rotate to another project.
- After this is done several times, presenters and interviewers switch positions. The rotating begins again.
- This gives each student the opportunity to share his/her project to peers several times before talking to the judges. It works *great* to kill “butterflies.”

If students aren't listening to directions, it can get a bit crazy, but the potential positive results are worth the risk.

**Unattended projects.** Upon occasion, schools have sent projects without the students. Those projects seldom win high honors, but their presence contributes to the fair. Now that we are using video presentations and Skype over the internet, it is possible for judges to talk live to students who are not physically present.

**Interaction.** If the fair is held in a larger city, groups quickly split off to do shopping or go to movies during

18, 18, 19, 20.....27,27,27,28,29,29,30.....36,36

These are often obvious natural breaks between the blue, red and white ribbons and the levels of performance. There is no given fraction that must be given of each color ribbon. Let the breaks and quality of projects determine the ribbons.

Confer with elders. Red, white and blue ribbons are sometimes unfamiliar symbols to Native elders. Telling them to group the projects. "Good," "better" and "best" might be better descriptions of the groups.

Do they think the grouping is accurate? Fair? Wait for consensus.

### **Western Science Judges**

Western science judges can be found in government agencies and local industry. Some don't relate well to students. Casually interview them before inviting them to judge. The ability to understand students and possession of compassion are often more important than scientific expertise. We aren't delving into subatomic particles and quantum theory. Try to get a balance among judges as biologists far outnumber earth and physical science people in Alaska.

Western science judges are acutely aware of how to judge a science fair, as they have personally participated in so many. Western science judges and elders tally their scores separately. In the past, judges stapled all score sheets for a given project together, averaged the scores and placed that number in the upper right corner of the top score sheet in a bright color. When that is done, they grouped the projects in three ranges: high, middle, and low. The break between the three groups is usually obvious.

The high range gets a blue ribbon, middle range a red ribbon, and low range gets a white ribbon.

Important! Because the number of ribbons required for each group is not known ahead of time, it is good to have a *surplus* of ribbons of all colors.

They are cheap and reusable. Remember, there are two sets of judges, so double or triple your supply of ribbons.

Therefore:

Each project gets two ribbons, one from the Western science judges, and one from the Elders. It is possible for a project to get one blue and one white ribbon.

All projects should be clearly labeled as to category and assigned a project number. Put a line for project number on the upper left of the scoring sheet.

Local fairs might try using Skype on the internet and judges from another community. A laptop and wireless connection could be brought from project to project. Test this for audio and other glitches before the day of the fair. A noisy location might make it unworkable.

Best of show. For the ribbons that identify "Best of Show" and "Grand Prize" western science judges and Elders should be in agreement. Sometimes this takes strong negotiating, and other times it is quickly unanimous. The discussion is always healthy, as elders get to hear what the scientists value, and the scientists better understand the elders' viewpoint. There is no fixed number of projects in this upper category. Have extra awards on hand, but don't feel compelled to give them if the quality isn't there.

When the Western Science and Elder judges have a hard time coming to agreement there are two ways to help work out the differences.

1) Revisit the projects. The judges defend their choices to the other judges, giving reasoning. Do this for all the contenders. If you can tape this portion, the discussion is priceless. Students can later hear what the judges held in high regard. Be discreet in allowing students only to hear what judges say about their personal project.

2) Usually the two teams of judges can agree on one or two projects for Best of Show or Grand Prize. If there is ultimate impasse, then the Elders can pick one, and the Western science judges another. This solution should be a last resort.

### **Scoring Criteria**

COSEE suggests scoring rubrics, but feel free to develop your own.

You might consider:

#### **A. Elders**

Elders review the projects for their alignment with traditional local values and for their contribution to the students' village/community.

- How well did the student maintain local values?
- Is the project important to local culture, city, town or village?
- Is the project of high quality, showing hard work?
- Has the student drawn upon local knowledge and experts, involving the community in the research?