

# CEF'S CHALLENGE

Fun, Free STEM Challenge

## PROGRAM

2024-2025

TEAM COORDINATOR GUIDE



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The Challenge® is a fun, FREE, STEM challenge for students in grades 5-8. Teams of 3-4 students participate in Regional Challenges that are held from January - March. Teams simultaneously create videos in which they address an innovative solution to a community-based challenge.

*\*Virtual Regional Challenges are only for Teams that do not have an In-person Regional Challenge near them.*

Regional Challenge and video scores are combined to determine State Winners. Top 5 state winning teams advance to the National Challenge, present their innovative solution to an expert panel of judges, and compete for scholarships!



## GETTING STARTED

**1 Engage students** for a fun and exciting STEM Challenge **at the start of the school year.**

*There is no limit to the number of teams, and you don't have to know team composition at this stage.*

**2 Access** our free study materials and instant instructional support as registration opens **in October.** *Students can start gearing up and preparing for the Challenge right away.*

**3 Finalize your teams** and submit your team composition to CEF in **January.**



## NEXT STEPS

**4 Participate** in your local or virtual **Regional Challenge** from **mid-January through mid-March.**

**5 Submit** completed **team videos** by the **end of March.**

**6 State winners** and **National Finalists** will be announced in **early May.**



## FINISH LINE

**7 Receive feedback** on team's performance including answers to questions, percentile ranking, & video feedback in **May.**

**8 Finalists compete** for **scholarships** at the National Challenge at the **beginning of June.**



Teams of 3-4 students from 5th to 8th grade participate in Regional Challenge events where they answer timed science-based questions. Team scores are calculated throughout the Regional Challenge. All students from the same school must participate on the same day.

**Regional Challenges will follow the format below:**

<b>ROUNDS</b>	<b>NUMBER OF QUESTIONS</b>	<b>SCORING</b>
<b>Round 1</b>	<b>10</b>	<b>Cumulative</b>
<b>Round 2</b>	<b>10</b>	
<b>Round 3</b>	<b>10</b>	
<b>Round 4</b>	<b>10</b>	

The following dates are a guideline for the 2024-2025 Challenge cycle. CEF will communicate any changes or deadline extensions as needed.

**OCT 1, 2024**  
REGISTRATION & TEAM  
SUBMISSION OPENS

- Challenge Registration and Team Submission opens
- Rules and study material released.
- Teams can begin working on their video

**JAN 15, 2025**  
TEAM SUBMISSION  
CLOSES

- Team Submission closes.

**JAN 18 - MAR 2, 2025**  
REGIONAL  
CHALLENGES

- In-Person Regional Challenges will take place between Saturday January 19 and Sunday, March 2.

*\*If there's no Regional Challenge nearby, you can participate in the Virtual Regional Challenge*

**MAR 5 & 8, 2025**  
VIRTUAL  
CHALLENGES

- 1st Virtual Challenge: March 5, 2025, 3 PM Eastern Time
- 2nd Virtual Challenge: March 8, 2025, 1 PM Eastern Time

**MAR 21, 2025**  
VIDEO SUBMISSION  
DEADLINE

- All teams participating at a Regional Challenge will create and submit a video.

**END OF APRIL**  
STATE WINNERS &  
NATIONAL FINALIST  
ANNOUNCEMENT

- State winners will be announced at the end of April, based on Regional Challenge and Video Scores.

**JUNE 10-11, 2025**  
NATIONAL  
CHALLENGE

## NEXT STEPS

1. Review the Challenge cycle, timeline, and corresponding information on our [website](#).
2. Review the Official Rules, video rubric, and storyboard template with your teams. You can find these documents on our Team Coordinator's page.
3. Provide your teams with the Challenge [study material](#).
4. Form Teams and collect signed [participant agreements](#) from ALL team members participating in a Regional Challenge. Deadline for team submission is **January 15, 2025**.
5. **Submit** videos for each team by March 21.

## 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 solution and represent varying levels of educational requirements (these roles should represent workers from a skill-trade / certification and a degreed position). The careers, alongside the varying levels of education must be mentioned in the video.
2. 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 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 STEM industries: sustainability, demographics, and technology. Some topics of interest could fall under the following themes/ issues:

1. Green technology and renewable energy innovations
2. Consumer Services or products
3. Shortage of Workforce and Reduced Production Rate
4. Discrepancies in the Demand for Raw Material
5. Phasing out single-use plastics that contribute to high waste volumes, while collaborating with supply chain partners and downstream customers.
6. Social justice, diversity, and inclusion in all workplaces.
7. Environmental Regulations
8. AI, automation, and digital tools are transforming research and development, reshaping future STEM careers
9. Data science, cybersecurity, and virtual/augmented reality are driving growth in STEM and creating new job opportunities

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.

## UNITED NATIONS - 17 SUSTAINABILITY DEVELOPMENT GOALS

The Sustainable Development Goals (SDGs) aim to transform our world. They are a call to action to end poverty and inequality, protect the planet, and ensure that all people enjoy health, justice and prosperity. Students must incorporate at least one of these goals into their 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](#)

CONTACT: [CHALLENGE@CHEMED.ORG](mailto:CHALLENGE@CHEMED.ORG)

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Building the Future STEM Workforce

**YOU  
BE THE  
CHEMIST.**



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