



2018-2019 *You Be The Chemist* Challenge® Official Competition Structure: Public Edition





This document provides detailed information regarding the overall Challenge program structure and how participants advance through each level of the competition. School Coordinators, participants, and parents/guardians of participants should read this document along with the [2018-2019 Official Competition Format](#) (for detailed information regarding the competition format at each level of competition) and the [2018-2019 Official Rules](#).

To ensure integrity and consistency of the Challenge program nationwide, all requirements presented in this document **must** be followed. Disregard for any requirement may result in the Challenge site being prohibited from participating in future years.

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I. STRUCTURE OVERVIEW

	<p>CHALLENGE QUALIFIER (i.e. school-based competition)</p> <p>From fall through mid-winter, a School Coordinator registers his/her school with a minimum of 5 participating students. Participants prepare using online study materials. The School Coordinator administers the paper-based multiple-choice Challenge Qualifier, released by CEF to Challenge Organizers in November.</p>
	<p>Challenge Organizers inform all School Coordinators how many participants may attend the Local Challenge after the school registration deadline. School Coordinators select advancing participants based on the participants' Qualifier scores. Each registered school is guaranteed at least one slot; additional slots are extended to schools based on registration numbers in the area, using CEF's <i>Participant Advancement Calculator</i>.</p>
	<p>LOCAL CHALLENGE</p> <p>In February or March*, top participants from registered schools across the area gather to compete in a Local Challenge. Participants compete individually, advancing through rounds of timed multiple-choice questions. The Champion, plus additional top participants (based on the number and size of Local Challenge sites within a state), advance to the State Challenge.</p> <p><i>* In states with a single Challenge site, a hybrid "Local-as-State" Challenge is held in April. The Champion of that competition proceeds directly to the National Challenge.</i></p>
	<p>STATE CHALLENGE</p> <p>In April, top participants from across the state gather to compete in the State Challenge. Participants compete individually, advancing through rounds of timed multiple-choice questions, until a State Challenge Champion is determined.</p>
	<p>NATIONAL CHALLENGE</p> <p>The Champion from each participating state receives an expenses-paid trip to the multi-day National Challenge event, held in June in Washington, DC. Participants compete individually, advancing through rounds of timed multiple-choice questions vying for prizes and the title of National Challenge Champion.</p>

II. STRUCTURE DETAILS

A. STUDY MATERIALS & QUESTIONS

The best way for students to prepare for all levels of the Challenge is to review CEF's study materials and understand how they can be applied to solve problems. **To help students prepare, School Coordinators¹ are required to:**

- Direct students to the [study materials](#) page of CEF's website, which includes free study materials and important information about the content at each competition level, and
- Direct students to the ["Suggested Additional Resources"](#) page on CEF's website to supplement their studying.

School Coordinators may also:

- Host or organize study sessions to review CEF's study materials.
- Create or find additional resources to help their students prepare.
 - However, School Coordinators **may not** claim that any additional resources they create or provide are CEF-approved.
- Connect students with tutors and/or mentors in their community.

Organizers and School Coordinators MUST KEEP ALL CHALLENGE QUESTIONS CONFIDENTIAL. All Challenge questions are for competition purposes ONLY and should not be shared at any other time. Students should NOT receive official competition questions to study at any point. Any access to 2018-2019 Challenge questions outside of an official competition is grounds for student disqualification.

¹ **School Coordinators** must be authorized representatives of the school such as teachers or administrators. Because they will have access to the Challenge Qualifier, they may **not** be parents/guardians of any student participant.

B. CHALLENGE QUALIFIER

The entry point for students is through their public school, private school, charter school, homeschool group/association, or afterschool group (henceforth collectively referred to as “school”).

School Registration:

- Between fall and mid-winter, a **School Coordinator** registers their school for the appropriate Local Challenge in their state via CEF’s website at <https://challenge.chemed.org/school/create>.
- School registration minimum: 5 participants per school
 - There is no school registration maximum.
- School registration deadline: **Tuesday, January 22, 2019**.

Qualifier Distribution:

- In November, CEF distributes access information for the Challenge Qualifier (and its answer key), which is housed on a password-protected webpage, to Local Challenge Organizers. Local Organizers then pass along the information to School Coordinators.

Qualifier Administration & Reporting:

- School Coordinators **must** administer the Challenge Qualifier – and report final participant numbers to the Organizer – by:
 - **Friday, February 1, 2019** (or **Friday, February 15, 2019** in select cases²) at the latest for Local Challenges scheduled in February or March, or
 - **Friday, March 22, 2019** at the latest for Local-as-State Challenges scheduled in April³.
 - NOTE: Earlier completion of both steps is **highly recommended**.
- CEF provides the paper-based Qualifier which contains 40 multiple-choice questions.
 - The Qualifier is scored cumulatively. Participants receive one (1) point for each correct answer and zero (0) points for each incorrect or missing answer.
 - School Coordinators should score the entire test, but initially consider students’ scores on **ONLY** the first 25 questions. If there is a tie, students’ scores on the remaining questions will be considered. Refer to **Qualifier Tiebreaker Considerations** (pages 5 - 6) for more information.

² Some Local Challenge Organizers may select the later February 15, 2019 deadline. If selected, the Organizer will notify School Coordinators.

³ For 2018-2019, the **Local-as-State Challenge** timeline applies to: AK, AL, AZ, CT, DC, DE, FL, MA, ME, MN, MO, NC, NH, NM, OK, OR, PR, RI, TN, UT, WA, and WV.

- CEF recommends administering the Qualifier as a timed test. Time recommendations will be provided when the Qualifier is released in November.

Qualifier Results & Participant Advancement (to Local or Local-as-State Challenge):

- Student advancement slots allocated to each participating school will be calculated by Local Challenge Organizers using the CEF-provided [2018-2019 Participant Advancement Calculator](#).
- The calculator allocates slots to the next level of competition using a logarithmic treatment of participation at the previous level of competition (i.e. the number of students that take the Qualifier at each school). Each school is guaranteed a minimum number of advancement slots, depending on the number of participating schools.
- Organizers **will not** communicate each school's number of participant slots to School Coordinators until:
 - The total number of schools participating in the Challenge is finalized (i.e. **after** the school registration period closes)
 - * and *
 - **All** School Coordinators have confirmed the final number of students that took the Qualifier (by the Qualifier Administration & Reporting deadline as detailed on page 4).
 - Many School Coordinators provide estimated student participation numbers during registration. ***It is extremely important for Organizers to confirm a final number of students ultimately taking the Qualifier with each School Coordinator before allocating participant slots based on those numbers.***
- Organizers **will** communicate each school's number of participant slots and Challenge event details to School Coordinators no later than **four calendar days after the Qualifier Administration & Reporting deadline**.
- After receiving the number of slots allotted to their school, School Coordinators **must** communicate the names of advancing participants to Organizers by the Organizer's selected deadline.
 - ***School Coordinators that fail to communicate names by the stated deadline risk forfeiting their allocated slots, which Organizers may then re-distribute (see page 7).***

Qualifier Tiebreaker Considerations:

- **Not all ties need to be broken at the Qualifier level.** Ties only need to be broken if they prevent a School Coordinator from determining which students will fill their school's allocated number of participant slots to the next level of competition.
 - EXAMPLE (*refer to chart on following page*): School Coordinator Mr. A scores his students' Challenge Qualifiers. He learns from Organizer Ms. B that he may send his top 5 students to the Local Challenge. He is able to select his top 5 students—students C, D, E, F, and G—based on the scores from the first 25 questions. There is no need to revisit scores to break the tie between Students E – G.

Student	Challenge Qualifier Score – First 25 Questions	Challenge Qualifier Score – Final 15 Questions
Student C	22	14
Student D	21	11
Student E	19	13
Student F	19	13
Student G	19	12
Student H	16	10
Student I	14	10
Student J	14	11
Student K	10	5
Student L	9	7

- If a tie persists after scoring the first 25 questions ONLY, School Coordinators should then use students' scores on the final 15 questions ONLY to break the tie.
 - EXAMPLE: Mr. A learns he may send his top 7 students to the Local Challenge. In this case, Mr. A needs to break the tie between Students I and J as only one of them can advance. Based on scores on the final 15 questions only, Student J advances to the Local Challenge. Mr. A does **not** need to revisit the scores of any other students.
- If a tie persists after scoring the final 15 questions only, School Coordinators should then use students' scores on the final 5 questions ONLY to break the tie.
- Since there may be a delay between when School Coordinators administer the Challenge Qualifier and when Organizers communicate the number of participant slots allotted to a school, School Coordinators should score all students' Qualifiers immediately after the test is administered, using the *Challenge Qualifier Score Summary for School Coordinators*. In the event of a tie that prevents School Coordinators from determining which student(s) advance(s) to the next level of competition, School Coordinators can quickly and easily reference the summary to determine who will advance.
- If a tie persists after all scenarios listed above, School Coordinators may receive a set of additional Qualifier questions by emailing CEF directly at challenge@chemed.org using the subject line: "Request for Additional Qualifier Questions – [School Name, School State]".
 - School Coordinators should copy their Organizer on the email so that Organizers are aware tie(s) still need to be broken.

C. LOCAL CHALLENGE

Date, Time, Venue:

- All Local Challenges must be held **between Saturday, February 16, 2019 and Sunday, March 24, 2019**.
 - Organizers should be mindful of school break schedules, holidays, and religious observances when selecting their Local Challenge date.
- The specific date, time, and venue are left to the discretion of the Organizer. Details must be finalized by **Friday, January 11, 2019** at the latest.

Total Number of Invited Participants:

- Minimum: 15 participants⁴
- Maximum: 60 participants
- The specific number of invited participants is left to the discretion of the Organizer, provided it falls within this range.
 - A Local Challenge with more than 60 or fewer than 15 participants is not a valid Challenge and may result in the Challenge site and/or Organizer being prohibited from participating in future years.

Participant Selection:

- Refer to **Qualifier Results & Participant Advancement** beginning on page 5.
- Special Case: Re-allocating Unclaimed Participation Slots
 - An Organizer is not required to redistribute unclaimed participation slots. The decision is left to the discretion of the Organizer.
 - An Organizer choosing to redistribute unclaimed slots will notify School Coordinators accordingly.
 - NOTE: CEF may issue additional guidelines on this topic later in the Challenge cycle.

Participant Advancement (to State Challenge):

- Student advancement numbers from each Local Challenge will be calculated by the State Challenge Organizers using the CEF-provided [2018-2019 Participant Advancement Calculator – STATE](#).

⁴ CEF will deal on a case-by-case basis with any occurrences of last-minute “no show” participants resulting in fewer than 15 total competition participants. Organizers should be prepared to document that they invited, prepared for, and expected 15 or more participants.

- The calculator allocates slots to the State Challenge using a logarithmic treatment of the number of students invited to every Local Challenge. Each Local Challenge is guaranteed at least two advancement slots to the State Challenge.

D. STATE CHALLENGE

Date, Time, Venue:

- All State Challenges must be held **between Saturday, April 6, 2019 and Sunday, April 28, 2019**.
 - Organizers should be mindful of spring break schedules, holidays, and religious observances when selecting their State Challenge date.
- The specific date, time, and venue are left to the discretion of the Organizer. Details must be finalized **by Friday, February 8, 2019** at the latest (i.e. *before* the earliest possible Local Challenge).

Total Number of Invited Participants:

- Minimum: 25 participants⁵
- Maximum: 60 participants
- The specific number of invited participants is left to the discretion of the Organizer, provided it falls within this range.
 - A State Challenge with more than 60 or fewer than 25 participants is not a valid Challenge and may result in the Challenge site and/or Organizer being prohibited from participating in future years.

Participant Selection:

- Refer to **Participant Advancement (to State Challenge)** beginning on page 7.
- Special Case: Re-allocating Unclaimed Participation Slots
 - A State Organizer is not required to redistribute unclaimed participation slots. The decision is left to the discretion of the Organizer.
 - A State Organizer choosing to redistribute unclaimed slots will notify Local Organizers accordingly.
 - NOTE: CEF may issue additional guidelines on this topic later in the Challenge cycle.

Participant Advancement (to National Challenge):

- The State Challenge Champion from each participating state receives an expenses-paid trip to the National Challenge in Washington, DC.
- Instructions for reporting each State Challenge Champion and Nominated Educator's information to CEF will be communicated to State Challenge Organizers in the spring.

⁵ CEF will deal on a case-by-case basis with any occurrences of last-minute "no show" participants resulting in fewer than 25 total competition participants. Organizers should be prepared to document that they invited, prepared for, and expected 25 or more participants.

E. LOCAL-AS-STATE CHALLENGE

These competitions occur in states with only one Challenge site. Top participants – as determined by performance on the Challenge Qualifier – from each registered school gather to compete in a Local-as-State Challenge. Participants compete individually, advancing through rounds of timed multiple-choice questions, until a Champion is determined. The Champion advances to the National Challenge.

Local-as-State Challenges share some similarities with Local Challenges and others with State Challenges. Refer to the chart below to determine which section to consult for information about each aspect of a Local-as-State Challenge.

	Local Challenge (Section C)	State Challenge (Section D)
Date, Time, Venue		✓*
Number of Invited Participants	✓	
Participant Selection	✓	
Re-distributing Unclaimed Participant Slots	✓	
Competition Content		✓*
Participant Advancement (to next level of competition)		✓

* A Local-as-State Organizer who feels Local Challenge content (rather than State Challenge content) better serves participants in their state may request an exception to hold the event during the Local Challenge window. The request must be submitted to CEF no later than the end of November. CEF will evaluate requests on a case-by-case basis, informed in part by a review of available 2017-2018 question response data. CEF will communicate a final decision to the requesting Organizer. The Organizer is responsible for clearly communicating the date, time, and venue to all School Coordinators.

F. NATIONAL CHALLENGE

State Challenge Champions – as determined by performance at Local-as-State and State Challenges – from across the country gather to compete in a National Challenge. Participants compete individually, advancing through rounds of timed multiple-choice questions, until the National Challenge Champion is determined.

More information about the National Challenge will be communicated directly to State Challenge Organizers, State Challenge Champions & their Chaperones, and Nominated Educators in the spring.

Date, Time, Venue:

- Monday, June 17, 2019
- Washington, DC

Total Number of Invited Participants:

- One participant from each involved state

Participant Selection:

- Refer to **Participant Advancement (to National Challenge)** on page 9.

Revision History		
Version	Issue Date	Brief Description
--	Oct 04, 2017	Original Issue
2017-2018 v.2	Dec 08, 2017	Minor Revision – New footnote 2 inserted (<i>Section II.B</i>) and subsequent footnotes renumbered Major Revision – Deadlines specific to Local-as-State Challenges added (<i>Section II.B</i>) Major Revision – Revision History Chart added
2018-2019	Oct 23, 2018	Major Revision – Dates updated (<i>throughout document</i>) Major Revision – Formula for <i>Participant Advancement Calculator</i> revised (<i>Sections II.B, II.C</i>) Major Revision – Instructions for handling unclaimed slots added (<i>Sections II.C, II.D</i>) Minor Revisions – Text re-worded (<i>throughout document</i>)