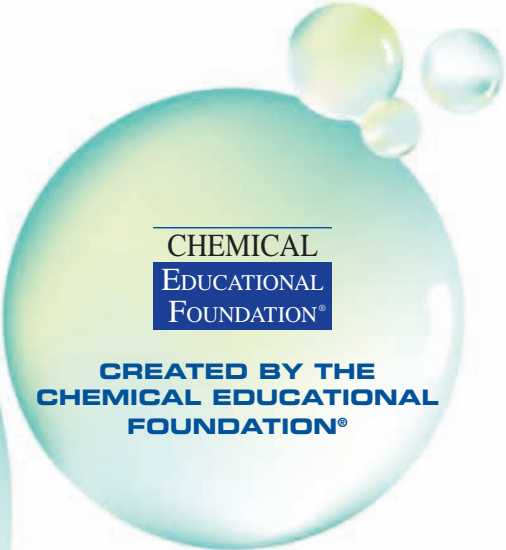




You Be The  
**Chemist**  
**CHALLENGE**®

2011-2012  
**GUIDELINES**  
EDUCATOR'S EDITION



CHEMICAL  
EDUCATIONAL  
FOUNDATION®

CREATED BY THE  
CHEMICAL EDUCATIONAL  
FOUNDATION®



## Welcome to the *You Be The Chemist Challenge*®!

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In 2004, the Chemical Educational Foundation® (CEF) launched an exciting new program, the *You Be The Chemist Challenge*® (Challenge), designed to educate youth about chemistry through collaborative community events. The Challenge evolved into an interactive question-and-answer competition, similar in format and setting to spelling bees and quiz bowls, that engages grade 5-8 students in learning with their peers (and their community!) about important chemistry concepts, historical discoveries, and laboratory safety.

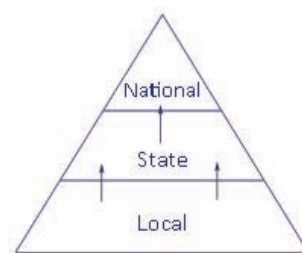
Initial competitions were held in Illinois, Texas, and Kentucky and have since been duplicated throughout the country, bringing together industry members, science organizations, schools, educators, and students in their local communities. The culmination of each Challenge cycle is a national championship event organized by CEF and supported by corporate sponsorships.

## How the Challenge Works

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CEF develops questions for Challenge competitions and creates study materials to invite students to explore the fascinating world of chemistry and prepare for the competitive events. Study materials are available to all on CEF's website, [www.chemed.org](http://www.chemed.org). Questions are distributed by CEF to Local and State Challenge Organizers for use in competitions.

There are three levels of competition in the Challenge: local, state, and national. Local Challenge competitions are held in communities across the country. Local Challenge winners advance to a State Challenge, and state winners advance to the National Challenge organized by CEF. Local and state competitions take place throughout the academic year, and the cycle ends annually with the national competition in June.



A Local Challenge Organizer may be an industry member, a school district representative, or a community member who has agreed to organize a competition site or sites in his/her community. Organizers work with both local schools and corporate sponsors, specifically chemical industry members, to implement the program.

## Educational Merit

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Based on the Benchmarks for Science Literacy and the National Science Education Standards, the Challenge provides a tool for educators to introduce essential science concepts, including ones that commonly appear in state assessments. The Challenge offers an exciting opportunity to enhance Science, Technology, Engineering, and Math (STEM) learning in the classroom. Challenge competitions and the associated study materials also integrate language arts and history into the science curriculum and present unfamiliar chemistry concepts in a format that both tests and entertains.

The Challenge study materials and questions are reviewed yearly by a panel of chemists, chemical engineers, educators, and curriculum consultants.

## Where the Challenge Is Today

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The Challenge has grown tremendously since its inception! With each year, the list of participating companies, schools, and organizations increases. The CEF staff is dedicated to expanding the Challenge across the nation. We are on our way!

Currently participating states include California, Connecticut, Illinois, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, New Jersey, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Virginia, Wisconsin, and Washington, D.C.

Is your state listed? If so, find out how to join the growing list of companies, schools, and communities participating in your state by visiting the Local Challenge page of CEF's website at [www.chemed.org/ybtc/challenge/local.aspx](http://www.chemed.org/ybtc/challenge/local.aspx). If your state isn't listed, be the first to join this popular program! Contact us at 703/527-6223 or [challenge@chemed.org](mailto:challenge@chemed.org) to find out how you can get involved.

ARE YOU UP FOR THE

**C H A L L E N G E**

**?**



# GUIDELINES

## TABLE OF CONTENTS

### I. YBTC CHALLENGE RULES

---

Participation Requirements (Educators) . . . . .	4
Participation Requirements (Students) . . . . .	5
Competition Rules . . . . .	6

### II. LOCAL CHALLENGE STRUCTURE

---

General Challenge Structure . . . . .	10
Local Challenge Formats . . . . .	11
Local Challenge Site Rules . . . . .	13
Competition Judges & Moderators . . . . .	14
Local Challenge Winners . . . . .	15
Local Challenge Prizes . . . . .	15
Other Local Challenge Considerations . . . . .	15

### III. CURRICULUM

---

Study Materials . . . . .	16
Competition Questions . . . . .	17

### IV. STATE & NATIONAL CHALLENGES

---

General Requirements & Information . . . . .	18
Study Materials . . . . .	19



# SECTION I: YBTC CHALLENGE RULES

## OVERVIEW

A Local Challenge site is a location where a Local Challenge is established with CEF's consent. Each registered Local Challenge site must designate an individual to serve as the site's primary Local Challenge Organizer (Organizer), as well as a secondary Organizer.

The Organizers will utilize CEF's materials to coordinate all aspects of their site's Local Challenge. Organizer responsibilities include disseminating the appropriate information to participating educators (and thus students), establishing a competition format for their site, planning the event, and seeking corporate sponsorships, where necessary.

All interested schools/educators/homeschool associations will correspond with their designated Local Challenge Organizer for instruction on participating in the Challenge.

## PARTICIPATION REQUIREMENTS (EDUCATORS)

The designated primary Local Challenge Organizer (Organizer) for a site is responsible for all activities associated with the coordination of his/her Local Challenge, including compliance with the rules set forth in these 2011-2012 *You Be The Chemist* Challenge (Challenge) Guidelines. Organizers will send periodic correspondence to participating educators, who are expected to read through and comply with that correspondence, to include submitting the appropriate participation data to the Organizer and disseminating the appropriate information to students.

Primary Organizers will register their Local Challenge site with CEF. As a condition of registration, each Organizer must collect and submit to CEF general directory information about all participating schools and/or homeschool associations, as well as participation data for each school and/or homeschool association. Participating educators are responsible for supplying this information to their Local Challenge Organizer. Participation data is simply a count of all students that are participating in the Challenge in some capacity (which is to include any students who are preparing for a Local Challenge competition by reviewing CEF's study materials and related resources, beginning with all those students preparing for the Qualifying Exam, as applicable). Organizers will supply educators with the appropriate files for collecting participation data.

All inquiries and comments about a Local Challenge should be directed to the site's Local Challenge Organizer. If a school and/or homeschool association is unaware of their Local Challenge Organizer, they should contact CEF at [challenge@chemed.org](mailto:challenge@chemed.org).



## PARTICIPATION REQUIREMENTS (STUDENTS)

All those involved in organizing Local Challenges and all potential participants should be aware of the following rules and requirements. Participants must satisfy all of the following requirements:

- Participation in Challenge competitions is open to all 5-8th grade students regardless of race, religion, creed, gender, or type of school one attends. Participation should NOT be contingent upon any other requirements such as membership in an organization, club, or other scholastic activity.
- Participants are eligible to participate in the Challenge for no more than four years.
- Participants must not have passed beyond the 8th grade on or before April 1, 2012.
- Participants must not reach the age of 15 on or before September 1, 2012.
- The participant, the participant's parent/guardian, or school official acting on the participant's behalf, must not have declared to another entity an academic classification above 8th grade for any purpose, including high school graduation equivalency or proficiency examinations and/or examinations such as the PSAT, SAT, or ACT.
- Participants may NOT compete in a Challenge competition in which his/her parent, legal guardian, or other family member is a Challenge competition judge or Organizer.
- Participants must enter State and National Challenge competitions in the same Challenge cycle in which they qualified from their Local Challenge competition.
- Once a participant has won the National Challenge, that participant is ineligible for future participation in the Challenge.
- Each participant that qualifies to represent his/her state at the National Challenge must submit a completed National Challenge Participant Agreement, registration, and Participant Biography Form with a current photo to CEF. Each participant's legal guardian and/or National Challenge chaperone must submit a completed National Challenge Agreement & Release form and registration, as well as the requested travel documentation.



Any participant who is not in compliance with any of the eligibility requirements noted above may be disqualified by CEF prior to or during any competition. In addition, any participant found to have not been in compliance with the eligibility requirements or who has been disqualified for any other reason may be required to forfeit the prizes, title, and other benefits awarded to the participant as a result of his/her participation in the Challenge.





## COMPETITION RULES

All sites and all individuals participating in or attending a Local Challenge competition MUST review and comply with the Competition Rules as detailed in the following pages. A hard copy of a Local Challenge site's rules, incorporating these Competition Rules, should be available at the competition venue. An abbreviated version of the rules and the site's competition format should be read aloud to the participants and audience prior to the start of a Local Challenge competition or prior to the start of each competition Round. (All sites will determine their site's format/structure, as described in the Local Challenge Structure section on pages 10-15, based on the site's make up and available resources.)

**Please be advised:** CEF will refer to these 2011-2012 Challenge Guidelines in the event of any questions or concerns regarding Local Challenge structures and rules. Sites that do not comply may have their official status as a Local Challenge site revoked; in which case, the winning participant(s) from that site would not be permitted to advance to the next level of competition.

### GENERAL RULES

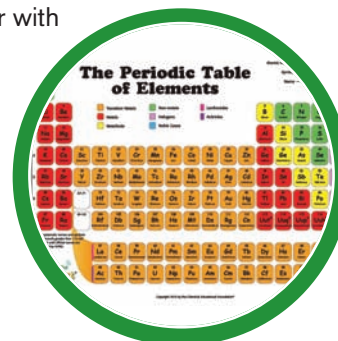
All participating students MUST meet the participation requirements, noted on page 5, and should be sure to review their site's Local Challenge rules (including these Competition Rules) and format.


Challenge competition questions (including the Qualifying Exam) are for competition purposes ONLY. Students should NOT receive or use questions at any point (from the current year or any previous years) to study.

Challenge competitions will strive to provide reasonable accommodation for participants who have physical challenges. To request an accommodation, the participant's parent/guardian must follow the "Challenge Guidelines for Disability Accommodation Requests." Requests submitted that do not comply with those guidelines will not be considered. To obtain a copy of those guidelines, the participant's parent/guardian should contact their site's Local Challenge Organizer.

### COMPETITION PREPARATION

CEF offers study materials to help students succeed at every level of the Challenge. To prepare for a Challenge competition, students should begin by reviewing the Challenge study materials available on CEF's website at [www.chemed.org/ybtc/challenge/study.aspx](http://www.chemed.org/ybtc/challenge/study.aspx), including the *Passport to Science Exploration* and the Periodic Table and the Periodic Table of Atomic Weights handouts. (Students can access these materials at a local library or through their school's media center if they do not have internet access at home.) Students should not only review the information on the periodic tables, but also be familiar with how to use the periodic tables to obtain additional information about an element or set of elements.





Challenge competition questions are based on an overall understanding of chemistry concepts and the relationships among various chemistry concepts. **Please note:** Questions are largely derived from information contained in CEF's study materials but are not limited solely to this information. Students are encouraged to seek additional resources for examples and explanations of chemistry concepts as Challenge competition questions often require students to connect concepts and apply their knowledge of chemistry to both familiar and unfamiliar situations.

### QUALIFYING EXAM

Local Challenge sites that utilize the Qualifying Exam (a written, multiple-choice test) to narrow down the number of students participating in a Local Challenge competition, will administer the test through its participating schools or homeschool associations. Students should be notified by their school or homeschool association of the date on which the Qualifying Exam will be administered and of the time limit for completing the test. Study materials and other related reference materials are NOT permitted inside the testing room.

The Qualifying Exam will be administered and graded in the format deemed appropriate by the school or homeschool association (whether hand-written, scantron<sup>®</sup>, etc.).

Educators with access to the Qualifying Exam should use the test for competition purposes ONLY. The Qualifying Exam should NOT be distributed to students at any point to study. After the Qualifying Exam is administered, collected, and graded, it should NOT be returned to the students.

### LOCAL CHALLENGE COMPETITIONS — PARTICIPANT CONDUCT

The Challenge is a competitive event focusing on the outstanding efforts of its participants. Participants should be given the utmost respect throughout the event.

Participants are expected to comply with the rules of conduct established in these 2011-2012 Challenge Guidelines, the site's Local Challenge rules and format, their participant agreement (as appropriate), and any rules or codes of conduct stated verbally by the Local Challenge Organizer and any other agents of the Local Challenge. Participants are expected to act with integrity and courtesy throughout the event.



Prior to the start of a Local Challenge competition, participants should be reminded verbally of the following:

- The competition will follow the format and regulations as designated for that Local Challenge site.
- If a participant is eliminated from the competition, he/she should be courteous to the participants remaining in the competition and sit quietly as an audience member for the remainder of the competition.
- Participants should refrain from talking to one another while the competition is in progress.
- Cell phones and other electronic devices are not permitted to be in their possession during the competition.
- Local Challenge Organizers and other Challenge officials and agents will be observing participant behavior throughout the competition. Any behavior deemed to be distracting, questionable, or dishonest is grounds for disqualification from all levels of the Challenge.

- Study materials and related reference materials, including periodic tables, are not permitted at the competition venue. Judges will have the relevant study materials in the event that they need to reference them during the competition. Any participant seen with any study materials after a Challenge competition begins may be disqualified from the competition.
- Participants may use any provided scrap paper for computation purposes only. Scrap paper is not to be used to write notes or formulas for use in the competition. Any participant seen to be using scrap paper in an inappropriate manner may be disqualified from the competition.

## LOCAL CHALLENGE COMPETITIONS — AUDIENCE CONDUCT

All audience members are expected to comply with the rules of conduct established in these 2011-2012 Challenge Guidelines, the site's Local Challenge rules and format, their audience/guardian agreement (as appropriate), and any rules or codes of conduct stated verbally by the Local Challenge Organizers and any other agents of the Local Challenge. Audience members are expected to act with integrity and courtesy throughout the event.



Prior to the start of a Local Challenge competition, audience members should be reminded of the following:

- The competition is for the participants, and proper, courteous behavior is expected (i.e., turn off cell phones, no talking, etc.). If audience members must make a phone call, use the restroom, etc., they should wait until the end of a competition Round to enter or exit the competition room. If it is necessary for an audience member to leave the competition room during a Round, they should leave the competition room quietly so as not to disrupt the competition or distract the participants.
- Once the competition begins, participants are solely responsible for addressing their questions and concerns directly to the judges. At no point are audience members permitted to approach the judges (during the competition nor upon its conclusion). Audience members should address any questions or concerns privately to the Local Challenge Organizers.
- Audio and video recording is NOT permitted; however, photographs are permitted.
- Writing materials, such as pens, notepads, etc., and electronic devices are NOT permitted to be used in the competition room (with the exception of coloring materials or silent electronic games for young children). All such materials should be turned off and put away once in the competition room.
- Audience behavior will be observed throughout the competition. Any audience member deemed to be exhibiting behavior that is distracting, questionable, or dishonest will be asked to leave the competition. Any behavior that is deemed to be questionable or perceived as giving an unfair advantage to a particular participant is grounds for disqualification of that participant. The individual exhibiting such behavior and the participant that the individual is accompanying may be asked to leave the competition room and may be subsequently disqualified from the competition.
- Study materials and related reference materials, including periodic tables, are not permitted at the competition venue. Any audience member seen with any study materials after the competition begins will be asked to leave the competition room and the participant that the individual is accompanying may be subsequently disqualified from the competition.

## LOCAL CHALLENGE COMPETITIONS — APPEALS

Participants MUST follow the proper appeal process for the competition.

For Local Challenge competitions that utilize electronic response devices: if a participant feels his/her electronic device is not working properly, he/she should raise his/her hand IMMEDIATELY to notify the judges. Judges will make the necessary adjustments, as they deem appropriate, to the current Round and the current Round only, for a faulty device.

If a participant feels a need to appeal a question or answer during a particular competition Round, he/she must appeal to the judge(s) immediately following that Round and prior to the announcement of any eliminations or prior to the start of the next Round, whichever occurs first.

- At the end of the Round in which the question arises, participants should raise their hand and wait to be acknowledged by the judge(s).
- Once acknowledged, the participant should individually approach the judge(s) and address them privately. If necessary, the judge(s) will call a short break to review the appeal.
- The judge or a majority decision by the panel of judges (as applicable) will decide any appeal. All judges' decisions are final.

If a participant feels a need to appeal a question or answer during a Round that uses a single-question, immediate elimination format (in which participant scores are determined after each individual question), he/she must appeal to the judge(s) immediately following that question and prior to the announcement of any eliminations, again initiating the appeal by raising his/her hand immediately after the answer is revealed.

Appeals must be made before a participant leaves his/her seat for any reason. If participants leave their competition seats for a break or elimination, their appeal will not be heard by the judge(s) upon their return. Likewise, if the next Round begins (or next question is revealed in a single-question, immediate elimination Round) before the participant has appealed to the judge(s), the appeal will not be heard and no changes will be made.

Appeals must be made individually and directly to the judges. Participants may not consult any other individual (participant, parent, etc.) prior to making their appeal.

The judge(s) will have a copy of relevant study and reference materials to review in making their decision. The result of each appeal will be reported privately to the participant making the appeal. In addition, the results of all appeals made following a Round will be announced to the audience by the judges prior to the start of the next Round.

Other than imposing the YBTC Challenge Rules, as detailed on pages 4-9, and approving Local Challenge structures, CEF does not exercise operational supervision over the conduct of Local Challenge competitions and will NOT render judgments relating to the conduct or outcomes of local competitions. Competition appeals should be made by participants directly to the judge(s), as noted above, for any Local Challenge competition. Again, all judges' decisions are final. Audience members having questions or concerns about Local Challenge competitions may note their concerns to the Organizer. Concerns should be relayed to CEF by the Organizer for informational purposes only.




# SECTION II: LOCAL CHALLENGE STRUCTURE

## OVERVIEW

The following provides an overview of CEF's Challenge structure and potential competition formats. Local Challenge Organizers will determine the structure and format for their Local Challenge and supply all participating schools and/or homeschool associations with details regarding the competition structure and format.

## GENERAL CHALLENGE STRUCTURE



With respect to the varying circumstances and environments in which a Local Challenge can take place, the structure for local competitions is intentionally flexible, allowing sites to choose among recommended formats. The Local Challenge Organizer for each site will select that site's structure and competition format. Thus, Local Challenge structures and formats vary from site to site.

All participating educators should be sure to review the structure and format for their particular Local Challenge site, as supplied by their Local Challenge Organizer, and disseminate that information to participating students. In addition, all participating educators and participants should be aware of the following:

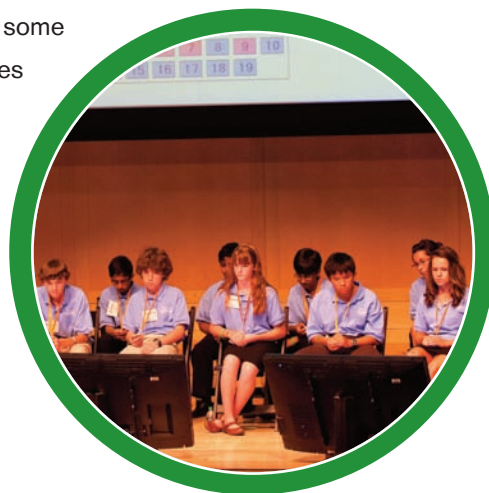
- At the national level of the Challenge, CEF will devise and enforce the National Challenge Rules and National Challenge Format, and all participants MUST comply. These rules will be controlled solely by CEF and its selected National Challenge judges.
- Any participant who does not meet all eligibility requirements (see page 5) will be ineligible for participation in State and National Challenges.
- CEF requires that State Challenge competitions utilize a "Quiz Bowl" format, as described on page 12. Individual State Challenge formats will be drafted independently for each state by the State Challenge Organizer for that state and in accordance with these 2011-2012 Challenge Guidelines. Each State Challenge and all involved must comply with the YBTC Challenge Rules detailed on pages 4-9.
- Other than imposing the YBTC Challenge Rules, as detailed on pages 4-9, and approving Local Challenge structures, CEF does not exercise operational supervision over the conduct of Local Challenge competitions and will NOT render judgments relating to the conduct or outcomes of local competitions.
- Participation in the Challenge is voluntary. Participating schools and/or homeschool associations should strive to make the Challenge an educational and entertaining experience for all involved.

## LOCAL CHALLENGE FORMATS

As previously noted, Local Challenge Organizers will select a Local Challenge structure and competition format based on the size of the site, available resources, and other relevant considerations. While all participating educators and students should be sure to carefully review the Local Challenge information provided by their Local Challenge Organizer, some general notes about CEF's recommended Local Challenge structures and competition formats are provided in the following pages for informational purposes.

### LARGE LOCAL CHALLENGE SITES

For large Local Challenge sites (generally 100 or more participating students overall), CEF recommends that the site begin by administering a Qualifying Exam to all interested student participants within the participating schools and/or homeschool associations. High-scoring participants (as determined by the Local Challenge structure) will proceed to a "Quiz Bowl" competition to determine the Local Challenge winner.

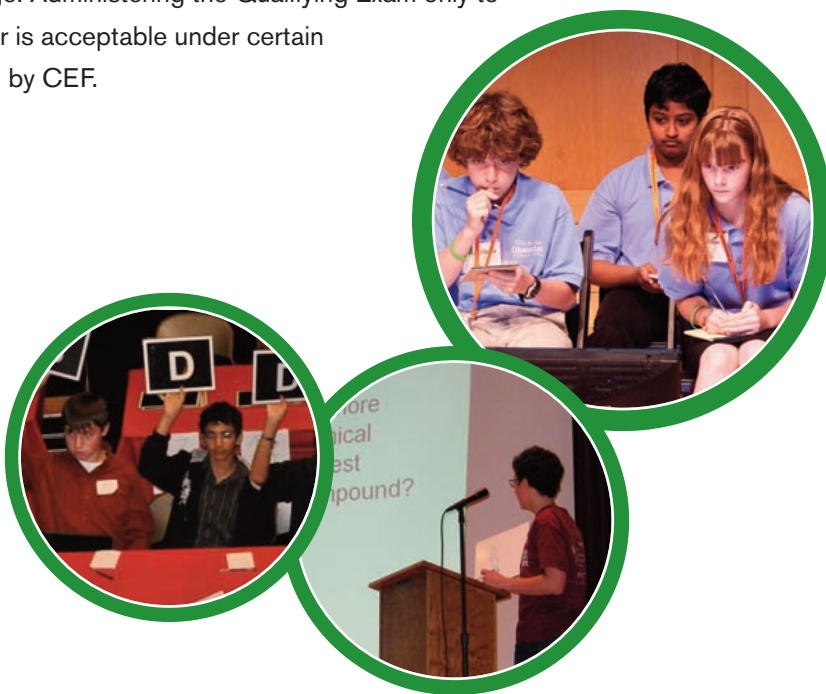


- **Qualifying Exam:** a timed, written, multiple-choice test given to all interested students in order to determine which students will advance to the Local Challenge competition as determined by their site's structure. The questions and answers for the exam will be supplied by CEF to Local Challenge Organizers and thus to participating educators, as appropriate.
  - The Qualifying Exam should be administered at a public venue to ensure all participants (i.e., public school, private school, homeschool students) are given an equal opportunity to compete.
  - The number of questions on the Qualifying Exam and the designated time limit (such as 50 questions in a timed, 30-minute exam or 75 questions in a timed, 45-minute exam) will be determined by the Local Challenge Organizer, who will provide the exam and timing instructions to the individual administering the exam.
  - Questions for the Qualifying Exam will be derived largely from an understanding of the Local Challenge study materials, which will be posted and identified on the CEF website. Participating educators should inform participants to review the *Passport to Science Exploration: The Core of Chemistry* for their Local Challenges. However, educators should also note that additional study materials are available on the CEF website and encourage participants to explore chemistry further by utilizing these and other outside resources.
  - The Organizer will instruct all participating schools and/or homeschool associations on who should administer and grade the Qualifying Exam and how it should be graded. Scores should be determined based on the answers provided by CEF.

- **“Quiz Bowl” Format:** a timed, interactive question-and-answer competition organized for those students who qualified to participate based on their performance on the Qualifying Exam and/or the structure of the Local Challenge site. This competition will be used to determine the local winner. A “Quiz Bowl” competition may take a variety of forms, such as utilizing an electronic response system for participants to select their answers, operating under a verbal response format (much like spelling bees), or another similar format.

### SMALL LOCAL CHALLENGE SITES

For smaller Local Challenge sites, where the Qualifying Exam is not necessary to reduce the number of participants, the “Quiz Bowl” competition format should be used to familiarize student participants with the format used for the National Challenge. Administering the Qualifying Exam only to determine the Local Challenge winner is acceptable under certain circumstances but must be approved by CEF.



## LOCAL CHALLENGE SITE RULES

Local Challenge competition formats will be drafted independently at each site based on the selected structure. The YBTC Challenge Rules detailed on paged 4-9 (and any other rules designated for that site based on the selected format) will be distributed to all participating educators (and thus the student participants) involved in that particular Local Challenge. A hard copy of a Local Challenge site's rules should be available at the competition venue.



## Challenge Structure in States with a Single Local Challenge Site



## COMPETITION JUDGES & MODERATORS

Each Local Challenge site that utilizes a “Quiz Bowl” competition format will have an official competition judge or panel of judges, who shall be in complete control of the Challenge competition. If there are any irregularities during the competition, the judges will rule on the result and continuation of the competition based on the Local Challenge rules and format and accounting for any mitigating or collateral circumstances. Appeals can only be made by the student(s), and the proper appeal procedure must be followed.

In addition, each “quiz bowl” competition should have at least one moderator to read the questions and answer choices aloud.

## LOCAL CHALLENGE WINNERS

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Each Local Challenge site will produce a winner, runners-up, and alternate(s). The winner will participate in the State Challenge, if a State Challenge is required. (If no State Challenge is required, the winner will advance directly to the National Challenge.) Certain State Challenge structures may also allow for the participation of the runners-up. Alternates will participate if the winner or runners-up (as applicable) are unable to compete; thus, alternates **MUST** receive information about the State Challenge and be instructed to continue reviewing the study materials supplied by CEF, as well as other relevant resources, in order to be prepared to compete if the opportunity arises. Local Challenge winners advancing to a State Challenge should review their State Challenge rules and format, supplied by the State Challenge Organizer, for details on participation.

## LOCAL CHALLENGE PRIZES

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Local Challenge prizes can range from certificates to educational electronic devices and will be determined at the discretion of the Local Challenge Organizer and/or the local sponsors. Local Challenge Organizers will notify participating schools/homeschool associations of the prizes to be awarded at their competition once they are determined.



## OTHER LOCAL CHALLENGE CONSIDERATIONS

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For more information, please visit CEF's website at [www.chemed.org](http://www.chemed.org) and browse through the *You Be The Chemist* Challenge pages. National Challenge competition photos can be viewed on the Past Challenges page. (Click the links on the page for more information and pictures from specific years.) Additional information about organizing Local Challenges and other community outreach projects can be found in CEF's *Community Outreach & Media Guide* at [www.chemed.org/publications/outreach.aspx](http://www.chemed.org/publications/outreach.aspx).



## SECTION III: CURRICULUM

### OVERVIEW

CEF provides the Challenge study materials and questions for each level of the Challenge. Challenge study materials will be located on CEF's website at [www.chemed.org](http://www.chemed.org) with notes indicating what materials students should focus on for each level of competition. CEF recommends that Organizers notify participants as soon as study materials are available on the CEF website so they have ample time to prepare for the Challenge and further their knowledge and understanding of chemistry. Important dates are listed on the *You Be The Chemist* Challenge section of the CEF website.

### STUDY MATERIALS

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CEF offers study materials to help students succeed at every level of the Challenge. Students should be instructed to review these materials to best prepare for Challenge competitions. As information changes each year, educators should NOT distribute CEF Challenge study materials from previous academic years.

Educators should inform participating students of the following:

- Challenge study materials can be found on the Study Materials section of CEF's website at [www.chemed.org/ybtc/challenge/study.aspx](http://www.chemed.org/ybtc/challenge/study.aspx). (Students can access these materials at a local library or through their school's media center if they do not have internet access at home.)
- Challenge competition questions are based on an overall understanding of chemistry concepts and the relationship among various chemistry concepts. Questions are largely derived from information contained in CEF's study materials but are not limited solely to this information. Students are encouraged to seek additional resources for examples and explanations of chemistry concepts as competition questions often require students to connect concepts and apply their knowledge of chemistry to both familiar and unfamiliar situations.
- For Local Challenge competitions, participants should be sure to review the *Passport to Science Exploration: The Core of Chemistry*. Students should also review the Periodic Table handout supplied on CEF's website. Students should not only review the information on the periodic table but also be familiar with how to use the periodic table to determine additional information about an element or set of elements.

### Note:

Educators may print and distribute Challenge study materials at their discretion; however, CEF encourages all participants to access the Challenge study materials online.

- For State Challenge and National Challenge competitions, participants should be sure to review the appropriate sections of the *Passport to Science Exploration* as indicated on the Study Materials section of CEF's website, as well as the *The Core of Chemistry* study materials and additional chemistry resources. Students should also review the Periodic Table and the Periodic Table of Atomic Weights handouts supplied on CEF's website. Again, they should be familiar with how to use the periodic tables to obtain additional information about an element or set of elements.

## COMPETITION QUESTIONS

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CEF will provide all competition questions and answers to the Organizers for use in their competitions. Educators will receive access information from their Local Challenge Organizer in order to download the Qualifying Exam, if applicable.

Participants must compete ONLY with the questions supplied by CEF for that level of competition and for that Challenge cycle. (A Challenge cycle will begin with each school year and end with the National Challenge in June.) No other questions should be used during the competition. Study materials and questions will vary based on the level of competition and from cycle to cycle.

Challenge competition questions are the intellectual property of CEF and are to be used for competitions ONLY. Questions, multiple-choice answers, and correct answers are NOT to be distributed to participants at any time, as it could result in disqualification of individual participants or an entire site. Any other use of the Challenge questions, multiple-choice answers, and correct answers is not authorized and is strictly prohibited.

Only answers contained in the curriculum supplied to the Organizers by CEF should be accepted as correct, unless determined otherwise by the competition judges' decision.



# SECTION IV: STATE & NATIONAL CHALLENGES

## OVERVIEW

If more than one Local Challenge site is established within a state, a State Challenge must take place. The State Challenge Champion (first-place winner) from each State Challenge competition will advance to the National Challenge, organized by CEF. If no State Challenge is required, the Local Challenge Champion will advance directly to the National Challenge as the state representative. Each state will send only ONE participant to the National Challenge.

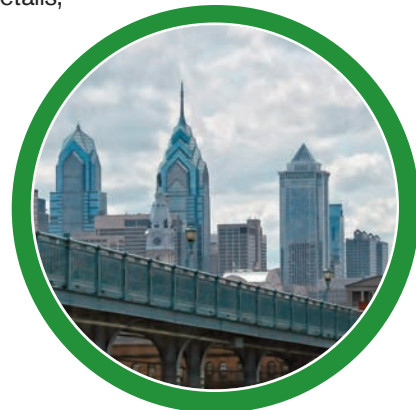
## GENERAL REQUIREMENTS & INFORMATION

Educators should be sure to provide the necessary information, about student participants (and alternates) advancing to the State (or National) Challenge, to their Local Challenge Organizer. The Local Challenge Organizer will submit that information to the State Challenge Organizer (or CEF), who will be in touch with the student participants to provide the relevant information about the State (or National) Challenge. For some State Challenges, the Local Challenge Organizer will provide that information to student participants.

Other than reviewing and approving the State Challenge rules and structure, CEF does not exercise operational supervision over the conduct of State Challenge competitions and will NOT render judgments relating to the conduct or outcomes of state competitions. Competition appeals should be made by participants directly to the judge(s) for any State Challenge competition. All judges' decisions shall be final. Audience members having questions or concerns about State Challenge competitions may note their concerns to the State Organizer or Organizers. All such concerns should be relayed to CEF by the State Organizer or Organizers for informational purposes only.

For the National Challenge, CEF invites one representative per state to participate based on the results of State and/or Local Challenge competitions. National Challenge preparation materials will be supplied to participants directly by CEF. Such materials include a schedule of events, travel details, and registration forms for participants, chaperones, and guests.

The 2012 National Challenge is tentatively scheduled for June 25 at the Kimmel Center in Philadelphia, PA. More details about the event will be posted on CEF's website as they become available.





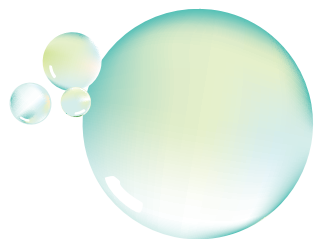
## STUDY MATERIALS

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Participating educators should inform their Local Challenge winners to review CEF's website for new study materials that may be available for the next level of competition.

State and National Challenge participants should be reminded of the following:

- Challenge study materials can be found on the Study Materials section of CEF's website at [www.chemed.org/ybtc/challenge/study.aspx](http://www.chemed.org/ybtc/challenge/study.aspx). (Again, students can access these materials at a local library or through their school's media center if they do not have internet access at home.)
- Challenge competition questions are based on an overall understanding of chemistry concepts and the relationship among various chemistry concepts. Questions are largely derived from information contained in CEF's study materials but are not limited solely to this information. Students are encouraged to seek additional resources for examples and explanations of chemistry concepts as competition questions often require students to connect concepts and apply their knowledge of chemistry to both familiar and unfamiliar situations.
- For State Challenges, participants should be sure to review the appropriate sections of the *Passport to Science Exploration* as indicated on the Study Materials section of CEF's website, as well as the *The Core of Chemistry* study materials and additional outside chemistry resources. Students should also review the Periodic Table and the Periodic Table of Atomic Weights handouts supplied on CEF's website. Again, they should be familiar with how to use the periodic tables to obtain additional information about an element or set of elements.
- For the National Challenge, participants should be sure to review the appropriate sections of the *Passport to Science Exploration* as indicated on the Study Materials section of CEF's website, as well as the *The Core of Chemistry* study materials and additional outside chemistry resources. Students should also review the Periodic Table and the Periodic Table of Atomic Weights handouts supplied on CEF's website. Again, they should be familiar with how to use the periodic tables to obtain additional information about an element or set of elements.



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**GOOD LUCK!**

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