

Lunar Loo Jr Case Study

How do you encourage the next generation of innovators?

“HeroX provided a platform that reached far and wide to help inspire the Artemis Generation. This junior challenge was a first of its kind to allow the under 18 group to ideate, envision and unleash their creativity to find solutions for the Lunar Loo challenge. The breath and reach of the HeroX community produced some innovative ideas and showed promise that these future innovators, tinkers and makers will help NASA, and other space agencies, reach for the stars for decades to come”

Michael A. Interbartolo III
NASA - Moonshot Navigator

[NASA's Lunar Loo Challenge - Junior Category](#) was the first challenge that HeroX specifically tailored to our under-18 community, and it certainly won't be our last! This challenge was run alongside the Lunar Loo Challenge to encourage and recognize the efforts of our younger innovators. It received 861 submissions from 84 countries and recognized 27 winners and runners up across three age categories. Winners received a range of merchandise with the NASA logo and public recognition from the winners' webinar.

Challenges that involve space always have extremely high participation rates. There is something inherently compelling about anything related to, traveling through, or living in space. It captures the imagination and taps into everyone's aspirational hopes and dreams, whether you are young or just young at heart. So a challenge that combines space with potty design is guaranteed to unleash the inner ten year old in all of us! [NASA's Space Poop Challenge](#) received hundreds of drawings and pictures from community members under the age of 18. It was wonderful to see the excitement and creativity apparent in those submissions. But we wanted a way to more formally encourage, inspire, and recognize the efforts of the younger community. So when we were designing the Lunar Loo Challenge, we decided to simultaneously launch a junior category of the challenge. The NASA team supporting the Lunar Loo challenge and NASA's Office of STEM Engagement (OSTEM) were both excited about the idea and happy to take on the additional effort. OSTEM was a terrific partner in both promoting the junior challenge and evaluating the many submissions.



[NASA's Lunar Loo Challenge](#) sought novel toilet designs that could operate in both micro and lunar gravity while also conforming to volume, mass, and safety constraints. We provided the same performance and design specifications in the junior category that were given in the main challenge. Junior submissions were broken into three categories, based on age: under 11, 11-14, and 15-17. Complete submissions included a design drawing, a written description, and a short video presenting the design. The judging committee evaluated each submission on its creativity, how well the design addressed the different specifications, and how well the design protected the safety of the astronaut users. Winners received bragging rights, a winner's certificate, and a trove of NASA and Artemis logoed merchandise - including t-shirts, pins, astronaut photos, and pens. Additionally, NASA held a presentation attended by over 200 participants that discussed NASA careers and NASA activities in the educational space.

Additionally, each winner had a chance to introduce themselves and to share their design highlights during the winners' webinar, which showcased the winners from each age category. The infectious delight and passion of these rising designers, engineers, and scientists was palpable during their different presentations. All winners' webinars are exciting events, but this webinar was truly special.

NASA was awed by the enthusiasm and excitement evident in the individual and team submissions received from around the world, and HeroX was delighted to be able to encourage our next generation of thinkers and doers with an opportunity to participate in the crowdsourcing process. We will be running future junior challenges as new opportunities with the right balance of subject matter and sponsor interest arise, and we look forward to receiving more brilliant junior submissions.