

**THEME: You Be The Solution: Using life science concepts to develop community-based sustainable solutions.**

As part of the *You Be The Chemist* Challenge®, teams will create a video investigating **life science concepts** in which they will form a start-up company that has developed a **sustainable solution to a real-world challenge** in their community. Videos should introduce the start-up as a company, discuss who is part of the company's team, and present the problem and solution the company is addressing. Videos should address how specific concepts of life science explain the problem and solution.

### Your video must:

1. Be 5-7 minutes in length. Videos shorter than 5 minutes or longer than 7 minutes will not be scored. Videos that are sped up or at an increased speed will not be scored.
2. Introduce your start-up company
  - a. State your company mission
  - b. Describe the industry your company works in (refer to samples below)
  - c. Present careers and roles from different organizational levels within the company that contribute to its success
    - i. Must present at least three careers (see suggestions below)
    - ii. Careers must be connected to your solution
    - iii. Careers from both **degreed positions and non-degreed positions** (such as skill-trades/certifications) must be represented. Videos lacking at least one skill trade/certifications will not be scored.
3. Explain the problem your team has chosen
  - a. Include details describing the **life science concepts** associated with the problem (see suggestions below)
  - b. Describe the personal, local, or environmental impact of the problem
4. Present an innovative solution
  - a. Include details describing the **life science concepts** and the related **fundamental chemistry principles** involved in developing the solution
  - b. Describe how your company is addressing sustainability in its solution using at least one of the [United Nation's 17 Sustainable Development Goals \(SDGs\)](#).
  - c. Include a diagram, drawing, or picture of the company's solution
  - d. Share the strengths and obstacles in implementing or creating your solution
  - e. Connect identified careers of varying educational levels to the solution
5. Opening and closing titles
  - a. Opening titles must include video title/company name, this year's Challenge theme, school name and address, and team ID
  - b. Closing titles must include school, student names (first names and last initials), and team member contributions
  - c. Opening and closing titles should be a maximum of 10 seconds in length each
6. Be submitted along with a completed Video Storyboard Template
  - a. Storyboard Template must include citations in APA format (see suggestions below)
7. Ensure all members are visually present throughout the video

### Sample Research Ideas:

The concept banks below provide possible research topic suggestions for your team's competition video.

**These concept banks are not an exhaustive list**, as many topics are not included. Your team is not required to use any of the below suggestions in your video; rather, the concept banks serve as inspiration for possible topics to explore in your video. Whatever topic you choose, whether it is from this list or not, it is your team's responsibility to connect that topic and your research to the video prompt.

### Sample Banks:

Life Science: Adaptations, Atoms, Biomes, Capillary action, Carbon Cycle, Carbon Dating, Cellular processes, Chemical Bonding, Climate, Compounds, Ecological Succession, Ecosystem, Endothermic, Elements, Energy, Exothermic, Genetics, Heat, Homeostasis, Irrigation, Life Processes, Mass, Matter, Microorganisms, Nitrogen Cycle, Photosynthesis, Respiration, States of Matter, Structure vs Function, Water Cycle

Company Industry: Agriscience, Automotive, Biotechnology, Chemical Distribution, Chemical Engineering, Chemical Manufacturing, Construction, Education, Energy Production, Entertainment and Media, Fashion and Retail, Healthcare and Medical, Hospitality and Tourism, Oil and Gas, Pharmaceuticals, Research Institute, Transportation, Water Management/Treatment, Quality Assurance and Control

Careers: Accountant, Analytical Chemist, Biochemist, Chef, Chemist, Chemical Engineer, Conservation Technician, Delivery Driver, Doctor, Equipment Operator, Electrician, Engineer, Farmer, Finance Director, Graphic Designer, Installation Specialist, Iron Worker, Journalist, Lab Technician, Maintenance Technician, Marketing and Communications Specialist, Mechanic, Mechanical Engineer, Nurse, Operations Manager, Pharmacologist, Police Officer, President, Project Manager, Quality Specialist, Sales Manager, Service Technician, Social Worker, Software Developer, Warehouse Associate, Welder

### Additional Requirements:

1. Format and resolution
  - a. Videos should be saved in .mp4 – a universal video format that is viewable on all platforms
  - b. Resolution should be at least 640 x 480 pixels (HD is 1920 x 1080)
2. Original content and copyrighted material
  - a. A bibliography listing all sources used in researching and creating the video in APA format must be included in the end titles of the video. Please refer to [this resource created by Science Buddies®](#) for more step-by-step directions on creating an APA formatted bibliography.
    - i. Source list must include title, author, publisher, and copyright date
    - ii. Bibliography must also include internet sources, interviews, images, and videos
      1. [Directions on how to automatically format bibliographies in Microsoft Word](#)
      2. [Directions on how to automatically format bibliographies in Google Docs](#)
      3. Use [Grammarly's free Citation Generator](#)
  - b. All content must comply with copyright rules and regulations. We advise that students use wholly **original** content in their videos to avoid violation of copyright. However, if using anything other than original content in your video, be sure that one of the following applies:
    - i. It is in the public domain, meaning it was published in 1922 or earlier; however, be sure that the particular *performance* of the song you are using is in the public domain. For example, a performance of "Twinkle, Twinkle Little Star" by Taylor Swift probably has its own copyright protections, but you could perform the song with your team and use it

freely. For more information about what is in the public domain, visit

<https://www.pdinfo.com/public-domain-music-list.php>.

- ii. It has a Creative Commons Attribution license. This license allows you to use a particular work as long as you credit the original author/performer. Be careful when researching a work's particular Creative Commons license and be sure it is a Creative Commons *Attribution* license. Visit <https://creativecommons.org/licenses/> for more information.
- iii. It is completely royalty-free. If an original author/composer allows their work to be used without restrictions, this is royalty-free. Websites that offer royalty-free music will usually indicate this, so be sure to look for the licensing of a particular work you are interested in using. **Be careful!** If a song, image, etc. is "royalty-free for educational use," you may **NOT** use it in your video submission because the prizes for the *You Be The Chemist* Challenge® have monetary value which invalidates educational use.

### 3. Non-team member contributions

- a. Adult and/or other non-team member involvement in the video competition must be minimal. Challenge Organizers, Coordinators, teachers, parents, and other non-team members cannot actively participate in the research, storyboarding, filming, or editing of any parts of the project.
- b. Non-team member contributions to the storyboard and video may *only* include:
  - i. Helping to organize the team
  - ii. Supporting time management
  - iii. Providing critical feedback or highlighting factual errors
    1. Non-team members may point out factual inaccuracies or explanations that are confusing or convoluted, **BUT** they may **NOT** contribute ideas, or provide solutions at the risk of disqualifying a team. (*Note – this can include pointing out factual errors but NOT correcting those factual errors. Students should be directed to re-check facts or do more research on a specific explanation if an adult sees a misconception or specific factual error.*)
  - iv. Providing meeting places
  - v. Ensuring safety
    1. Adults may instruct students on how to use tools—including lab materials, hardware, and software needed to create the project, **BUT** they may **NOT** actively work on the project.
  - vi. Giving encouragement
  - vii. Acting as extras in video

**Video Submission:** <https://youbethechemist.submittable.com/submit/270000/2023-2024-video-submission>

Videos may be submitted by **March 22, 2024** at 11:59pm eastern time. Team Coordinators will receive Team Identifiers to use when submitting videos.