The Challenge

Embark on an exciting challenge to explore the Moon! Dream about exploring the Moon with NASA using nuclear power! Create one illustration and a written submission of 200 words or less that accomplishes the following:

YOUR ILLUSTRATION:
Learn how nuclear energy can be used in lunar exploration and illustrate your vision of a nuclear-powered lunar base that supports human and robotic exploration of the Moon's surface. Showcase the following nuclear power sources within your illustration:

- **Radioisotope Power Systems (RPS):** An RPS is a small but mighty type of nuclear technology—able to power exploration of the coldest, darkest, and dustiest corners of space for decades! RPS relies on the natural heat of plutonium-238.
  - A **Multi-Mission Radioisotope Thermoelectric Generator (MMRTG)** generates small amounts of electricity. It is the perfect, ultra-reliable power system for remote observation equipment or robotic explorers and is currently used to power the Mars Curiosity and Perseverance rovers. What could it power on the Moon?
  - A **Radioisotope Heater Unit (RHU)** generates heat. It won't provide electricity, but it will help space technologies that need to stay warm or survive cold lunar nights. What could it keep warm on the Moon?
- **Space Reactor Systems:** The reactors being developed to meet the growing demand for power in space can be more powerful — able to generate plentiful energy on demand. They use a process called nuclear fission, in which neutrons collide with uranium atoms, causing them to split and release energy. This creates a controlled chain reaction that produces heat, which is then converted into electricity.
  - **Fission power systems** will generate great amounts of energy by converting the heat to electricity. Large fission systems on Earth can power entire cities, but what could these smaller reactors power on the Moon? This technology would make an ideal, robust energy source for living, working, and building things on the Moon.

YOUR WRITTEN SUBMISSION:
We want to hear what powers you! Using 200 words or less, describe at least one personal superpower that could help NASA explore the Moon with nuclear power. Whether you are an astronaut on the Moon one day, or whether you use your powers here on Earth, it takes a team of many different skills and personality traits to explore! Describe how your unique superpower will help explore the Moon.

Explore the EDUCATION RESOURCES to brainstorm ideas and learn more about nuclear power and the Moon. Your entry must be original and entirely your own—no generative AI is allowed – and don't include your name or anyone else's name in your entry. Read the RULES for all requirements. Your participation in this Challenge is governed not only by these Challenge Rules BUT ALSO by the GENERAL RULES, which are incorporated herein.

Who Can Enter

Legal residents of the United States who are registered students in grades kindergarten through twelfth grade (K-12) attending a public, private, or home school in the United States (including U.S. territory, DoDEA, and BIE schools) are eligible to enter (eligible "Participants"). Employees of Future Engineers ("Sponsor"), National Aeronautics and Space Administration ("NASA") and the immediate family members (spouse, parent, child, sibling, partners, and their respective spouses, and foster and step-relations) regardless of where they reside, or those living in the employee's same household (whether or not related) are not eligible to enter or win a prize. Sponsor and NASA collectively referred to herein as the "Challenge Parties".

Submission Criteria

Submissions that violate the Rules will be ineligible to win and may be flagged for resubmission (as determined by Sponsor in its sole discretion.)

- Your Submission Must Include:
  - TITLE of your entry
    - Maximum 75 characters
  - ILLUSTRATION of your lunar base
    - Max 10MB
    - HEIC, JPG, JPEG, PNG, BMP, GIF or SVG
  - WRITTEN SUBMISSION of your superpower
    - Maximum 200 words
- ONE eligible entry per student. Team entries are NOT allowed. You may edit your submitted entry, but your last version of the submitted entry before the deadline will be judged.
- Do not include content that infringes on the rights of others. Referencing common trade names **factually** in your description is OK.
- Your entry must be original and 100% created by YOU. The substantive content and ideas presented must not have been developed, generated or created by artificial intelligence tools, such as ChatGPT, Claude, or Google Gemini. Adults may assist younger students with typing the online submission, but the entry must be the student's own creative, original work.
- Your entry must not use, copy, incorporate or otherwise plagiarize from any third-party
- Your entry must not contain URLs that link to external sites, files, or videos such as Google Docs or YouTube. Citing general sources such as "NASA" or "Space.com" is OK if it is intended to identify a source, not provide additional content.
- Keep it G-rated! No inappropriate content.

Privacy Rules

Submissions will be reviewed for eligibility, compliance, privacy, and student safety prior to being displayed in the gallery. Entries that moderators find not to be compliant, for example, that contain personal information may (but without obligation) be flagged for resubmission (or rejected, for example, if submitted after the deadline).

- NO NAMES OF PEOPLE! Do not write your full name or anyone else's full name in your entry. Factually referencing significant figures (e.g., a historical or present-day scientist, engineer, or astronaut) in your entry is OK.
- NO CONTACT INFO! Do not submit an address, email address, phone number, or any combination of information that could be used to identify, locate or contact a student.
- NO SCHOOL NAMES! Do not submit your school name in your submission.
- NO USERNAMES! Do not submit a username from any site or platform.

Judging Criteria

The Judges will score eligible entries based on the following Judging Criteria (max score of 100 points) (observing the age of the entrant group):



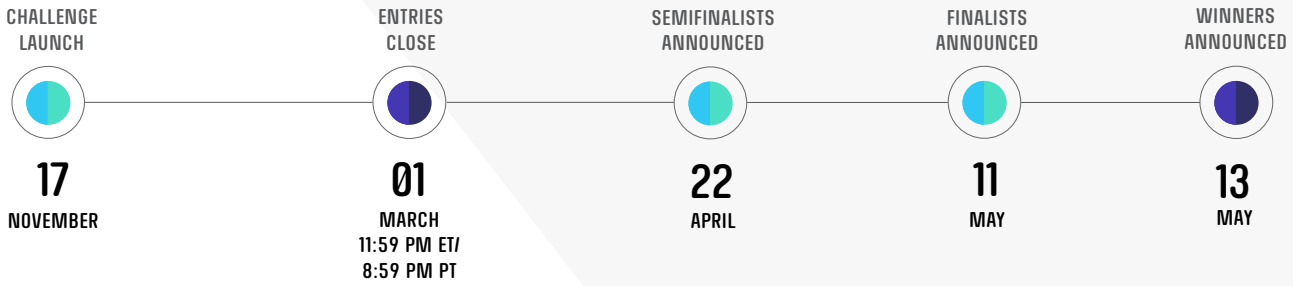
25 POINTS	How well your lunar base supports human/robotic exploration and scientific discovery on the Moon
25 POINTS	Visual communication of radioisotope power system technologies on the Moon
25 POINTS	Visual communication of fission power system technologies on the Moon
25 POINTS	Quality of the ideas presented in your written entry

Tie Break

In the event of a tie at any stage of judging, the tie will be broken by the highest score in the 'how well your lunar base supports human/robotic exploration and scientific discovery on the Moon' category. In the event a tie still exists, the tie will be broken amongst all tied entries by the 'quality of the ideas presented in your written entry' category.

Program Dates

All entries must be received by: March 1, 2027, 11:59 p.m. Eastern Time (8:59 p.m. Pacific Time). Parent consent must be received by the time requested, otherwise entry will be disqualified, and the entrant will be ineligible to win. 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:



Ownership and Licensing:

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

Judging & Prizes

There are three grade categories K-4, 5-8, and 9-12 (each a "Grade Category"). Students will compete in their applicable Grade Category and eligible entries in each Grade Category will be judged accordingly. As determined by the highest scores received, based on the Judging Criteria described above, there will be selected from each Grade Category: fifteen (15) national semifinalists ("Semifinalists"); three (3) national finalists ("Finalists"); and one (1) national Grand Prize winner. The following prizes are available to be awarded, subject to eligibility and compliance, as determined by Sponsor and NASA in their absolute discretion:

- **Semifinalist Prize (15 per Grade Category / 45 total):**
  A NASA Prize pack. Prize pack anticipated but not guaranteed to consist of: pins, stickers, and printed materials (Approximate Retail Value (ARV): $20 each).
- **Finalist Prize (3 per Grade Category / 9 total):**
  A 30-minute group virtual session for the Finalists in each grade group with a NASA expert (promotional value only). Prize also includes a Finalist prize pack anticipated but not guaranteed to consist of: space-themed items and novelty goods (ARV: up to $100 each).

Judging & Prizes Continued

Grand Prize (1 per Grade Category / 3 total):

A 4-day/3-night trip for Grand Prize winner and their (1) parent/legal guardian ("guest" who must be 21 years of age or older) to NASA Glenn Research Center, Cleveland, Ohio. Trip consists of: roundtrip air transportation for two people to/from a major gateway airport near winner's legal U.S. residence and Cleveland, Ohio; 3-nights hotel accommodations (standard room, double occupancy, room rate and tax included); ground transportation to/from airport to hotel, and to/from NASA Glenn and hotel (ARV of Trip: up to a max value of USD$3,000). Sponsor will also provide up to a maximum amount of USD $900 as part of the Grand Prize (in the form of a check, which may be used to offset taxes; however, the offset amount will be determined by Sponsor based on actual value of prize awarded). (ARV of Grand Prize: up to USD$3,900).

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. Blackout dates and restrictions apply. 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 NASA and any additional limitations and/or restrictions imposed by NASA as may be communicated in the winner release documents.

General Prize Terms: Limit one (1) prize at each prize level (semi, finalist, grand) per person.

Prize must be accepted as a whole or will be forfeited in its entirety. Any and all applicable local, state, and federal taxes and all expenses not specifically stated herein are solely the responsibility of a winner (or if a minor their parent or legal guardian). Without limitation, Sponsor reserves the unfettered right NOT to award any prize, in whole or in part, if doing so may result in public disrepute, scandal, or may have a detrimental impact on Sponsor, NASA, this Promotion, or any of Sponsor's or NASA's public image, brand, products or services (as solely determined by Sponsor in its absolute discretion). Any Entrant suspected (in Sponsor's discretion) of cheating, fraud, or artifice to participate in the Promotion or any element thereof, or is threatening, abusive, unsportsmanlike, rude or obnoxious (in Sponsor's sole determination), or is suspected of being ineligible or noncompliant will be disqualified immediately and will forfeit the opportunity to enter or receive a prize. Only the prize as described is available to be awarded; in no event will Promotion Entities be responsible for awarding more or different prizes than stated herein. The Challenge Parties are not responsible if any event or activity associated with any prize is delayed, postponed, or canceled for any reason. Winner will not receive compensation from any of the Challenge Parties for any aspect of a prize that the winner is unable to use or claim for any reason whatsoever. Challenge Parties are not responsible for force majeure (including but not limited to the pandemic and effects therefrom) theft, misplacement, loss, damage, destruction of prize (and such will not be replaced), nor for delay or cancellation of an event or activity (but certain tickets may be subject to standard rain-check policies and procedures set by the issuer). Prizes cannot be assigned, transferred, or substituted in whole or in part, except by Sponsor who may, at its sole discretion, substitute a prize or any part thereof with a prize of equal or greater value.

Judging & Prizes Continued

Future Engineers reserves the right, without obligation, to (i) select fewer winners (if there are not enough eligible entries received) or (ii) to award additional prizes or (iii) not award a prize or to disqualify any Participant/ entry at any time (and require immediate prize return, if applicable) if it determines or suspects that Participant/ entry is ineligible, incomplete, non-compliant, or that awarding the prize to any such Participant might bring the Sponsor or any other of the Challenge Parties into public disrepute, scandal or contempt. If a winner is disqualified for any reason, Future Engineers or NASA may award the subject prize to an alternate even if the disqualified Participant has already been announced.

Potential Winner Notification

The potential winners' 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, a Publicity Release, and any additional releases required by NASA and/or any third party prize fulfillment entities. Guest of Grand prize winner 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 one (1) attempt by email or phone, refuses the prize, fails to (timely) respond, or fails to properly sign and return all releases within the time period requested, or if a potential winner or their entry is found to be ineligible, the potential winner may be disqualified. The next highest scoring entry (for the applicable prize within that Grade Category) may be notified, time permitting. If an alternate winner cannot be notified or fails to respond that prize will be forfeited and may not be awarded due to time or other constraints prior to the trip.

Sponsor and Challenge Parties:

Sponsor:
Future Engineers LLC
177 E Colorado Blvd.,
Suite 200 Pasadena, CA 91150

Challenge Parties:
NASA
300 E Street SW
Washington DC 20024

GOOD LUCK!