POWER TO EXPLORE

REGISTER AND SUBMIT BY March 1, 2027 | 11:59 PM ET/ 8:59 PM PT
www.futureengineers.org/powertoexplore

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 are larger and more powerful—able to generate plentiful energy on demand through the collision of neutrons and uranium atoms that produce a controlled chain reaction to create heat that is converted into electricity. Fission systems on Earth can power entire cities, but what could they power on the Moon? NASA believes 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.



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BRAINSTORM YOUR ENTRY BELOW

Title (Maximum 75 Characters)

Brainstorm Your Illustration Ideas:

Questions? Contact: support@futureengineers.org

https://nasa.gov/power-to-explore



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BRAINSTORM YOUR ENTRY CONTINUED

Brainstorm Your Entry Text (Maximum 200 words)