



## **NATIONAL STEM CHALLENGE RULES**

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### **The Challenge**

Welcome to the 2024 National STEM Challenge - Your mission? Craft a STEM project that tackles a real-world challenge. Choose from one of the 2024 themes listed below and use the scientific method or engineering design process.

Create a PDF presentation about your project, keeping it to 3 pages maximum with a minimum of 12-point font. You may include text and images to explain your ideas, but no faces or names in your PDF. Your project should be tested (if using the scientific method) or constructed (physically or digitally if using the engineering design process). Theoretical projects will receive lower scores.

The best projects from all 50 U.S. states, the District of Columbia, and U.S. territories will become Challenge Finalists with the opportunity to advance to the next level by submitting a video in the second round. Up to 200 National Champions will win a trip to the National STEM Festival in Washington, D.C., in April 2024. There, Champions will showcase their projects to some of our nation's most influential leaders. The Festival is co-presented by the U.S. Department of Education and EXPLR.

Your participation in this Challenge is governed not only by these Challenge Rules but also by the [GENERAL RULES](#), which are incorporated herein.

### **Challenge Themes**

The six challenge themes ("Categories") are described below.

- ENVIRONMENTAL STEWARDSHIP:** Design a project that promotes environmental stewardship and responsible use of natural resources. This could include conserving water and energy, preserving habitats and ecosystems, or mitigating the impact of climate change. Projects could also explore socioeconomic factors contributing to environmental issues and scalable solutions to address them.
- FUTURE FOODS:** Research, design, and propose practical ideas that address equitable and sustainable practice issues surrounding food production, distribution, and consumption. Consider factors such as climate change, population growth, resource scarcity, and food security.
- HEALTH & MEDICINE:** Invent a new medical device, investigate innovative ways to diagnose and treat diseases, or design a solution to improve the quality of patient care. This could include addressing the unique challenges faced by under-resourced communities, ensuring your innovation promotes equitable access to healthcare.



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### **Challenge Themes (continued)**

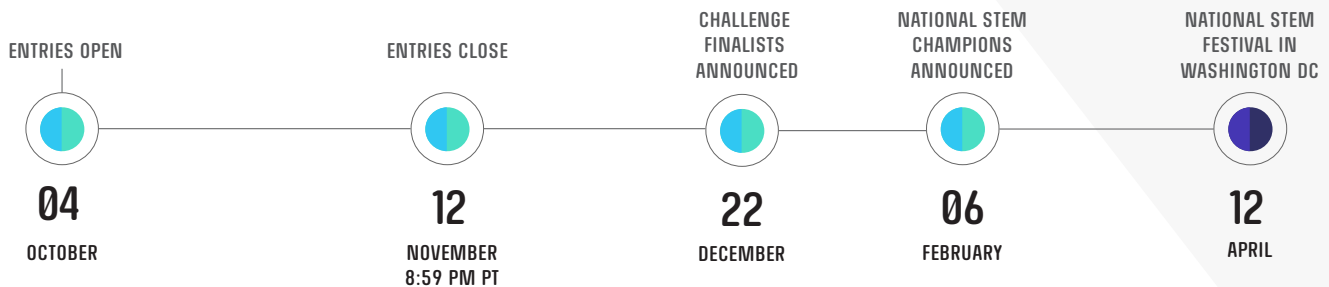
- POWER THE PLANET:** Design, invent, and propose innovative solutions for future energy needs. This could include alternative and sustainable energy sources, energy storage technologies, energy efficiency, or grid optimization.
- SPACE INNOVATION:** Explore the challenges of space exploration and space settlement and come up with innovative solutions. From designing habitats for life on Mars to developing sustainable food sources, the possibilities are endless.
- TECH FOR GOOD:** Utilize AI, data visualization, robotics, or other technologies to develop a program or device that tackles real-world challenges. Your project could focus on solving problems such as closing the digital divide, ensuring equal access, and addressing racial biases in the realm of technology.

### **Who Can Enter**

This Challenge is open and offered to eligible students in 6th – 12th grade who attend a U.S. public, private, or home school located within the United States, including the District of Columbia, U.S. Territories, BIE and DoDEA Schools (“U.S.”) (eligible “Entrant”). Immediate family members of EXPLR (“Sponsor”) and Future Engineers (“Administrator”) employees involved with this Challenge directly or indirectly in any way, regardless of where they reside and/or those living in their same household (whether or not related) are ineligible to participate or win.

### **Program Dates**

Entries must be received by: NOVEMBER 12, 2023, 8:59 PM Pacific Time. It is anticipated that Challenge dates/ deadlines will be on or about as follows; however, all dates may be subject to change due to necessity of the circumstances, as determined by Sponsor in its sole and absolute discretion:





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### **Entry Conditions & Requirements**

Entries will be reviewed for privacy and student safety prior to judging. Administrator reserves the right but without obligation to request resubmission of an Entry, redact certain information (such as names of minors and other personally identifiable information or other restricted information), and/or disqualify any Entry that they deem inappropriate, ineligible, impractical (by way of example, it is not legal, it is unsafe, it is not suitable to share with judges, or it is not suitable to exhibit at the National STEM Festival, etc., all as determined by Administrator) or otherwise noncompliant. For greater certainty, the Administrator reserves the right, but without any obligation, in its sole discretion and at any time during the Challenge, to modify, edit or remove any Entry (or a component thereof), or to request an Entrant to modify or edit his or her Entry, or to edit if a complaint is received with respect to the Entry, or for any other reason.

### **Privacy Rules**

- **NO NAMES OF PEOPLE!** Don't write your full name, or anyone else's full name in your entry. Factually referencing significant figures (e.g., a scientist, artist, or engineer) is OK in your essay.
- **NO SCHOOL NAMES!** Don't submit your school name in your submission.
- **NO CONTACT INFO!** Don't submit an address, email address, phone number, username, or any combination of information that could be used to identify or contact a student.
- **NO FACES!** Don't include the face of yourself or others in your entry.

### **Submission Criteria**

Entries that violate the rules will be ineligible to win and may but without obligation be flagged for resubmission.

- Your Submission Must Include:
  - **TITLE** for your STEM project
    - Max 30 Characters
  - **PDF** presentation of your STEM project
    - Max 3 Pages (minimum 12 pt font)
    - PDF may include text and/or images
- **ONE** eligible Entry per student. Teams entries are **NOT** allowed. You may edit your submitted entry, but your last version of the submitted entry before the deadline will be judged.
- **Keep it G-rated!** No inappropriate content (as determined by Sponsor in its sole discretion).
- Your Entry must be made by **YOU**.
- Your Entry must **NOT** contain URLs that link to external sites, files, or videos such as Google Docs or YouTube. This is beyond the 3-page limit.
- Do not upload content that infringes on the rights of others. Referencing common trade names **factually** in your entry is OK.



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### **Regions**

Eligible entries will be assigned to one of fifty-two (52) regions based on the school state associated with the entry (each a “Region”). Entries will be judged in accordance with the stated Round I judging criteria (“Judging Criteria”) to select two Challenge Finalists (“Challenge Finalists”) in each Category from each Region (up to twelve Challenge Finalists in total per Region). In Round II of the Challenge, subject to verification of eligibility and compliance, the Challenge Finalist will then submit a one minute video explaining and demonstrating their Entry, which will be judged in accordance with Round II Judging Criteria by a National Selection Panel of experts in STEM fields to select three National STEM Champions from each Region. The Regions are:

- Alabama (AL)
- Alaska (AK)
- Arizona (AZ)
- Arkansas (AR)
- California (CA)
- Colorado (CO)
- Connecticut (CT)
- Delaware (DE)
- Florida (FL)
- Georgia (GA)
- Hawaii (HI), Guam (GU), American Samoa (AS), Northern Mariana Islands (MP)
- Idaho (ID)
- Illinois (IL)
- Indiana (IN)
- Iowa (IA)
- Kansas (KS)
- Kentucky (KY)
- Louisiana (LA)
- Maine (ME)
- Maryland (MD)
- Massachusetts (MA)
- Michigan (MI)
- Minnesota (MN)
- Mississippi (MS)
- Missouri (MO)
- Montana (MT)
- Nebraska (NE)
- Nevada (NV)
- New Hampshire (NH)
- New Jersey (NJ)
- New Mexico (NM)
- New York (NY)
- North Carolina (NC)
- North Dakota (ND)
- Ohio (OH)
- Oklahoma (OK)
- Oregon (OR)
- Pennsylvania (PA)
- Rhode Island (RI)
- South Carolina (SC)
- South Dakota (SD)
- Tennessee (TN)
- Texas (TX)
- Utah (UT)
- Vermont (VT)
- Virginia (VA)
- Washington (WA)
- West Virginia (WV)
- Wisconsin (WI)
- Wyoming (WY)
- District of Columbia (DC) and Armed Forces (AA, AP, AE)
- Puerto Rico (PR) and Virgin Islands (VI)



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### **Judging Criteria - Round One**

In Round I, Judges will review the eligible Entry and make a determination in each Judge's reasonable technical opinion as to how well it addresses the Judging Criteria set out below and assign it a score. The two top scoring Entries per Category (that also have a minimum threshold score of 40 or above), per Region will, once verified, be deemed Challenge Finalists ("Challenge Finalists"). Up to twelve (12) Challenge Finalists will be selected per Region. Bonus points will not be counted towards meeting the minimum threshold score.



- 50 POINTS** Project's potential for positive impact on people, communities, or the planet.
- 25 POINTS** Innovation, creativity, and/or originality of the project.
- 25 POINTS** Clarity of your project through images and text.
- 5 POINTS** Bonus points award to students who attend Title 1 eligible schools

Judges will assign the 5 bonus points based on the following selection criteria: Addressing need, that is the extent to which the Entrant's school is eligible to receive Title 1 funding because the student population served by the school is from low-income families (for example the percentage of students enrolled in free and reduced-price lunch programs under (42 U.S.C. 1759, as amended), or are homeless, in foster care, or in facilities for neglected or delinquent children. Entrant Title 1 eligibility will be determined by using the latest available data in the U.S. Department of Education's NCES CCD at the time of entry. Bonus points will not be counted towards meeting the minimum threshold score.

### **Judging Criteria - Round Two**

The Challenge Finalists will, once verified, move to Round II where a second panel of Judges will conduct a final round of judging of all Entry materials (which include the pdf and the video). Assuming sufficient eligible Entries are received, three potential National STEM Champions from each participating Region (regardless of Category) will be selected based on the following Round II Judging Criteria.



- 50 POINTS** Persuasiveness and/or passion for the project, as demonstrated in the video presentation.
- 25 POINTS** Project's potential for positive impact on people, communities, or the planet.
- 25 POINTS** Innovation, creativity, and/or originality of the project.
- 5 POINTS** Bonus points award to students who attend Title 1 eligible schools (see above).



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### **Tie Break & Insufficient Entries**

In either Round, in the event of a tie between Entries within the same Category and/or Region (as applicable), the tie will be broken amongst all such tied Entries by the highest score in the Positive Impact criteria (a). In the event a tie still exists, the tie will be broken amongst all such tied Entries by the highest score in the Innovation criteria (b). If there are no eligible Entries received for a Category within a Region, or no Entries that meet the minimum score threshold, then no Champion will be selected in that Category/Region. Sponsor reserves the right to assign those prizes among next highest scores in other Regions to ensure all prizes are awarded.

### **Prizes / Approximate Retail Value (“ARV”)**

The following prizes are available to be awarded, subject to eligibility and compliance, as determined by Sponsor in their absolute discretion:

- Challenge Finalist Prizes (up to 2 per Category, per Region. Total: up to 12 per Region; up to a total of 624 overall in the Challenge):** 2-months of Codédex Club, and an Invitation to attend an EXPLR’s Private STEM Master Classes Series. Codédex is a brand new way to learn to code for kids and adults. EXPLR’s Private STEM Master Classes Series is six virtual sessions developed exclusively for our 2024 STEM Champions who will virtually meet world-renowned experts, from astronauts who have ventured into space to sports statisticians who decode the secrets of games using math, can engage with experts and discuss with fellow students (sessions held between January - April 2024). (Total ARV of prize: \$20)
- National STEM Champion Prizes (up to 3 per Designation. Total: up to 156):** A 3 night/4 day trip to the National STEM Festival in Washington, D.C. to present their STEM projects. Trip consists of: roundtrip air transportation or ground transportation for Champion and one parent/guardian to/from a major gateway airport near winner’s legal U.S. residence and Washington, D.C.; three-nights hotel accommodations (standard room, double occupancy, room rate and tax included). (Total ARV of prize: up to USD \$1250)

Further specifics and limitations with respect to the grand prize trip are provided in the GENERAL RULES and will also be provided in applicable winner release documentation. Actual value depends on winner’s residence and other factors; any difference between actual and approximate value will not be awarded as cash or otherwise and Sponsor reserves the absolute right to limit particular elements of a prize. Prizes are subject to coordination with the Challenge Parties and any additional limitations and/or restrictions imposed by them as communicated in the winner release documents.

Sponsor reserves the right to (i) select fewer Challenge Finalists and/or National STEM Champions or (ii) to select more Semifinalists, Finalists, and/or Grand Prize winners, or (iii) to award additional prizes, or (iv) not award a prize, or to disqualify any Entrant/entry at any time (and require immediate prize return, if applicable) if it determines or suspects that Entrant/entry is ineligible, incomplete, non-compliant, or that awarding the prize to



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### **Prizes Continued**

any such Entrant might bring the Sponsor, Administrator, or Challenge Parties into public disrepute, scandal or contempt. If a Finalist and/or Grand Prize winner is disqualified for any reason, Sponsor may in its discretion award the prize to an alternate even if the disqualified person has already been notified or announced.

### **Potential Challenge Finalist Notification**

The potential Challenge Finalist parents or legal guardians will be notified via email, and they will be required to sign and return additional documents by a specified time, which may include:

Affidavit (or Declaration, as determined by Sponsor) of Eligibility, Liability and, where legal, Publicity Release and a Waiver Agreement ("Winner Release Documents"). Guests traveling with National STEM Champions will also be required to sign a Release of Liability and Publicity Release.

If any prize, prize notification, email or other communication is returned as undeliverable, or if a potential winner (at any level) cannot be reached after two (2) separate unsuccessful attempts by email or phone, refuses the prize, or fails to properly sign and return all Releases within the time period requested, or if a potential Finalist or their Entry is found to be ineligible, the potential Finalist may be disqualified. The next highest scoring Entry (for the applicable prize level) may be selected as an alternate and notified, time permitting.

### **Ownership and Public Licensing**

Entries may be displayed in a moderated public gallery. Please refer to the [GENERAL RULES](#) and [TERMS OF SERVICE](#) for licensing details. Depiction in the gallery shall not be deemed a representation of an Entries' ranking, score, or eligibility for the Challenge.

### **Sponsor and Challenge Parties:**

**Sponsor:**

EXPLR PBC, Inc.  
82 Nassau Street #60050, New York, NY 10038

**Administrator:**

Future Engineers LLC  
177 E. Colorado Blvd Suite 200, Pasadena, CA 91105

**GOOD LUCK!**