



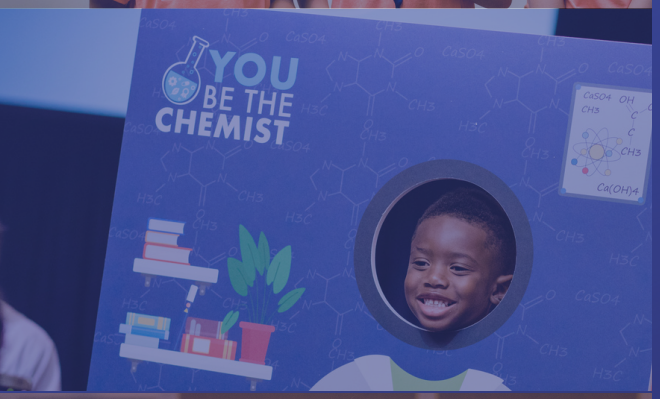


# YOU BE THE CHEMIST™ CHALLENGE 2022-2023

## TEAM COORDINATOR GUIDE

CEF CHEMICAL EDUCATIONAL FOUNDATION™ | YOU BE THE CHEMIST™

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# THE CHALLENGE STRUCTURE

The *You Be The Chemist* Challenge® is a fun, FREE, STEM competition for students in grades 5-8. Teams of 3-4 students participate in Regional Challenges from January - March.

There are two participation tracks; in-person and virtual.

Students will first take the Qualifier exam at their school (in-person participants). After the Qualifier, the top teams will participate in the Regional Challenge (in-person or virtual) where they will answer timed multiple-choice and short-answer questions. All students participating in the Regional Challenge will create a video response addressing the themed prompt for this year. Overall team scores will be a weighted combination of their video score and their Regional Challenge score (in-person or virtual). The weighted scores will be used to select state winners. State winners will be announced, and the top five teams will advance to the National Challenge in Houston, TX. At the National Challenge, finalist teams will pitch their videos and demonstrate an expanded knowledge of the business side of the chemical industry by answering questions about their video from a panel of judges.

Please note: Virtual participants do not need to take the Qualifier. All students participating virtually can participate in the virtual Regional Challenge.

## 2022-2023 *You Be The Chemist* Challenge Tracks

# FORMAT FOR IN-PERSON & VIRTUAL REGIONAL CHALLENGES

Each team will participate in four rounds with 10 questions in each round. Team scores will be calculated after the virtual or in-person Regional Challenge has ended. All students from the same school must participate on the same day through the same format (in-person vs. virtual).

The event will follow the format below:

| ROUNDS | NUMBER OF QUESTIONS | SCORING |
|---|---|---|
| Round 1 | 10 | Cumulative |
| Round 2 | 10 | |
| Round 3 | 10 | |
| Round 4 | 10 | |

# CHALLENGE TIMELINE

The following dates are a guideline for the 2022-2023 Challenge cycle. CEF will communicate any changes or deadline extensions as needed.

## OCTOBER 3, 2022

- Challenge Registration and Team Submission opens
- Rules and study material released.
- Teams can begin working on their video, to be submitted by March 6, 2023.

## DECEMBER 30, 2022

- Registration closes
- Deadline for Team Coordinators to administer the Qualifier exam (two weeks before Regional Challenge).

## JANUARY 6, 2023

- Team Submission closes.

## JANUARY 20, 2023

- In-person Regional Challenges begin (Qualifier results must be submitted two weeks before in-person Regional Challenge.)
- In-Person Regional Challenges will take place between Friday, January 20 and Saturday, March 11.

## MARCH 6, 2023

- Teams collaborate throughout the year to create a video based on a prompt exploring chemistry concepts that will be evaluated. All teams participating at an in-person or virtual Regional Challenge will create and submit a video. The deadline for video submission is March 6, 2023.

## MARCH 11 & 18, 2023

- Teams participating in the virtual track compete in the virtual Regional Challenge on one of these dates (selected during Team Submission), where they will answer multiple-choice and short-answer questions during the event. Teams must be identified before the virtual event. During the virtual event, students answer questions individually, and a team's score is averaged.

## APRIL 2023

- State winners will be announced at the end of April.

## JUNE 13, 2023

- **The National Challenge will be held in person in Houston, TX.**

# NEXT STEPS

1. Review the Challenge cycle, timeline, and corresponding information on our website.
2. **Register** as a Team Coordinator to participate in the Challenge by December 30.
3. Review the Official Rules, video guidelines, video rubric, and storyboard template with your teams. You can find these documents on our Rules page.
4. Provide your teams with the Challenge study material.
5. Collect signed participant agreements from all team members participating in a Regional Challenge.
6. **Submit** your team compositions by January 6 with the participant agreements once you know your team compositions and have participant agreements from ALL team members.
7. **Submit** videos for each team by March 6.

# TIPS & TRICKS

## SKILLS NEEDED TO BE SUCCESSFUL IN THE CHALLENGE WITH THE UPDATES TO THE VIDEO COMPONENT.

Yes, we love the science in STEM, most specifically chemistry! But creating a successful video presentation and embracing the research and development side of STEM requires the understanding and use of much broader and very critical skill sets. Some of these important twenty-first-century learner skills that you will need to consider when building your teams are:

***Critical thinking, problem-solving, reasoning, analysis, interpretation, and synthesizing information. Research skills and practices, interrogative questioning. Creativity, artistry, curiosity, imagination, innovation, personal expression. Perseverance, self-direction, planning, self-discipline, adaptability, and initiative.***

Not every team member will possess all these skills, but each team should have members who provide a good mix of these skills to contribute to the overall team dynamic in a manner that supports their video objective.

## INCORPORATING JOB DESCRIPTIONS INTO THE PROBLEM/SOLUTION

1. Identify your problem and then identify what industry services/ resources might be needed to address the problem. Think about the job/ roles individuals involved might hold. Identify at least three jobs/careers that are connected to your problem and represent varying levels of educational requirements (these roles should represent workers from a skill-trade/ certification and a degreed position).
2. Make sure the job roles are interwoven into the problem and solution.
3. You can maximize your use of the time allowed for your video presentation if you work some aspects of the job descriptors/duties/responsibilities into the problem/solution rather than give detailed descriptions of each in isolation.

## KEY TOPICS- SUSTAINABILITY AND CHOICES FOR THE FUTURE

Three trends significantly affecting the future of the chemical industry: sustainability, demographics, and technology. Some topics of interest could fall under the following themes/ issues:

1. Control of pollution in the chemical industry
2. Consumer Services or products
3. Shortage of Workforce and Reduced Production Rate
4. The Issue of Disrupted Supply Chains
5. Discrepancies in the Demand for Raw Material
6. Decoupling chemical (including plastics) manufacturing from fossil fuel use.
7. Phasing out single-use plastics that contribute to high waste volumes, while collaborating with supply chain partners and downstream customers.
8. Social justice plans in chemical plant communities.
9. Environmental Regulations

Keep in mind the above list is not exhaustive. There are many other topics and needs. Think about the community perspective your team wants to focus on (school, neighborhood, city, state, global) and make observations to see what systemic problem interests you. Then your team will need to identify the connections to chemistry - forces and interactions - by describing the problem and brainstorming an innovative solution.

## PRODUCT/SERVICES VIDEO EXAMPLES

Here are videos to help provide insight on real-world examples of companies sharing their innovations or sustainability efforts. The videos shared in these links are to provide a few examples of how the science, sustainability, and social implications of a problem and its subsequent solution might be incorporated into a short video presentation. These videos represent actual industry endeavors and are only intended to provide examples of how you might incorporate your science explanations, ideas, and job roles in a seamless flow.

***These videos are not intended to represent or imply a specific standard of video production or final product for the challenge. Your video for the challenge must follow the guidelines and rubric provided.***

## EXAMPLE VIDEO LINKS:

BASF – DEFOAMERS

TIDE – HE TURBO CLEAN

P&G – IT'S OUR HOME

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