

# 2016 National Challenge Format



National Challenge • National Challenge

Participants and all attendees must review and comply with the Chemical Educational Foundation's® (CEF) 2016 National *You Be The Chemist* Challenge® Format and the 2016 National Challenge Rules.

## A. Overall Format

1. The competition rounds, number of participants, and questions per round are as follows:

Round	Number of Participants	Number of Questions per Round
Preliminary Rounds 1-4	39	10
<i>---One-hour lunch break---</i> <i>---Top 10 participants announced after break---</i>		
Finals Rounds 1-3	10	6
<i>---25-minute break---</i> <i>---Top 4 participants announced after break---</i>		
Quarter-Final Round	4	6
Semi-Final Round	3	6
Championship Round	2	5

2. National Challenge Judges and Officials appointed by CEF have the right to alter the competition format in the best interest of the competition at any point. Any alterations will be announced to the participants and audience as necessary.
3. Participants will be staged alphabetically by last name for all rounds, unless otherwise determined by the Judges.
4. Participants will be provided with scrap paper and a pencil for computation purposes only. Used scrap paper will be collected at the end of each round.
5. Participants will be provided with a competition version of the periodic table for selected rounds.
6. Participants will be able to view each question and multiple-choice answers on a screen as the moderator reads the question and answer choices aloud. Questions and answer choices with long equations, symbols, or images may not be read aloud in their entirety.

7. Questions and answer choices will be read only once and will **not** be repeated unless requested by the Judges.
8. Participants will answer multiple-choice questions each round using an electronic response device. Once the question and answer choices have been read aloud by the moderator, participants will have 10 seconds (unless otherwise noted) to submit their answers. After the 10 seconds have passed the participants will no longer be able to submit their answer and their answer will be considered incorrect. The correct answer will be shown and read aloud by the moderator.
9. Officials will track the number of correct and incorrect answers for each participant.
10. Before Preliminary Round 1, Finals Round 1, and the Quarter-Final Round, participants will test the electronic response system by answering a calibration question that will not count towards their total number of correct answers. If a participant's electronic device is not working properly, s/he must raise his/her hand immediately to notify the Judges before the start of the round.

#### **B. Preliminary Rounds 1-4**

1. All participants will compete in all four Preliminary Rounds.
2. Participants will respond to questions using an electronic keypad by pressing the multiple-choice letter that corresponds with their answer choice. If a participant experiences any technical difficulties during these rounds s/he must raise his/her hand immediately to notify the Judges.
3. After each Preliminary Round, Judges will address any participant appeals before moving on to the next round.
4. At the conclusion of Preliminary Round 4, the competition will break for lunch. During the break the National Challenge Officials will determine the ten participants with the highest cumulative scores. These ten participants will advance to Final Round 1 and will be announced following the lunch break.
5. If there is a tie in cumulative scores that prevents the Officials from determining the ten participants with the highest cumulative score, a Tiebreaker Round will take place before Finals Round 1 to determine which participants will advance to the next round. For more information on Tiebreaker Rounds see, section F.

#### **C. Finals Rounds 1-3**

1. Participants will respond to questions using an electronic keypad by pressing the multiple-choice letter that corresponds with their answer choice. If a participant experiences any technical difficulties during these rounds s/he must raise his/her hand immediately to notify the Judges.
2. After each Final Round, Judges will address any participant appeals before moving on the next round.

3. At the conclusion of Finals Round 3, there will be another competition break. During the break, the National Challenge Officials will determine the four participants with the highest cumulative scores. These four participants will advance to the Quarter-Final Round and will be announced following the break.
4. If there is a tie in cumulative scores that prevents the Officials from determining the four participants with the highest cumulative score, a Tiebreaker Round will take place before the Quarter-Final Round in order to determine which participants will advance. For more information about Tiebreaker Rounds see section F.

#### D. Quarter-Final Round and Semi-Final Round

1. The four participants with highest cumulative scores will participate in the Quarter-Final Round.
2. During the Quarter-Final Round and the Semi-Final Round, participants will use a CEF provided response tablet that will display their selected answer choice on a monitor visible to the Judges, Officials, and the audience. If a participant experiences any technical difficulties during these rounds s/he must raise his/her hand immediately to notify the Judges. Participants will follow the procedure below:
  - a. Participants will use the tablet to select their answer choice by pressing the multiple-choice letter on the tablet screen. Once participants have selected their answer choice they will be prompted to press either “Change Answer” or “Submit Answer” on the tablet screen.
  - b. After the moderator finishes reading the question and answer choices, participants will have 10 seconds (unless otherwise noted) to select “Submit Answer”. All participants **must** submit their answers within the allotted time. Participants should note that once answer choices are submitted they cannot be changed.
  - c. Once the allotted time has passed, the moderator will ask each participant to display and state the letter of their answer choice. To display their answer choice participants will be asked individually to select the “Display Answer” option that will appear after the answer choice has been submitted. Participants should **not** hit “Display Answer” until prompted by the moderator.
  - d. Judges and Officials will record all participant answers. If a participant’s stated answer choice differs from the displayed answer choice, the displayed answer choice will be recorded by the Judges as the participant’s selected answer.
  - e. After all participants have displayed and stated their answer choices, the correct answer choice will be revealed and read aloud by the moderator. The moderator will then prompt all participants to reset their tablets by selecting the “Reset” option that will appear on the screen after their answer choice has been displayed.
3. At the end of the Quarter-Final Round and at the end of the Semi-Final Round, the participant with the lowest score for that round, and that round only, will be eliminated. Officials will use the participant’s cumulative score only if there is a tie between the participants with the lowest scores at the end of each round.

- a. If there are participants with tied cumulative scores at the end of the Quarter-Final Round or the Semi-Final Round that prevent the designated number of participants from being eliminated, those tied participants will enter a Tiebreaker Round to determine which participant will advance in the competition. For more information about Tiebreaker Rounds see section F.
4. When the number of participants is narrowed to two, the Championship Round will begin.

#### **E. Championship Round**

1. The final two participants will be asked to answer five multiple-choice questions, using the same response tablet used in the Quarter-Final and Semi-Final Rounds.
2. The participant who answers the most questions correctly out of those five will be declared the National Challenge Champion.
  - a. If both participants have the same number of correct answers at the end of the Championship Round, the participants will enter a Championship Tiebreaker Round. In a Championship Tiebreaker Round, participants will be asked an additional five questions; the participant who answers the most questions correctly out of those five will be declared the National Challenge Champion.
  - b. If participants remain tied after a Championship Tiebreaker Round, the participants will enter a Single Elimination Championship Round where participants will be asked the same question at the same time. When one participant answers the question incorrectly and the other participant answers the question correctly, the participant who answered the question correctly will be declared the National Challenge Champion.
  - c. If all single elimination questions (25 in total) are exhausted, the remaining two participants will be declared joint National Challenge Champions, and will both be awarded with the Championship prizes.

#### **F. Tiebreaker Rounds**

1. Tiebreaker Rounds will be used if there are tied cumulative scores that prevent the National Challenge Officials from determining which participants will advance to Finals Round 1 and the Quarter-Final Round. If necessary, a Tiebreaker Round may also be used to determine which participants will be designated 3<sup>rd</sup> Runner-up, 2<sup>nd</sup> Runner-up, and 1<sup>st</sup> Runner-up, and/or National Challenge Champion.
2. Participants who must participate in the Tiebreaker Round will respond to questions using the same response system format used in the round that preceded it.
3. Participants who are participating in the Tiebreaker Round will be given the same question to answer at the same time.

4. After each question in a Tiebreaker Round, the advancement of participants will be determined depending on the number of participants who answered the question correctly and the number of open positions in the next round, as described in the scenarios below:
  - a. If the number of participants who answered the question correctly is *equal* to the number of open positions in the next round, those participants who answered correctly will advance to the next round. Those participants who answered incorrectly will be eliminated.
  - b. If the number of participants who answered the question correctly is *fewer* than the number of open positions in the next round, those participants who answered correctly will advance to the next round. Those participants who answered incorrectly will be asked another question.
  - c. If the number of participants who answered the question correctly *exceeds* the number of open positions in the next round, those participants who answered correctly will be asked another question. Those participants who answered incorrectly will be eliminated.
5. Tiebreaker Rounds will continue until all open positions for the next round are filled.

#### G. Competition Conclusion

1. If a Champion has not been declared by 5:00 p.m. (Eastern Time), and there are only two participants remaining in the competition, they will be declared joint National Challenge Champions and will both be awarded with the Championship prize.
2. If there are more than two participants remaining in the competition at 5:00 p.m. (Eastern Time), or all competition questions have been exhausted, the Judges will tally the cumulative scores of the participants who remain to determine the results. The participants' scores and their resulting place in the competition will be determined based on the number of total correct answers throughout all competition rounds (excluding Tiebreaker Rounds). If the Judges determine that more than one participant has the same cumulative score throughout all rounds for the positions of 3<sup>rd</sup> Runner-up, 2<sup>nd</sup> Runner-up, 1<sup>st</sup> Runner-up, and/or Champion, those participants will be declared joint 3<sup>rd</sup> Runners-up, 2<sup>nd</sup> Runners-up, 1<sup>st</sup> Runners-up, and/or Champions, respectively, and will be awarded with the prizes designated for that place.