2016 National Science Bowl®
Regional Coordinators' Reference Manual

NATIONAL SCIENCE BOWL®

a competition like no other . . .

U.S. DEPARTMENT OF ENERGY | Office of Science

U.S. DEPARTMENT OF ENERGY OFFICE OF SCIENCE
NATIONAL SCIENCE BOWL®

REGIONAL COORDINATORS' REFERENCE MANUAL

USING THIS MANUAL

This coordinators' manual includes information necessary to organize successful regional academic competitions for the National Science Bowl® (NSB) and prepare the winning teams to participate at the National Finals.

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INTRODUCTION

The U.S. Department of Energy (DOE) Office of Science National Science Bowl® (NSB) is a nationwide academic competition that tests students' knowledge in all areas of science and mathematics. Middle and high school student teams from diverse backgrounds are comprised of four students, one alternate, and a teacher who serves as an advisor and coach. These teams face-off in a fast-paced question-and-answer format, being tested on a range of science disciplines including biology, chemistry, Earth and space science, physics, energy, and math.

A featured event at the National Finals for middle school students, the Electric Car Competition, invites students to design, build, and race battery-powered model cars. This competition tests the creative engineering skills of many of the brightest math and science students in the nation as they gain hands-on experience in the automotive design process and with electric battery technology.

The Department of Energy created the National Science Bowl® in 1991 to encourage students to excel in mathematics and science and to pursue careers in these fields. Approximately 250,000 students have participated in the National Science Bowl throughout its 25-year history, and it is one of the nation's largest science competitions.

More than 9,000 high school students and 5,300 middle school students from 1,900 schools in 50 states, Puerto Rico, and the District of Columbia competed in 2015.

The winning team from each regional competition is invited to participate in the National Finals. The teams representing each regional, both middle and high school, will compete in the 2016 National finals, held April 28–May 2, 2016, in Washington, DC.

The U.S. Department of Energy Office of Science manages the National Science Bowl®, and sponsors the NSB finals competition. The Department of Energy's Office of Science is the single largest supporter of basic research in the physical sciences in the United States, and is working to address some of the most pressing challenges of our time.

CHANGES IN 2015-2016

Rules Changes – The academic rules of the National Science Bowl are tweaked annually to ensure that no team or student has an advantage over any other team or student. Regional Coordinators will be notified when the rules are updated. The latest, and official, copy of the rules is the set found at this page: http://science.energy.gov/wdts/nsb/about/coordinators/coordinator-resources/

For 2016, there are no major changes to the rules. Some of the language was updated for clarity and consistency.

REQUIREMENTS FOR HOLDING A REGIONAL EVENT

Why requirements?

The Department of Energy Office of Science is grateful for the volunteer regional coordinators and host sites and wants to respect their high standards for the event. Since space for teams at the National Finals is limited, and there is greater demand to start new sites, DOE will support only those locations with the biggest outreach to teams and support of science education.

Minimum Number of Schools

A regional competition must have a minimum of 12 teams from at least **ten different schools** registered through the NSB on-line system. First year regions only need to have at least ten teams from at least six different schools. There are no consequences if fewer teams show-up on the day of the event.

- New regional sites will have a "learning period" of two years to reach minimum team numbers.
- Each regional competition must meet the minimum number of schools.
- If the minimum number of schools and teams is not met, the regional winning team will not be eligible to advance to the National Finals in Washington, DC.

The minimum count of teams is measured from the on-line system, not by the teams in attendance. Please communicate the consequences of not meeting the required number of schools and teams to all participants as soon as their regional registrations are approved. The approved coaches will help you recruit additional schools.

On-line System: https://www3.orau.gov/nsb-coordinator/Application/Dashboard

The on-line system is designed to collect data and streamline paperwork for both the regional coordinators and DOE. **All** regional coordinators **must** have their teams use the on-line system to register for their events. Technical assistance from DOE is always available to regional coordinators or coaches as needed. **Regional coordinators that do not use the on-line system for their regional events will not be eligible to send their regional winning teams to the National Finals or participate in future years.**

Approving Teams for Regional Competitions

In case the number of team registrations exceeds the capacity of the regional events, regional coordinators must follow the same selection process to be as fair and transparent as possible. Up to three teams per school can register for a regional competition. Regional coordinators must decide, and publish on the NSB website, the number of teams per school eligible to participate, space permitting, at their regional competitions - this number will be one, two, or three. A school can register up to three teams, Team 1 (first team), Team 2 (second team), and Team 3 (third team), as soon as the registration period opens. Teams will be approved on a first-come, first-served basis determined by the date/time stamp when their registration was submitted, with first teams taking precedence over second teams, and second teams taking precedence over third teams, with the goal of as many different schools participating as possible.

Eligible first teams will be approved by the regional coordinators to participate as soon as possible after registering. Beginning 5 weeks prior to the regional event and space permitting, second teams will be approved by the regional coordinators to participate. Beginning 3 weeks prior to the regional event and space permitting, third teams will be approved by the regional coordinators to participate.

Note: Homeschool groups that belong to official homeschool associations are considered to belong to a school, and are eligible to participate.

Regional Boundaries

Each regional coordinator must identify a geographic area from which to recruit teams - no geographic region shall overlap with another. Schools may be granted an exception to attend a regional event outside of their geographic region only if: 1) the team has a conflict with another school activity; 2) BOTH regional coordinators (the school's regular coordinator and the coordinator of the region to which the school is switching) agree to the exception; and 3) the National Coordinator is notified and approves the exception. If approved, a school can attend a different regional for one year, however, the school will only be able to compete in its original geographically-assigned regional event for the next 5 years. For example, a school changing regional events in 2016 regionals may only attend its original geographically-assigned regional event until 2022.

Ensuring the Right Team Members

To make sure that each team coming to nationals competed together on the regional winning team, regional coordinators will be asked to double check the electronic registration form to the winning roster before submitting. Some coaches try to make substitutions because of illness, scheduling conflicts, or for competitive advantage, which is forbidden.

Coaching Teams

Regional coordinators cannot coach their regional winning teams before or after their regional events. Minor help with strategy and logistics for nationals is okay. It is NEVER okay to share old questions or lead practices. Coordinators may not be the coach of a team participating in their regional event. The importance here is on the perceived fairness to the other teams.

DEADLINE LIST

Regional Commitment	July 15 - annually
On-line Registration Opens	October 1 at noon Eastern time, annually
Regional Events	January 16 – March 13, 2016
National Forms Due	March 15, 2016 or TWO weeks after the regional event, whichever comes first
National Finals	April 28 – May 2, 2016

COSTS INVOLVED IN COORDINATING A REGIONAL SCIENCE BOWL

- Solicitation of teams – postage
- Lock-out systems, clocks (some regional sites share or require teams to bring systems)
- Art design, program printing, reproduction
- Trophies or similar awards for winners
- Meal or snack during the day of competition
- Training time for personnel working on regional competition
- Supplies: flip charts, markers, paper, pencils, signage, etc.
- Rental of facilities (may be donated by sponsor e.g. school/university)
- Optional costs: hotels for teams who travel long distances, goodies and giveaways, t-shirts for team traveling to nationals, and enhancement activities

DEVELOPING PARTNERSHIPS

Establishing private sector partnerships is a critical component of many Regional Science Bowl programs. **All regional coordinators must receive approval from their host organizations before recruiting sponsors. Some organizations may have limits on the number and types of sponsors.**

Many organizations and universities have had corporate sponsors that contributed money, gifts, trophies, prizes, scholarships, and food for luncheons. Examples of past sponsors include: bookstores (gift certificates), schools and colleges (space for event), hotels (for team lodging), fast food restaurants (event food or gift certificates), local rotary clubs (volunteers), local sports teams (tickets for prizes), and trophy companies (trophies). High schools, community colleges, and universities may allow competitions to be held on their campuses free of charge. It is essential that contact with local businesses begin early in order to secure sponsorship of gifts for the competition. Sponsors should be acknowledged in the program.

ACADEMIC TOURNAMENT

Each regional site determines the schedule and format for the competition. Regional coordinators may choose from any of the formats below. There are advantages to following the format at the National Finals so that the winning regional teams are more acclimated, but each site has its own limits and talents. The choice of format will depend on available space (10 rooms versus 20 rooms), the number of volunteers, the number of equipment sets, and the number of teams. The three most common formats are:

- Round Robin/Elimination: Teams are divided into divisions to play within a division, then high teams advance to an elimination format, based on the teams' win-loss records. This format will take more time and space than the others.
- Single Elimination: Teams are either seeded or randomly matched up and once they lose a match are eliminated. Winners advance till there is one undefeated team. This is the most simple and fastest format.
- Double Elimination: Same as above but teams move to challenger bracket after one loss and are eliminated after two losses. Winner of challenger bracket plays undefeated team for title.

Under no circumstances will game scores themselves (as opposed to numbers of wins, losses, and ties) be used to eliminate teams from competition.

The "Coordinator - Resources" section of the National Science Bowl® website has sample Round Robin and Elimination brackets: http://science.energy.gov/wdts/nsb/about/coordinators/.

Marshall Middle School students competing in the Middle School Academic Tournament.

ACADEMIC QUESTIONS

There are multiple sets of questions to cover regional and national competitions. Depending on the location and event date, regional coordinators will receive one of the sets of questions in early January. The goal is to limit the chances that a visitor might overhear a question that they can answer in competition weeks later. Questions are written to match the grade level of the students and become progressively more difficult in later competition rounds. Questions in Rounds 1 - 10 are fairly equal in difficulty. Beginning with Round 11, questions become more difficult by round, with Round 17 being the most difficult. Round Robin competitions should use Rounds 1 - 10 and use the later rounds for the elimination tournaments.

Note: All regional staff and volunteers that will receive a copy of the regional questions must sign a National Science Bowl® non-disclosure form (located here: http://science.energy.gov/wdts/nsb/about/coordinators/coordinator-resources/). Each regional coordinator must manage the completed forms for his or her regional and be able to produce the signed forms upon request. The forms can be hand-signed and mailed, faxed, or emailed.

The questions are reviewed by a group of science/math experts prior to being sent to the regional coordinators. In addition, each regional site is encouraged to have a team of experts review the questions before the event. Please send feedback/errata from the review to jan.tyler@science.doe.gov for circulation to other regionals.

Regional coordinators should collect printed questions after the event and destroy them. Do not release questions to teams, volunteers, or the media. These questions could possibly be used in the future or may be similar to future questions. Teams may find practice questions on the NSB web site.

Due to the significant concerns surrounding unauthorized distribution of the NSB questions in electronic form, DOE is not authorizing use of electronic versions of the questions by moderators and science judges during the regional competitions. Printed versions of the questions must be used for the competition.

NEVER share ANY questions with any regional winning team to assist them in practicing. For example, middle school students should not have access to past high school questions.

SCIENCE BOWL CENTRAL

Science Bowl Central is designed to provide a central location for information prior to and between rounds of competition. Officials/volunteers check in here to receive their final briefing and room assignments. Team registration also occurs at Science Bowl Central. Visitors, such as parents, friends, newspaper reporters, or other media staff, will ask for information on the competition in progress.

Science Bowl Central should be staffed by at least two individuals throughout the course of the day. Their responsibilities include answering any and all questions pertaining to the competitions, scores, advancement of teams, etc. In addition, two to four individuals should "roam" the competitions to ensure that everything is running smoothly.

Primary Responsibilities:

- Serve as the source for competition information.
- Update Science Bowl competition scoreboards/flow charts – An overhead projector/screen or a wall-mounted chart can be utilized.
- Facilitate scientific challenges: a pool of science judges (one from each discipline) should be available in a designated area during each round.
- Collect question-packets and official score sheets when they are turned in at the end of each round. You must collect all questions by the end of the competition day. These questions must be destroyed and not given to any teams, officials, etc.
- Have available tie-breaker questions, should they be needed. The need for these may occur at the conclusion of round robin play or at the end of a double elimination match.

Items that should be available at Science Bowl Central:

- Paper, Pencils, Markers
- Extra Buzzer Systems and Official Clocks, if possible
- Extra light bulbs for Lockout Systems
- Extra batteries for Official Clocks
- Extra question sets and tiebreaker questions

At the beginning of the competition, a few extra volunteers should remain at Science Bowl Central to serve as "emergency" officials in the event that one of the scheduled officials does not arrive.

SCIENCE BOWL EQUIPMENT

When equipment is a prohibitive cost, regional coordinators do network with each other to share equipment. The recommendation is to plan to share early so that the dates of the regional events allow for shipping/delivery. (Each system can cost $120-$800, and each competition room will need one system.) Other resources may include borrowing them from a local university quiz bowl team or one of the local high school science bowl teams.

Vendors for lock-out buzzer systems (in no special order):

- Novel Electronics: www.buzzersystems.com (used at the National Finals)
- Quiz Systems: www.quizsystems.com
- Zee Craft: www.zeecraft.com
- Knowledge Master Quiztron III: www.greatauk.com/CompetitionEquip.html
- QuikPro Systems: http://www.quikprosystems.com/
- Patrick's Press: www.patrickspress.com/Buzzers.htm
- Quizco QuizMaster: www.quizco.com

Official Clocks:

- Some facilities have used sports competition clocks purchased from their local sporting goods store. If computers are available, you may download a competition clock program.
- Others utilize a wall clock in the competition room.
- Stopwatches are recommended to time bonus questions.

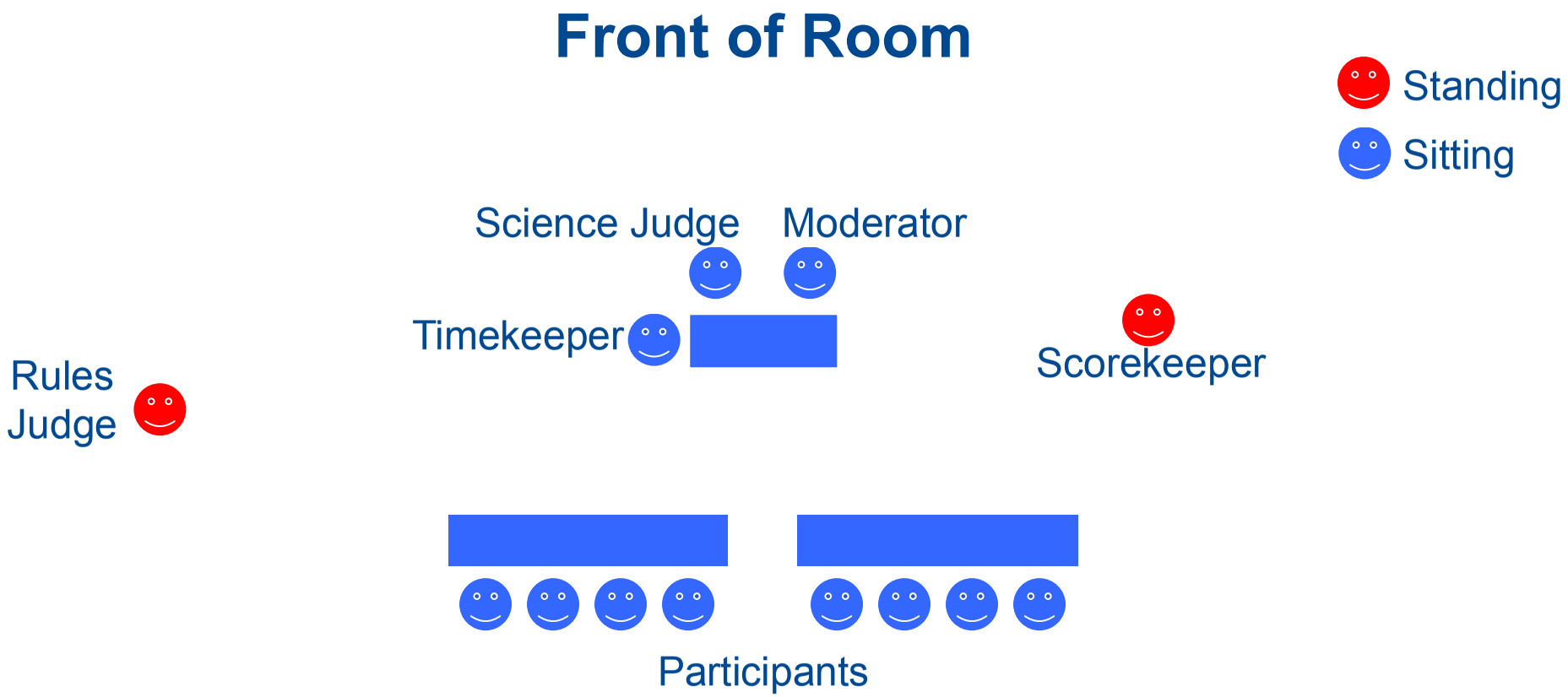
Overall Systems:

- The New Jersey regional science bowl has a computer program available to use for competition – contact Andrew Zwicker (azwicker@pppl.gov) for more info. Besides the automatic scoring/timing, the program sends an email to "Science Bowl Central" with the results, eliminating the need for someone to run a piece of paper from a competition room to your coordinator. The program is JAVA-based and will run on a PC or Mac.

Competition Room Set-up:

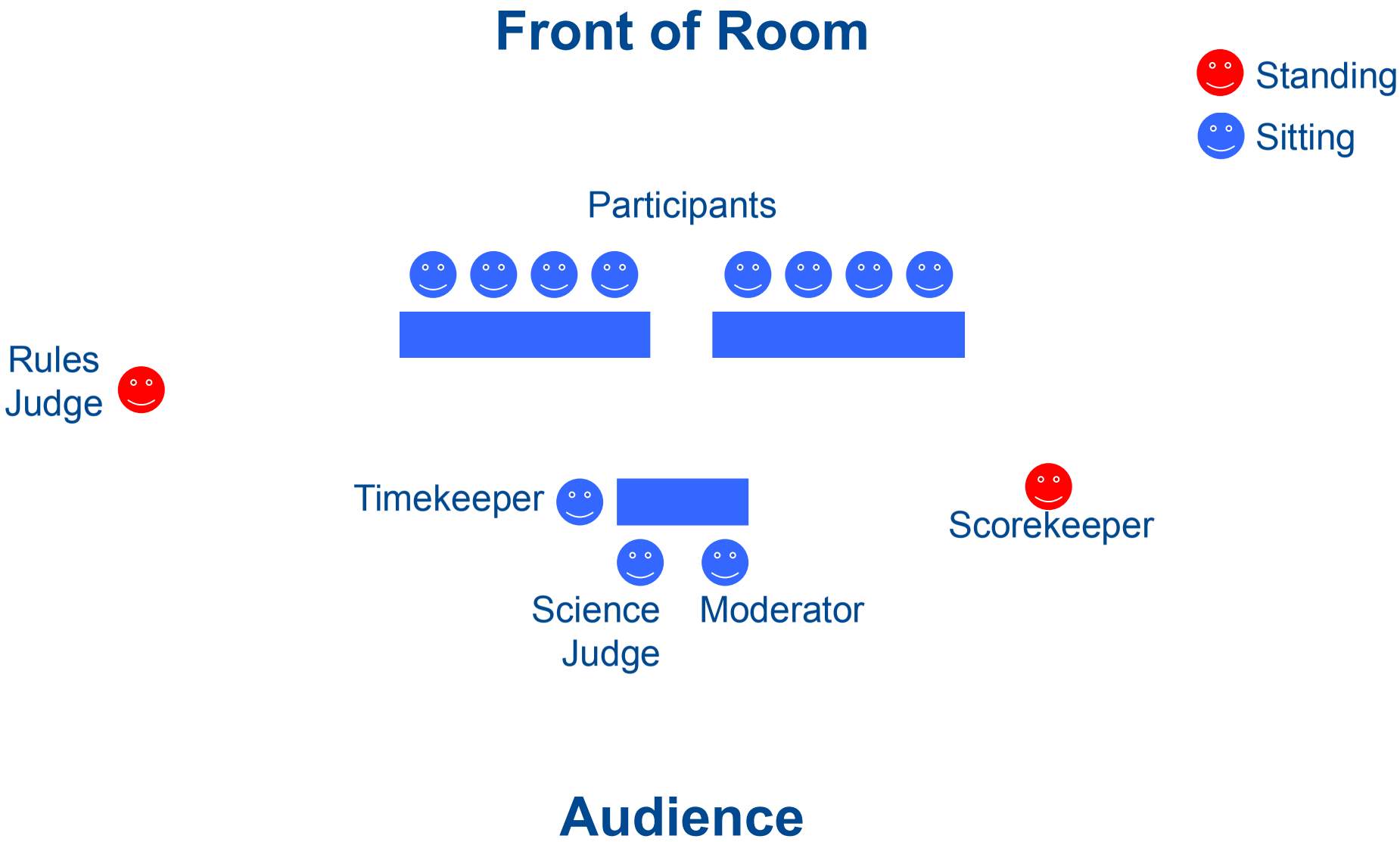
- The next two pages show the different options for setting-up competition rooms. There are advantages to both scenarios - the audience can see either the students or the score, but not both.

NSB Competition Room Set-Up
(Audience cannot see students)



NSB Competition Room Set-Up

(Audience can see students - increased chances of cheating)



REGIONAL COORDINATOR

The laboratory director, facility manager, education director, utility representative, etc. should appoint one person to coordinate the facility's Regional Science Bowl. This person will be responsible for planning and executing the regional competition, serving as the winning team's point of contact and working with the national coordinator. The regional coordinator will represent his/her facility at the National Finals by serving as the team's escort and can expect to be utilized throughout the National Finals. There are many tasks that the regional coordinators are assigned, from bus monitors, to seminar facilitators, to competition officials. This is work!

Many sites have a Science Bowl committee with members having specific responsibilities, such as volunteer coordinator, media, sponsors, etc.

In order to ensure an easy transition to the National Finals competition, we ask that each Region strictly follow these procedures:

- Host the regional event within the date guidelines so that the National coordinators can have the necessary information to plan their event. Regional competitions must be conducted between January 16 and March 13. All forms are due within two weeks after the regional or by March 15, 2016, whichever occurs first.
- In order to avoid misinterpretation of the rules at the National competition, the same rules should also be used for the regional events. **In order to prepare the teams, if the regional rules do deviate from the national rules, the Regional Coordinator must send an e-mail to jan.tyler@science.doe.gov stating the differences.**
- Solicitation of teams can be done in any manner that is fair and inclusive. Private, parochial, and home schools are all eligible to participate (see eligibility rules).
- Regional events are required to use the on-line registration process. The on-line system is used by DOE to evaluate the Science Bowl and was created so that information can easily submitted by each participating team.
- To qualify to send a team to the National Finals, a regional competition must be held and coordinated under the leadership of the Department of Energy's Office of Science.
- The regional science bowl coordinator should not be a team coach, teach at a competing school, or assist in team practice. This will help avoid conflicts of interest, ensure integrity of the questions, and clarify roles/relationships of the coordinator to volunteers and to other coaches.
- A regional competition must have a minimum of ten **schools** signed up. First year regionals only need to have 6 different **schools**. There are no consequences if fewer teams show-up on the day of the event.

- Regional media coverage should be arranged through your local press office. However, only a few questions (fewer than 10) from the competition may be aired or published, and only in the interest of media use.
- Training of all personnel working at the regional and National competitions is mandatory. Moderators and science judges MUST have knowledge of the scientific material and be able to clearly enunciate the questions and properly pronounce the scientific terms. While rules judges, scorekeepers, and timekeepers need not have knowledge of the material, they must know the rules and be trained in the proper procedures. Sample training materials can be found on the NSB website.
- The regional coordinator will provide the regional questions to the moderators and science judges prior to the competition. They are responsible for securing this material and returning it following the competition. To avoid problems regarding the security of the questions, moderators and science judges should not be related to any participating coach or student. All regional questions must be collected and destroyed after the competition.
- Once a team has won the regional event, the regional coordinator must immediately notify the National Coordinator by 1) texting the name of the winning team to (757) 880-3359 and 2) identifying the winning team on the on-line system. Each regional coordinator is responsible for making sure that the winning team submits all necessary forms for the National Finals by the stated deadlines. Either the coach or the regional coordinator should gather, sort, and review all forms before sending them in as one complete team package. Forms are to be complete and legible and may be sent via fax or email.
- At the National Finals, the representative team from each region must be composed of the same team members who played on the winning team at the regional event.
- Coordinators are strongly encouraged to attend and participate in the National Finals.
- Coordinators are expected to maintain a connection with the National Coordinator by reading all materials sent or emailed, participating in conference calls, and reading meeting minutes.

REGIONAL COORDINATOR FREQUENTLY ASKED QUESTIONS (FAQ)

When should I decide to host a regional event?

Interested sites should apply on the NSB website during the month of July preceding the event (July 2016 for an event in January-March 2017). Every year, each site will need to complete and submit a Regional Registration Form which can be found on-line. It is best to check calendars for your location, sponsors, and volunteers, as well as the local school district calendar before choosing dates.

Who is the regional coordinator?

The regional coordinator is any person who volunteers to be the responsible contact for that regional event – this could range from a college student, professor, teacher, retired employee, home school parent, lab employee, or any other interested adult.

Who works on the event planning?

The regional coordinator often recruits 2–10 people to be on the Science Bowl committee. They can share the workload and better recruit volunteers and sponsors. You may want to have a committee member for different functional areas, such as recruiting and registering teams, recruiting and training volunteers, recruiting and picking up items from sponsors, creating program or t-shirts, trophies and prizes, setting up location, inviting media outlets, etc.

How much does it cost?

See Page 7 for details on regional expenses. DOE does not send money to regional sites, but it does provide the annual brochures, posters, and banners for the winning teams, as well as the questions for the regional events. If you have access to discounted items, you can host an event with little money. The average event runs on less than $5,000. You can recruit sponsors to share the burden, and/or you can ask the teams to pay a registration fee.

Do I get paid?

DOE does not pay any regional coordinators, but some coordinators are paid a salary from their sites, or at least this is included in their job description. Many participate on a volunteer basis.

How much time does it take?

Depending on the size of your event, it can take more or less time. Most coordinators begin the planning process the summer before. Most events are one-day long, but some are a weekend, and still others host several sub-regional events to qualify for their regional event. It does take time! This is work! However, you will have a wonderful time providing this awesome opportunity for many students! Thank you!

Who can I ask for help?

First, look through this manual for helpful tips. Then, contact the National Coordinator or any of the other regional coordinators. You will find most people have had similar experiences. See the "who to contact" page at the back of this manual.

COORDINATOR ROLES AT THE NATIONAL FINALS

Regional Coordinators are encouraged to travel to the National Finals with their teams. Some sites may send more than one representative while others rotate the responsibility.

Coordinators serve an important role on the event team for the National Finals – they work as competition officials, bus monitors, seminar presenters, car race officials, and helpers for a variety of tasks (stuffing goody bags, setting up and registering the teams, moving equipment, handing out awards, etc.) The job starts at 6:00 am and can last till midnight, so expect to be kept busy lending a hand. The National Coordinator will provide a detailed line-by-line schedule with all the details and assignments in advance.

In addition to their responsibilities, coordinators are able to enjoy the energy from the teams, cheer for the teams, and network with fellow coordinators.

Coordinators are invited to provide feedback and suggestions about the National Finals, the question sets, or any other aspect of the science bowl.

TIPS FOR REGIONAL COORDINATORS FROM VETERAN COORDINATORS

Planning the Event

When planning your regional, spread the workload by forming a committee to handle jobs such as finding volunteers, procuring funds and necessary equipment, being responsible for the accuracy of questions, etc.

Select members for a Science Bowl team/committee with the following responsibilities:

- Sponsors – donations
- Training
- Public Affairs – media
- Food and Beverage – coordinates pick-up, set-up
- Administrative – mailings, receipt of packets from schools

- Question Review
- Divisional Assignments of Teams
- Equipment
- Competition Set-up
- Graphics – logo design, program, certificates
- Competition Clean-up – do not assume you will have help at the end of the competition day

With prior approval from the regional host, send sponsor letters out in August with return of monies/commitments by December. Accept all types of donations:

- Breakfast items (juice, bagels, donuts, grocery certificates to be used for coffee, etc.)
- Lunch items (cookies, fruit, and beverages)
- Store certificates (Bagel Land, Dunkin Donuts)
- Money
- Give-aways (pens, stress balls, etc.)

Create a list of important dates at your first meeting in June/July:

- Date of first mailing to schools
- Date registration fee is due (if you have one)
- Date registration and other forms are due
- Training dates
- Competition dates (preliminary/final)

Get your notice out for volunteers in December:

- Mandatory training – two hours
- Minimum of two years volunteering before becoming a moderator
- Utilize children for runners
- Youth groups are given community service credit for volunteering
- Relatives and friends are a great resource
- Reward your volunteers – VERY IMPORTANT (shirts, luncheon with certificates)

Words of Wisdom

- Be flexible.
- Let all who help you carry their portion.
- Be prepared and allow the competition to care for itself.
- Start early (July) to think about who and what you will need.
- Solicit volunteers from all avenues all year long.
- Remember that this competition is for the students; we just put it on.
- Everyone who comes should go home happy including the coordinator!
- Get plenty of rest those final days before your competition.
- Training and practice for volunteers is crucial.
- New and previous volunteers benefit from this and improve your competition day.
- Get help for your competition in February for the next year's competition.
- Call another coordinator. They love to share their experiences and can help you a lot.
- Understand what your budget is (or isn't).
- Plan for inclement weather.

Surround yourself with an energetic, positive team.

- Empower them, praise them, and reward them.
- Don't try to control everything, but assume the responsibility to see that things get done.
- Know that you can't please everybody, accept it and move on.
- You're going to make mistakes and you're probably going to be running the next regional competition, so there's time to make changes/improvements.
- Life isn't perfect – neither are regional competitions, just try to make sure that it's fair for everyone. If you have a sub-standard moderator, remember that he or she is equally sub-standard for both teams. It isn't perfect, but it's fair. Just remember to find a better-suited role for him or her next year!
- Start your planning ASAP.
- Ask for help. Lots of us have been in your shoes and wouldn't mind helping out.

Scheduling and Volunteers

Be sure to find experts in every subject area to: (a) check over and amend the questions BEFORE Game Day and (b) be available ON Game Day for appeals. Know where they are at all times on Game Day for when questions arise.

Rounds should be scheduled 30 minutes apart.

Take as many volunteers as you can get. Children can be runners, teenagers can time/score, just make sure they are well behaved and under control. Train, rehearse, practice, practice, PRACTICE!

Moderators must be easy to understand, have good hearing, know how to pronounce scientific words, and know the rules.

Overbook your volunteers – you're bound to have no shows or late arrivals. Assign your "A Team" to early rounds.

Getting Schools to Participate

- Check with your State Board of Education for a current listing of high schools and addresses.
- Send a colorful poster/memo to the Science Department chair early in the school year – include a trinket of some sort: a keychain, mug – anything to get their attention. Then send a follow up a bit closer to competition.
- E-mail, snail mail or fax a sheet that teachers can return asking for more information or informally reserving 1, 2, or 3 team slots. It gives you an early idea of how many schools to plan for.
- All regional events must use the NSB on-line team registration system for schools to register a team for their event.
- Only accept as many teams as you can handle, looking at your facilities and number of volunteers.

On the Big Day

On the day of the competition, have plenty of volunteers to help with registration and general running. If you lack officials in sufficient numbers, the following can be doubled up if absolutely necessary: runner-timekeeper and scorekeeper-rules judge. In addition, if science judges are in short supply, the important function of reading the questions along with the moderator can be performed by just about anyone, if necessary (and challenges in this case should be taken outside the room) to ensure the correct questions are always being used.

Questions should be handed to runners one round at a time. (If not, there is a very real possibility that some moderator will read the wrong round's questions, which precludes their being used in their proper round.) Some coordinators give each moderator a binder with all the rounds of questions in it, but this is not recommended if there is not both a moderator AND science judge in each competition room.

Have at the very least one extra round of questions (even if you have to write them yourself). This is ESSENTIAL to take care of unforeseeable problems that may occur, such as teams going to the wrong room or the wrong questions being read in some round. It is very helpful to have the science judge be responsible for knowing which two teams are to be playing in his or her assigned room at the beginning of each round, to make sure the correct teams are playing.

If at all possible, set up the afternoon before competition: get the rooms organized, lock-out systems set up and tested, all supplies distributed, and signs up – and then have someone double check it all. Plan for problems – have extra lock-outs, clocks, extension cords, batteries, etc.

Other helpful tid-bits:

- Use a checklist – it helps a lot.
- Give the teams your cell phone number - if there is an accident on the way in or if they are late, then they can call. Also let family members have the number for other types of emergencies.
- It does not hurt to have a nurse or EMT on site. Allergies and stress can do weird things to kids (and coordinators).
- Assign a core team to command central. They are the ones to answer questions, resolve challenges, and solve your problems. They should be experienced, firm but fair.
- Have one person assigned to food delivery coordination. Get it there early.

Things that DO go wrong:

- Plan for no-shows: unless you charge a fee, you are bound to have school no-shows.
- Plan your divisions/brackets for all sorts of contingencies. Volunteers may not always show up on time. Figure out the minimum you can get by with in each room... try to have some experience in each room. Scoring and timing can be done by the same person.
- Early rounds are usually when the moderators will make mistakes – skip over questions, read the wrong questions, give out answers prematurely – so go over this in training. If you have the luxury of extra moderators, assign the experienced ones to early rounds. Have the less experienced sit in and watch.
- Inclement weather – plan for it. Set up a system of notification and have a contingency plan.
- Equipment failures – have extra equipment on hand. Schools may have their own lock out systems. Have them bring their systems as a backup.

AFTER THE EVENT

The Winning Team

- Select the winning team from the NSB on-line system and text the name of the winning team to 757-880-3359.
- Have the information about National Finals ready. Discuss any conflicts right away. Ask about IB, Prom, sports, other competitions – you might be sending the second place team instead, so have their forms, photo, etc. available.
- Please KEEP ON THE COACHES about submitting their forms.
- Provide information about the trip and contact numbers to the parents.

Sponsors

- Publicize their support.
- Give them a shirt, certificate, program, thank-you letter.
- Ask them to speak to the students at your competition.
- Utilize complimentary tickets for school prizes or civility awards (e.g., museums, zoo).

Equipment

- Replace untrustworthy equipment as needed.
- Have equipment checked during Christmas/holiday time period, when individuals are not as pressed with jobs/tasks (e.g., electricians).
- Let others know if you have equipment available to borrow.

Read the evaluation sheets, if you collect comments from participants.

- Send results of evaluation sheets with letters to the schools thanking them for participating. Let them know you care.
- Address the relevant issues. Always strive for improvement.

Please get forms in to ORAU/ORISE and the NSB (and respond to their questions) in a timely fashion. Doing so makes everyone's lives easier!

ENHANCEMENT ACTIVITIES

Science Bowl should be more than an academic competition. Teams can learn more from a variety of activities that have them use different skill sets, that de-emphasize the competitive aspects, and that accentuate the networking environment.

You are encouraged to expand your event to include "enhancement activities" that may provide greater benefit by encouraging and reinforcing interest in math and science. Some examples of enhancement activities are:

- Guest speakers
- Facility tours
- College or career fair
- Internship fair
- Hands-on challenges (build highest tower, build bridge)
- Door prizes
- All-star awards
- Science demonstrations
- Photos
- Teacher workshops

Mira Loma High School students participating in the Division Team Challenge activity.

REGIONAL SCIENCE BOWL SAMPLE CRITICAL TIMELINE

JULY

- Identify Science Bowl point of contact, i.e., the Regional Coordinator.
- Determine date of Regional Science Bowl.
- Identify competition area (counties, entire State, multi-states, etc.) and estimate number of schools in competition.
- Submit application on the NSB website to host a regional Science Bowl.
- Determine venue to have competition.

AUGUST

- Regional Science Bowl sites will be selected and notified by the national coordinator.

SEPTEMBER

- Coordinators' Manual is sent to all coordinators.
- NSB posters and brochures are sent to Regional Coordinators.

OCTOBER

- NSB on-line team registration opens.
- Update regional website (if applicable).

5 MONTHS PRIOR TO EVENT

- Recruit teams: issue announcement to schools in identified area.
- Send letters/brochures and contact area businesses/companies to seek sponsorships for the regional event, including gifts, prizes, etc. Sponsors will be recognized in the National program (see Tips for Regional Coordinators section for sponsorship information).

4 MONTHS PRIOR TO EVENT

- Provide coaches with Science Bowl information including:
  - Instructions on how to use the on-line system for on-line registration
  - Competition Rules
  - Sample Questions
    - MS: http://science.energy.gov/wdts/nsb/middle-school/middle-school-students/
    - HS: http://science.energy.gov/wdts/nsb/high-school/high-school-students/

- Regional Forms (as required by your regional competition)
    - Medical forms (coach and student)
    - Parental Consent Form
- Meet with your public affairs/press office to discuss your regional event and plan a media strategy (see page on media strategy).

3 MONTHS PRIOR TO EVENT

- Schedule training dates and venues.
- Determine whether or not to have a luncheon in conjunction with the competition and/or awards ceremony.
- Select and order trophies.
- Confirm sponsors.

2 MONTHS PRIOR TO EVENT

- Begin approving team registrations in the NSB on-line system.
- Recruit officials/volunteers [moderators, science judges, rules judges, timekeepers, and scorekeepers]. Suggestions: post flyers and place a notice in the company newsletter requesting volunteers to assist with the Science Bowl, be sure to include contact names and phone numbers.
- Notify all officials/volunteers of MANDATORY training and practice sessions.
- This is the suggested deadline for student registration forms from competing schools. If some schools have dropped out, call those on the waiting list to see if they are still interested and if they are, direct to on-line registration form.
- Arrange for event publicity—work with the public affairs/press office to contact local newspapers, TV, and radio stations.
- Confirm donated gifts, awards, etc. from sponsors.
- Create gift bags for all participants (optional), prizes for winners—suggestions for winners include: trophies, calculators, gift certificates, savings bonds, etc.
- Design program (optional).
- Design tournament flowchart for academic competition and car race, if appropriate.
- Determine speaker for luncheon/awards ceremony (optional).

1 MONTH PRIOR TO EVENT

- Obtain trophies.
- Copy information packets for Science Bowl officials.
- Mandatory training session for all officials/volunteers with "mock" competition.
- Receive competition questions.
- Reproduce and send out question packets for moderators and science judges.
- Finalize and produce program.
- Finalize and produce competition schedule and scoreboards.

DAY PRIOR TO THE EVENT

- Set-up as much as possible: competition rooms, registration area, command central, signage.
- Get plenty of rest!!

DAY OF EVENT

- Conduct Regional Science Bowl competition.
- Collect comment forms (optional) from officials and participants.
- Photograph winning team - please ensure the photo is taken **horizontally (landscape)** for placement in the National Science Bowl Program. Identify all people in the photo for a caption.
- Text the name of the winning team to the National Coordinator at 757-880-3359.

AFTER EVENT

- Immediately identify the winning team in the NSB on-line system.
- Complete all National forms (see Forms section). DOE has automated the forms for both the regional and National Finals. Some will be completed and submitted directly on-line; forms requiring signatures will be completed on-line, downloaded, signed and sent via email or fax (see forms checklist).
- Send thank you notes to all officials, competing schools, and sponsors.
- Collect and mail all local media clips to the National Coordinator.
- Make travel arrangements for the Regional Coordinator to travel to the National Finals.

PUBLICITY

The Department of Energy Office of Science National Science Bowl® and the regional competitions are excellent opportunities for positive stories about your organization's activities. With a little bit of planning and coordination through your public affairs/press offices, you can receive press coverage of your regional events and your winning teams' participation at the National Finals. You may want to have all of your participants complete the NSB media release forms so you will have parents' permission to take photos/video of them. At the National Finals, photos will be taken by a professional photographer and emailed to your local area newspapers for stories.

Suggestions to Increase Your Media Visibility

- Schedule a meeting with your public affairs office to discuss your regional event and plan a media strategy. Schedule this meeting early and meet more than once.
- Remember that media will want to focus on the "local interest."
- Know your teams. Prepare biographies of team members and their coaches including hobbies, club memberships and honors, and background sheets on the participating schools.
- Know your sponsors. Prepare a background sheet that includes a quote from your sponsors on why they agreed to sponsor the competition.
- You may want to arrange for a backdrop behind the photos at the awards ceremony. Choose non-reflective material that will look good in the photos.
- Media outlets should include:
  - Public service announcements/calendar of events on radio and TV.
  - Calendar of events in newspapers (dailies, weeklies, advertisers, shoppers, high school) and magazines (State or Sunday supplement).
  - Feature stories in radio, TV, newspapers, and magazines.
- Encourage the teams to contact their local media.
- Send out a press advisory to your list of media outlets before the competition and then a press release after the competition. E-mail reporters with event results and photographs.
- Have an event website and post photographs promptly after the event for reporters. Please link to the NSB website (http://science.energy.gov/wdts/nsb/) on your site.
- Videotape the event and provide footage to local television stations.
- Utilize social media (post competition updates, results, and photos).
- Clip or tape all stories about the event, and send copies to the National Coordinator.

SAMPLE MEDIA ADVISORY (before event)

Contacts: Diane Greenberg, (631) 344-2347 or Peter Genzer, (631) 344-3174
Science Bowl at Brookhaven Lab, January 30
January 22, 2016

EVENT: One hundred and twenty five students representing 25 high schools from Long Island will participate in a Regional Science Bowl competition, a fast-paced question-and-answer tournament designed to test their knowledge in biology, chemistry, physics, mathematics, astronomy, earth science and general science. Media representatives are invited to attend, although the event is not open to the general public due to space limitations.

WHEN: Saturday, January 30, from 9 a.m. to approximately 5 p.m.

WHERE: Berkner Hall, Brookhaven National Laboratory. The Lab is located on William Floyd Parkway, one-and-a-half miles north of Exit 68 of the LI Expressway.

DETAILS: The Regional Science Bowl at Brookhaven Lab is part of the National Science Bowl® competition coordinated by the U.S. Department of Energy's Office of Science. Since its inception in 1991, more than 250,000 high school students have participated in this fast-paced question and answer contest. By participating in Science Bowl competitions, students are encouraged to excel in science and math and to pursue careers in those fields.

Similar to a sporting event, the competition is set up in a round-robin format of five divisions in the morning, during which all teams will compete, followed by another round-robin involving each division winner with a double-elimination final tournament in the afternoon. The team that answers the most questions correctly will win the top honor. All students will receive a Science Bowl T-shirt, and winning teams will receive a trophy. The first-place team will receive $500; second-place, $250; division winners, $100. All prizes and giveaways are courtesy of the event's sponsors: Brookhaven Science Associates, The Long Island Science Center, and Teachers Federal Credit Union. The first-place team will get to participate in the National Science Bowl, which will be held in Washington, DC, on April 28 - May 2, 2016.

All visitors to the Laboratory age 16 and over must bring a photo ID. Media representatives who plan to attend the event should notify Diane Greenberg, 631-344-2347.

2016 Regional High School Science Bowl Teams

* (Make a bulleted list of the schools/teams)

SAMPLE PRESS RELEASE (after event)

NOTE: We will send you a DOE-approved press release within 3 days of your regional competition with quotes from the DOE Secretary of Energy

Thomas Grover Middle School Takes Top Prize at Regional Middle School Science Bowl
Princeton Plasma Physics Laboratory Hosts Competition

Plainsboro, New Jersey—On Saturday, March 5, Grover Middle School of West Windsor, N.J., won first place at the New Jersey Regional Competition of the National Middle School Science Bowl®. The competition took place at the U.S. Department of Energy's Princeton Plasma Physics Laboratory (PPPL) in Plainsboro.

Thomas Grover Middle School was among 20 teams from area schools who competed in the fast-paced question-and-answer contest in which students answer questions about Earth, physical, life, and general sciences, and math. Each team is made up of four students, a student alternate, and a teacher who serves as an advisor and coach.

The Thomas Grover Middle School team members will receive all-expenses paid trips to Washington, D.C., to participate in the National Science Bowl, scheduled for April 28 - May 2, 2016. The U.S. Department of Energy Office of Science manages the National Science Bowl®, and sponsors the NSB finals competition. The Department of Energy's Office of Science is the single largest supporter of basic research in the physical sciences in the United States, and is working to address some of the most pressing challenges of our time.

Final Results of the regional competition:
1st Place in the Academic Portion – Thomas Grover Middle School (West Windsor, N.J.)
2nd Place in the Academic Portion – Community Middle School (Plainsboro, N.J.)
3rd Place in the Academic Portion – John Witherspoon School (Princeton, N.J.)

PPPL hosts one of 50 regional middle school competitions. The top winners of the regional competitions receive all-expenses paid trips to the National Science Bowl scheduled for April 28 - May 2, 2016, in Washington, D.C.

PPPL, funded by the U.S. Department of Energy and managed by Princeton University, is a collaborative national center for science and innovation leading to an attractive fusion energy source. Fusion is the process that powers the sun and the stars. In the interior of stars, matter is converted into energy by the fusion, or joining, of the nuclei of light atoms to form heavier elements. For more about PPPL go to: http://www.pppl.gov/
******End******
For further information, please contact: Anthony R. DeMeo; Head, Information Services; Princeton Plasma Physics Laboratory, (609) 243-2755; ademeo@pppl.gov

VOLUNTEER OVERVIEW

Many types of volunteers are needed to run each regional event. It is recommended that regional coordinators recruit and train volunteers in advance, so that the event runs smoothly. Photocopy the handouts in this section and share with the volunteers at the training sessions.

In addition to the volunteers helping at registration, command central, and various other activities, there are "teams" of 5 volunteers in each competition room during the tournament. Regional coordinators can decide to have less than 5 volunteers if there are not enough volunteers. If there are only four volunteers per room, the science judge can sometimes serve as a rules judge. There are other options, as long as the rules are followed and the teams can participate fairly.

The typical competition room has 5 volunteers:

- Moderator
- Science Judge
- Scorekeeper
- Rules Judge
- Timekeeper

There are also volunteers to run scores to command central, to serve food, to set-up and clean, etc. Since training is not necessary for these roles, it can be a good fit for a middle school student or younger student who might need to earn service hours.

The Science Bowl appeals room should have either dedicated science experts or rotating Moderators and Science Judges. At a minimum, know the location of your scientific experts during the competition so they can be contacted in case of scientific challenges.

At volunteer trainings, it is a good idea to have them to practice the game with the sample National Science Bowl® questions. Some regional sites hold a moderator audition, where volunteers practice reading questions. Practice sessions are more informative than handouts or lectures, because Science Bowl officiating is a learned activity. There are volunteer training videos and a sample Power Point presentation in the coordinator section of the National Science Bowl® website.

MODERATOR

The Moderator is THE person responsible for controlling each match. It is important that you are familiar with how the game is played and all of the contest rules. The Science Bowl is an oral competition in which two student teams attempt to answer toss-up and bonus questions. Each regional competition round is divided into two eight-minute halves with a two-minute break. The Moderator completes the official score sheet for every match.

The first half begins as soon as the Moderator begins the first toss-up question. Before reading the question, the Moderator identifies: 1) whether it is a toss-up or bonus question, 2) the subject area, and 3) whether it is multiple choice or short answer. If a contestant elects to answer the toss-up question, he/she activates the lock-out system (an electronic device which "locks out" all other contestants and identifies the student who wishes to answer the toss-up question). The Moderator or the Science Judge will then verbally recognize the student. Should the student answer the toss-up question correctly, the student's team receives 4 points and is awarded a bonus question. A correct answer to the bonus question results in the team's receiving an additional 10 points. Play then continues by reading the next toss-up question to the two teams.

As a toss-up question is read, a student may interrupt the reading of the question. If the student is verbally recognized and he/she answers correctly, that team is awarded 4 points, and the team wins the right to answer a bonus question. If the student interrupts the question, is verbally recognized, but answers the toss-up question incorrectly, 4 points are awarded to the opposing team and the question is read in its entirety to the opposing team. That team may answer the toss-up question for a chance at the bonus.

A student MUST wait to be verbally recognized by the Moderator or Science Judge before beginning to answer the toss-up questions. If a student answers a toss-up before being verbally recognized, the response is ignored (i.e., the Moderator should not reveal whether the answer was correct or incorrect), then the opposing team is given 4 points and is offered the toss-up question. This rule is necessary to avoid situations where two team members think they have activated the lock-out system and blurt out simultaneous answers. If the student answers without buzzing, ignore the student and there is no penalty.

The game is over when the second half ends or when 23 toss-up questions have been read. The winning team is the one with the greater point total.

The Moderator will be provided with the questions well in advance of the actual event. It is important that the Moderator read all the questions before the competition to help ensure that he or she is able to read them smoothly.

MODERATOR – What do I do?

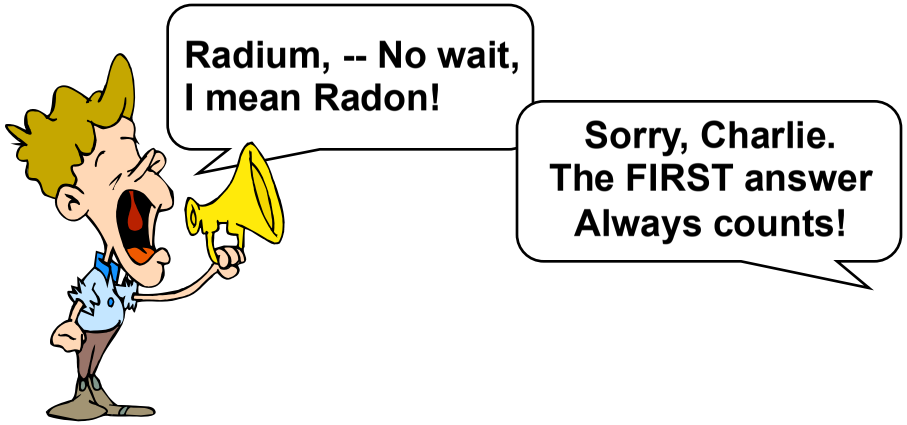
2016 NSB® NATIONAL SCIENCE BOWL®
a competition like no other . . .

- **Introductions**
  - Follow the outline on the official score sheet
  - Ask the coaches to shake hands, introduce themselves, and sit together near the back of the room
  - Identify who will be acknowledging the students
- **Reading the Questions**
  - Announce whether it is a toss-up or bonus question
  - Announce the question number
  - Announce the question category
  - Announce whether it is multiple choice or short answer
  - Read the question
  - If the question is interrupted, stop reading and say, "Interrupt"
- **Who Won?**
  - Complete the official score sheet
  - Ensure both team captains sign the score sheet

Note: <u>At the end of each match</u>, the official score sheet should be signed and placed in the corresponding round-numbered envelope. The packet should then, <u>immediately</u>, be taken to the score room by the Runner or official who will be going to the score room first.

Keep in Mind .....

Toss-Up ?	Bonus ?
No consultation among team members.	**Consultation is allowed, but the captain must answer.**



Minimum Requirements:
- Be able to articulate clearly and maintain a good pace
- Know and be able to apply all of the rules
- Read and review the questions prior to the event
- Have a college degree in math or the sciences

The Official Scoresheet with a script to guide the Moderator at the beginning of each match.

National Science Bowl®

Official Score Sheet

MODERATOR_____

1. Record the names of the schools that will be participating in this match at the bottom of this sheet. Complete the other information as well.

2. Introduce yourself and ask each of the other officials to introduce themselves.

   SCIENTIFIC JUDGE_____

   RULES JUDGE_____

   TIMEKEEPER_____

   SCOREKEEPER_____

3. Check the lock-out system: Ask each student to buzz in, wait to be recognized by the Scientific Judge, and then introduce him/herself.

4. Ask the coaches to introduce themselves and sit side-by-side near the back of the room with the alternate players.

5. During Round Robin Rounds 1 and 2, read the "IMPORTANT RULES" sheet aloud. After these rounds, ask the students if they would like to hear the "IMPORTANT RULES" read aloud.

5. Remind the participants and audience members to turn all personal electronic equipment OFF.

6. At the end of the match, record final scores in the space provided below.

7. See that the Rules Judge PICKS UP ALL PAPER at the half and at the end of the round! The students are NOT to take their scratch work out of the competition room.

8. After the team captains have signed below, please place this sheet in the envelope provided and give to your assigned runner.

TEAM A_____FINAL SCORE_____

TEAM B_____FINAL SCORE_____

WINNING TEAM _____

By signing this form, you are accepting the final score of this match AS WRITTEN above.

Captain, Team A_____

Captain, Team B _____

"IMPORTANT RULES"

The Moderator must read the following before Round Robin Rounds 1 and 2. After these rounds, please give the teams the option of hearing the reading of the "Important Rules."

Please let me remind you of several important rules we will be carefully observing during this match.

1. **If Scientific Judge is recognizing the students:**
   On toss-up questions, you MUST be **verbally** recognized by the ***Scientific Judge*** before replying. The Scientific Judge will identify you by saying either Team "A One," "A Captain," or "B One," "B Three," etc.

   If Moderator is recognizing the students:
   On toss-up questions, you MUST be **verbally** recognized by me before replying. I will identify you by saying either Team "A One," "A Captain," or "B One," "B Three," etc.

2. On toss-up questions, there can be no conferring among team members **ON EITHER TEAM** at **ANY** time.

3. The only acceptable answer to a multiple-choice question will be one of those read by the moderator. If you give the scientific answer rather than the letter (W, X, Y, or Z), your answer must be **exact**.

4. **Challenges must be made before I begin the next question.** All challenges must come from the team members who are actively competing.

5. On bonus questions, you have 20 seconds **AFTER** I finish reading the question to begin your answer to the question. If you fail to begin your answer before the Timekeeper says, "TIME," you have missed your bonus question. You will hear the Timekeeper say, "5 SECONDS," when you have only 5 seconds left to begin your answer.

6. On the bonus question, only the team captain's answer will be accepted.

7. At the conclusion of each match, the two captains need to review and sign the Official Score Sheet. By signing the score sheet, each team captain is agreeing to the final score as written on the Official Score Sheet.

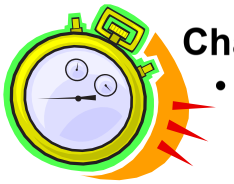
SCIENCE JUDGE

The questions in each subject area have been reviewed by at least two individuals with subject expertise to eliminate erroneous or ambiguous questions. In addition, we have selected a multiple-choice format for many of our questions. This ensures against there being more than one correct answer (it's either one of our answers or the response is wrong).

1. Your primary duty as a Science Bowl Science Judge is to resolve question challenges. Should a question be challenged, there are a number of steps that should be followed:
   - First, see that the competition clock is stopped.
   - Then, please bring the challenge to "Science Bowl Central." The organizing committee will either have someone on call or in the building in each of the math or science areas who can resolve the issue. Once you report a decision, that decision is final.
   - Should you feel that time was lost as a result of the interruption (5, 10, or 15 seconds, for example), check with the Moderator who may add that time back onto the clock before resuming the competition. Be certain to announce that you are "correcting" the time because time was lost due to the interruption so that all participants understand what is happening.
2. The Science Judge controls the buzzer lock-out system.
3. The Science Judge may also verbally recognize the student in place of the Moderator. This duty should be determined by the Moderator and Science Judge before the match and should be consistent for the whole match.
4. The Science Judge ensures that the Moderator has read each question correctly: You will be given a packet of questions identical to those of the Moderator. As the Moderator reads a question, please follow along to make sure the question is read correctly and that all words are pronounced correctly.

SCIENCE JUDGE – What do I do?

- **Ensure that:**
  - The correct teams are in the competition room
  - The moderator is reading questions from the correct round
  - The moderator is reading the questions correctly (not skipping words, correct pronunciations)
- **Control the buzzer system**
  - Wait to reset the buzzer system on toss-up questions until student has been verbally recognized
- **Verbally recognize** the students when they buzz-in on toss-up questions
  - Identify students by announcing the team letter (A or B) and participant ID (1, captain, 2, 3), i.e., "A-3" or "B-captain"
- **Challenges**
  - Request that clock be stopped during challenges
  - At the National Finals, all challenges must be sent to the Appeals Room



Challenge?
- **Ask timekeeper to stop the clock.**

Minimum Requirements:
- **Be able to follow the competition flow**
- **Know and be able to apply all of the rules**
- **Read and review the questions prior to the event**
- **Have a college degree in math or the sciences**

RULES JUDGE

Your duties as a Science Bowl RULES JUDGE include:

1. Ensuring all competition rules are followed. To serve in this capacity, it is imperative that you fully understand all competition rules. Please review the competition rules before coming to the Science Bowl training session.

   During the competition, if you should have to discuss a rule with the Moderator during a round, please be certain that the clock has been stopped. If you feel that time has been lost, ask the timekeeper to make a time correction.

2. Watching the teams and audience. Stand near the front of the room to watch both teams for breaking the rules and the audience for signaling, recording questions, or distracting the teams or officials.

3. Watching for Scorekeeper errors. If, for example, Team A is supposed to get four points, the Rules Judge needs to make sure the Scorekeeper doesn't inadvertently credit the wrong team with those points.

4. Ensuring that quiet is maintained. During competition play, the Rules Judge is responsible for ensuring that quiet is maintained in the room and that no signals are given to the team members from the audience.

5. At the beginning of each half, check that all students have blank scratch pads and pencils. Collect any used scratch paper at the end of the half and discard.

RULES JUDGE – What do I do?

- **Responsibilities**
  - Stand in front of the room facing the audience
  - Ensure that the rules are followed
  - Ensure that no one signals/communicates with the competitors during a match
    - If communication does occur, ask the person to leave the room (without causing undue duress – please)
  - Ensure quiet
- **Warnings**
  - If a rule is broken, enforce the penalty right away – please do NOT give a warning
- **Collect all used scratch papers** from teams at the beginning of the match, at the half, and at the conclusion
- **Ensure that the clock starts and stops at the appropriate times**
  - The clock should be stopped during discussions between officials, and between officials and students
- **Electronic Devices**
  - No one in the room is permitted to use any electronic devices
- **No one in the room may write anything during the matches**
  - Exception: coaches may mark the coach score sheets, if provided

Challenge?

- **Ask timekeeper to stop the clock**

Minimum Requirements:

- **Know and understand all of the competition rules**
- **Be able to enforce the rules in a competition setting**
- **Be comfortable standing as needed during competitions**
- **Be at least a senior in high school (depending on maturity)**

TIMEKEEPER

Your duties as a Science Bowl TIMEKEEPER include:

1. Operating the official competition time clock. You will be provided with a clock that shows both minutes and seconds. At the beginning of each of the competition's halves, set the clock at 8 minutes (or 10 at the Nationals). If your site does not have separate competition clocks, you may use the clock in the competition room and make sure that both teams agree on when time will start. Both teams need to be able to see the clock. The clock should be started as soon as the Moderator begins to read the first question. The clock should be allowed to run uninterrupted until time expires UNLESS there is a question or a rules challenge. At half-time, call, "HALF" and at the end of the game call, "GAME."

   If there is an interruption, stop the clock until the issue is resolved. Restart the timer when the Moderator begins reading the next question. Add time back onto the clock if the interruption has unduly used competition time. Again, be certain to explain to the participants that a time correction is being made.

2. Keeping track of the time for bonus questions. Each time a team correctly answers a toss-up question, the team will be awarded a bonus question. The students have 20 seconds to begin to answer the bonus question AFTER the Moderator has finished reading the bonus question. After 15 seconds in the bonus period have elapsed, please say, "5 SECONDS." This is to alert the students that only 5 seconds remain in their bonus period. At the end of the 20-second time period you will simply say, "TIME." Please say this loudly enough for all participants to hear. Generally, it will be sufficient for you to time the 20-second interval by reading the clock provided for the match. However, a stopwatch may also be used for this purpose.

3. On toss-up questions, one of the teams must answer within 5 seconds of the Moderator's completing the question. Keep track of the 5 seconds allowed, calling "TIME" so that the Moderator will know to proceed to the next toss-up question.

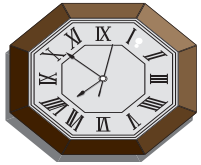
4. At the conclusion of each half, reset the clock.

TIMEKEEPER – What do I do?

- **The basics…**
  - It is very important to focus on the time – NOT the game – and whether a question is a toss-up or a bonus
  - At the regional events, one match is composed of two eight-minute halves, with a two-minute break
  - At the National Finals, one match is composed of two ten-minute halves, with a two-minute break
- **To begin…**
  - The timekeeper starts the game clock when the moderator begins reading the first question
  - Begin timing as soon as the moderator finishes reading the question
- Students have **5 SECONDS to buzz-in to answer a toss-up question** after it has been completely read
  - After 5 SECONDS, announce "TIME!"
  - If the first team answers incorrectly, the second team has five seconds to buzz-in after the moderator says, "not correct"
- Students have **20 SECONDS to answer a bonus question**
  - After 15 seconds, announce "5 SECONDS!"
  - After 20 seconds have elapsed, announce "TIME!"
- If there is a challenge, stop the clock

Toss-up Question
5 Seconds = "TIME"

Bonus Question
15 seconds - "5 SECONDS"
20 seconds - "TIME"



Challenge?
- **Stop the clock**

Minimum Requirements:
- Know and understand the timing rules
- Be able to focus on timing in a competition setting
- Be at least a junior in high school

SCOREKEEPER

Your duty as a Science Bowl SCOREKEEPER is to:

1. Accurately award points and record the competition score. Scores will be recorded on a blackboard or easel that should be visible to all contestants and Science Bowl officials. The point awards are: 4 points for each correctly answered toss-up question and 10 points for a correctly answered bonus question.

   The only variations to the above are:
   (1) when a contestant buzzes in and INTERRUPTS a toss-up question while it is still being read, is recognized, and gives the wrong answer;
   (2) when a contestant buzzes in and gives an answer before being recognized ("blurt"). 4 points are awarded to the opposing team. The opposing team then has the opportunity to answer the interrupted question after it is read in its entirety and, if it answers the toss-up correctly, receives another 4 points for the toss-up question and is then asked the bonus question; or
   (3) when the team not answering the bonus question is verbally or visually distracting. The team answering the bonus question will automatically receive the 10 points for the bonus.

   As you keep track of the score on the scoresheet or blackboard, two columns should be recorded for each team. In the first column, record the points a team receives on each individual question, with toss-up, interruption, and bonus points being recorded separately. The second column should contain a running total of the teams' points. If recorded in this fashion, the point total can be checked at the end of the round.

2. Post-game. Announce the scores and help the Moderator complete the official scoresheet.

SCOREKEEPER – What do I do?

- Complete the required information on the score sheet (team names)
- Understand where to place points --- Use a cumulative tally
- Scoring
  - Toss up questions = 4 points
  - Bonus questions = 10 points
  - Toss up Penalty = 4 points; Bonus Penalty = 10 points
- If a competitor interrupts the Moderator while a question is being read, and if the competitor answers incorrectly, then the opposing team:
  - Is awarded 4 points
  - Has the question reread
  - Has a chance to answer the toss up question, if still eligible (for an additional 4 points)
  - If the toss-up is correct, has a chance to answer the bonus question (for an additional 10 points)
- If a competitor buzzes in, and answers before being recognized (a Blurt), then the opposing team:
  - Is awarded 4 points (Note: if there is a blurt AND an interrupt, there is only ONE 4-point penalty)
  - Has a chance to answer the toss up question, if still eligible (for an additional 4 points)
  - If the toss-up is correct, has a chance to answer the bonus question (for an additional 10 points)
- At halftime
  - Announce the scores
- At end of game
  - Announce the final scores

Minimum Requirements:
- Be able to perform basic math skills quickly and accurately
- Be able to focus on the scoring in a competition setting
- Be comfortable standing as needed during competitions
- Be at least in eighth grade (depending on maturity)

U.S. Department of Energy
Science Bowl Score Sheet

Round #: _____

Room #: _____

Team A

	Points			Running Score
	PENALTY	TOSS-UP	BONUS	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Team B

	Points			Running Score
	PENALTY	TOSS-UP	BONUS	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

A _____

Team A — Captain's Signature

B _____

Team B — Captain's Signature

Scorekeeper _____

REGIONAL FORMS

Team Registration Form - Required

The registration form is on a secure website.

Coaches go to the NSB website (http://science.energy.gov/wdts/nsb/) and create accounts in order to register teams for the regional events. Coordinators should help the coaches in their regions with any computer glitches; however, the DOE HQ staff are available as a backup resource. The on-line system allows regional coordinators to download spreadsheets of their teams and keep track of dates when forms were submitted.

Immediately following the regional events, coordinators select the winning teams' names to indicate to DOE-HQ that these are the winning regional teams. This will allow each winning team and coordinator to access a National view on-line and retrieve all necessary forms.

Regional Forms - Optional at Regional Level

Coordinators decide what forms they will need on a regional level. These are forms coordinators may want to use at the regional events and are also required at the National Finals - they are located under the Rules, Forms, and Resources links (http://science.energy.gov/wdts/nsb/high-school/high-school-regionals/hs-rules-forms-resources/ OR http://science.energy.gov/wdts/nsb/middle-school/middle-school-regionals/ms-rules-forms-resources/) on the NSB website:

- Student Medical Form
- Parental Consent Form
- Adult Medical Form
- Adult Media Release Form

The team that will be traveling to the National Finals will need to submit several forms. If the forms from the NSB website are used, simply keep a copy of the forms for the winning team, and send the originals to the address provided on the Forms Checklist page. NOTE: It saves time if the regional event forms are identical to the national forms.

National Only Forms – Appear On-line Only to Regional Winning Teams

- Team Commitment Form
- On-line Travel Form

PRINTING LIST

This list is helpful when estimating costs and planning tasks. Regional Science Bowls may use some or all of the following in preparation and during their event:

- Invitation letters to teams, volunteers, sponsors (and postage)
- Registration materials for teams
- Question binders for moderators to read from
- Score sheets to use during the competition*
- Program book*
- Scoreboards to display
- Numbers for teams to draw for competition placement
- Team name tents
- Table signs for students "competition tents" (Team A Student One...)*
- Signs inside and outside rooms and buildings
- Score sheets for coaches to use*
- Volunteer schedules, instructions, and thank you letters
- Name badges, lanyards
- Meal tickets
- Materials for enhancement activities
- Certificates, checks, prizes*
- T-shirts for teams and/or volunteers
- Pens, bags, other give away printed items

  * Samples are on-line at http://science.energy.gov/wdts/nsb/about/coordinators/coordinator-resources/.

Please highlight on your materials that this event is part of the U.S. Department of Energy Office of Science National Science Bowl® and include the Department of Energy Office of Science in every press release. The public awareness of your event helps the awareness of the National Finals and to get positive media attention for the students and corporate support for the NSB.

IMPORTANT LINKS

NSB Regional Coordinator Login
https://apps.orau.gov/nsb-coordinator/

NSB Regional Coordinator Resources
http://science.energy.gov/wdts/nsb/about/coordinators/coordinator-resources/

National Science Bowl Rules
http://science.energy.gov/~/media/wdts/nsb/pdf/coordinator%20resources/2016_nsb_rules.pdf

National Science Bowl Forms
http://science.energy.gov/wdts/nsb/high-school/high-school-regionals/hs-rules-forms-resources/

Coach Account Creation
Middle School: http://science.energy.gov/wdts/nsb/middle-school/middle-school-regionals/
High School: http://science.energy.gov/wdts/nsb/high-school/high-school-regionals/

NSB Coach Login
https://apps.orau.gov/nsb-coach/Account/Login

I'M CONFUSED - WHO CAN I ASK FOR HELP?

Yolanda White – 202-586-6702 – Yolanda.White@science.doe.gov
Jan Tyler – 757-880-3359 – tyler@jlab.org

PREPARING FOR THE NATIONAL FINALS

Once the regional coordinator has selected the winning team on-line, the process starts for planning the team's trip to the National Finals (see instructions below). Students and coaches will have many questions, so please refer them to the National Science Bowl® website for the latest information on schedules, locations, what to bring, etc. It is the responsibility of the Regional Coordinator to ensure all of the forms are completed and submitted/mailed. The ideal situation is for the regional coordinator to gather, sort, and review all forms before sending them in one complete package. Forms are to be legible and every field completed.

Once the Coordinator has selected their winning team, the coach will have new items available on the NSB online system, on the Coach Dashboard.

Coaches should login to their NSB accounts to access the team status page.

1. Coaches MUST complete and submit the On-line Travel Form (one form per team).
2. If the team has not previously completed parental consent and medical forms (from the regional event), please complete and mail. The forms can be downloaded from the National Science Bowl® website.
3. Complete the following National forms:

   Team Commitment Form
   - Requires original signatures
   - http://science.energy.gov/wdts/nsb/high-school/high-school-regionals/hs-rules-forms-resources/
   - Student/parent to complete using pdf form filler on Web site, then print and have student and parent sign hard copy
   - Coach signs and mails
   - **Must be received before airline tickets will be purchased**

   Team Profiles (see instructions on the Coach Dashboard)
   - Coach submits on-line

   Team Photo
   - Coordinator/coach emails tyler@jlab.org with caption identifying people in the photo

ORAU will work with the team to make travel arrangements. Problems with team travel arrangements will be directed to the regional coordinator, and if still needed, will be then addressed by the National Science Bowl® coordinator.

SCIENCE BOWL FORMS CHECKLIST

Send to Jan Tyler – Immediately

[ ] Text the name of winning team to 757-880-3359 immediately following your competition

[ ] Complete on-line selection of winning team immediately following your regional competition

FORMS – Due two weeks after the regional event or by March 15, 2016 - whichever occurs first

It is a good idea to photocopy all forms before mailing them. Also, while traveling, the coach may want to carry a copy of the forms with them. If a student completed a form in January and there are updates to be made because of recent injury, etc., please contact the National Coordinator.

[ ] On-line Travel Form (1 form per team) – available on-line to coaches after regionals

[ ] Original Student Medical Release Forms – available on the NSB website

[ ] Original Parental Consent/Media Release Forms – available on the NSB website

[ ] Original Coach Adult Medical Release Form – available on the NSB website

[ ] ORAU Adult Media Release Form (1 form per adult) – available on the NSB website

[ ] Team Commitment Forms (1 for each student) – available on the NSB website

[ ] Team Profiles – available on-line to coaches after regionals

Forms for the Nationals may be submitted one of two ways:

1) FAX ALL Middle and High School Team Forms to Norma Ward at (865) 576-4197.

2) Mail ALL Middle and High School Team Forms to:

Ms. Norma Ward
ORAU
P.O. Box 117, MS-36
Oak Ridge, TN 37831-0117

FedEx Address:

Ms. Norma Ward
ORAU
1299 Bethel Valley Road
Building SC-200
Oak Ridge, TN 37831
(865) 241-2890

Please email Norma Ward at norma.ward@orau.org if you have any questions on faxing or mailing the forms for the National Finals.

FORMS FOR REGIONAL COORDINATORS

All forms can be found on the National Science Bowl® on-line system.

[ ] Committee & Sponsor Form – complete via on-line system

[ ] Coordinator Attends Nationals Form – complete via on-line system

[ ] Coordinator Adult Medical Form – available on the NSB website

[ ] Coordinator 4-H Code of Conduct Form – available on the NSB website

[ ] Team Photo and Caption – email to tyler@jlab.org

[ ] Coordinator Travel Form – complete via on-line system

ALUMNI

There is a great resource in tapping Science Bowl alumni to assist with your competition – both alumni of your specific regional event, and alumni of other events who have relocated to your area because of colleges or careers.

It is helpful to save data on past student participants, and to keep in contact with college graduates to maintain this alumni resource.

Possibilities for alumni:

- Act as regional volunteers
- Serve on Science Bowl committee
- Attract media coverage if alumni are in community leadership or celebrity positions
- Coach a regional team
- Give a speech or demonstration of science research
- Mentor students
- Provide information about colleges, internships, careers
- Write sample questions
- Many more

Alumni can register in the NSB Alumni Database found here:
http://science.energy.gov/wdts/nsb/about/alumni/

WHO TO CONTACT

National Science Bowl Web Site: http://science.energy.gov/wdts/nsb/
National Science Bowl Email: National.Science.Bowl@science.doe.gov

National Coordinator:
Jan Tyler – tyler@jlab.org – Phone: (757) 880-3359 (cell), (757) 269-7567 (assistant)

Technical Expertise, On-Line Registration and Website Manager:
Yolanda White – Yolanda.White@science.doe.gov – Phone: (202) 586-6702

Thank you for ALL you have done
and continue to do for the
U.S. Department of Energy Office of Science
National Science Bowl®.

There would not be a National Science Bowl® without YOU!