



National Space Society

2024 Roadmap to Space Student Art Contest

Our Future in the Space Workforce

National Space Society nss.org

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Front Cover Art: 2024 Grand Prize Entry: Lunar Descent: The Astral Spiral Quest By Javaba S.S Back Cover Art: 2023 Grand Prize Entry: Busy on Mars by Madhura Boominathan

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### **About the Team**

The National Space Society and the SmallSat Education Conference would like to acknowledge the work performed by the following individuals which made this contest possible.

Jim Plaxco: Operations Manager, eBook Editor, Principal Art Judge

Lynne Zielinski: Project Oversight, NSS SpacEdge Academy

**Kevin Simmons:** SmallSat Education Conference

Bryan Versteeg: Special Guest Art Judge

Xavier H. Gonzalez: Operations

Xavi Gonzalez: Operations

Sînziana Balaceanu: Operations

**Ronnie Lajoie**: IT Services

**David Brandt-Erichsen:** Website Support

## **About the National Space Society**

The National Space Society (NSS) is a nonprofit educational organization dedicated to the creation of a spacefaring civilization. Founded as the National Space Institute (1974) and L5 Society (1975), which merged to form NSS (1987), NSS is widely acknowledged as the preeminent citizen's voice on space.

The National Space Society Vision Statement is: "People living and working in thriving communities beyond the Earth and the use of the vast resources of space for the dramatic betterment of humanity."

This vision of space settlement embraces both space as a future second home for humanity in the form of a free, spacefaring civilization, and the resources of space (such as the sun's energy for space-based solar power, extraterrestrial minerals for raw materials, and low-gravity for manufacturing) being used for the benefit of everyone on Earth. These two elements of the vision are intertwined.

The development of space-based products and services for the people of Earth will require a human presence in space, and this presence will enable and motivate the expansion of our species away from our planet.

NSS believes that space development and settlement will occur most efficiently, and humanity's prosperity will be best ensured, if the free market drivers of competition and profit are central to these efforts, and every individual is given full freedom of thought and action.



## **About SpacEdge Academy**

SpacEdge Academy is a space education program of the National Space Society dedicated to providing STEAM education to all through the online SpacEdge Academy. The Academy contains projects, activities, and lessons for K-postgrad student teams from all around the world. The mission of NSS SpacEdge Academy is to motivate students everywhere to reach for the stars. SpacEdge Academy will engage and inspire the next generation – all ages and walks of life – by igniting an interest in space exploration and development. On the SpacEdge website, students and educators will be able to:

- Access projects, activities, courses and lessons
- Share ideas and curriculums
- · Learn about space
- Create projects and experiments
- Participate in contests

And much more. To learn more about SpacEdge Academy's many educational activities, visit our website - spacedge.nss.org



spacedge.nss.org

## About the SmallSat Education Conference

The SmallSat Education Conference is a premier event for educators, students, and industry professionals passionate about small satellite technology. Held annually at the Kennedy Space Center Visitor Complex, this conference offers a unique opportunity to learn about CubeSats, ThinSats, and High Altitude Balloon programs.

The conference features presentations from leading experts in the field, including university teams and industry leaders. Attendees gain insights into the latest advancements in small satellite technology, design, and deployment. A variety of hands-on workshops and networking sessions provide multiple opportunities for participants to collaborate with their peers. By fostering innovation and knowledge sharing, the SmallSat Education Conference empowers the next generation of space explorers to push the boundaries of small satellite technology.



www.smallsateducation.org

### Introduction

2024 saw the National Space Society (NSS), in conjunction with the SmallSat Education Conference, successfully conclude the seventh Roadmap to Space Student Art Contest. The contest was named for the *Roadmap to Space Settlement*, a NSS publication which identifies and outlines the milestones along the road to achieving a permanent human presence away from Earth.

The first version, titled *Roadmap To Space Settlement Student Art Contest* was held in 2013 and called on students to create art that illustrated specified milestones to space settlement from the Roadmap. The contest was viewed as a success and was held annually from 2014 thru 2017.

The contest was revived in 2023 as the *NSS Roadmap to Space Student Art Contest* and partnered with the SmallSat Education Conference. An opportunity to send the winning artwork into space aboard a Blue Origin sub-orbital rocket sparked substantial interest. That contest, whose theme was *Visions of A Future In Space*, was a far greater success than the team of volunteers imagined, receiving almost 5,700 entries from 6 countries.

The theme for the 2024 contest was *Our Future in the Space Workforce* and challenged students to embark on a visual journey into the future where the cosmos has evolved into an incredible work of human ingenuity and creativity — a world where people are living and working on the Moon, Mars, the asteroids, and where orbital space settlements, such as O'Neill Colonies, are realities.

For the 2024 contest, students were prompted to "Imagine yourself as an inhabitant of space, whether nestled in the lunar plains, establishing life in the rust-colored landscape of Mars, or enjoying the stars in an orbital outpost. As you step outside, what does life look like? Do you see fellow settlers farming crops in domed gardens or scientists creating experiments in state-of-the-art laboratories? As you peer out your window, what do you see? Do you count the CubeSats crossing the sky, observe the working space elevators, or witness the breathtaking expanse of space? What future of space do you envision? This year's theme — Our Future in the Space Workforce — challenges you to channel your creativity into crafting a realistic art piece that captures the essence of what life might truly be like in a future in space.

In the pages that follow, we will examine the details of the contest and share with you the winning student artwork, as well as all accepted submissions.

### The Art Contest's Rules

This year's contest had the advantage of being able to build on the framework established for the 2023 *Roadmap to Space Student Art Contest*.

The biggest change to the rules was the establishment of an entry fee. This was done solely as a means of curtailing the number of entries we received. Everyone involved with managing the contest and judging the art does so on a volunteer basis and last year's large number of entries, almost 5,700, totally overwhelmed our volunteers and put NSS' ability to continue the contest at risk. While not happy about imposing an entry fee, it did succeed in reducing the total number of submissions to a level that was more manageable for our volunteers.

#### **Submission Requirements**

Led by the National Space Society's SpacEdge Education Program, the contest tasked student artists with creating original illustrations to share their visions of *Our Future in the Space Workforce*.

#### **Submission Period**

The contest opened for submissions in early August and closed on October 8, 2024. The deadline chosen provided the team the time needed to process the entries in time for the winners to be announced at the SmallSat Education Conference.

#### General Submission Rules

All submissions to the contest were to adhere to the following criteria.

- The student must have paid the contest entry fee of \$6.00 US.
- The contest was only open to full-time students between the ages of 10 and 25.
- Students 18 and under must have obtained parental permission.
- Multiple entries per student were allowed.
- The student agreed to contest's Terms and Conditions for submitted artwork.
- All submissions were made in a digital format and only accepted via the Roadmap to Space Art Contest Submission Form.
- Students acknowledged that a screening process was in place and the review committee reserved the right to reject any submission without showing cause.
- The artwork had to be the original work of the student.

(continued)

- Art created in whole or in part by generative artificial intelligence was NOT allowed
- The artwork had to be consistent with the is year's theme: Our Future in the Space Workforce.
- All submitted art had to be realistic, meaning it needed to be as technically
  accurate as possible in terms of science and engineering, and as close as
  possible to what a real-life future in space would actually look like. Art that
  had merit but was less realistic looking would still be accepted for display,
  but would be very unlikely to be a winning entry.

In addition to making clear to the students the nature of the artwork submissions that were expected, these rules also served as a foundation upon which the judging process was built.

### The Art Contest's Prizes

To recognize the work and artistic vision of the students who entered the contest, it was decided that multiple prizes would be presented. One work of art would be awarded the Grand Prize for being the best artwork overall. Up to twelve additional entries could be selected as First Prize recipients, consisting of up to three First Prizes per age group category. To further expand on the ability of the judges to recognize talented submissions, judges were able to select an unspecified number of additional artworks to receive an Honorable Mention.

Each of the prize categories came with a number of tangible prizes to serve as a means of rewarding each student for their efforts in creating an original work of space art on the contest's theme of Our Future in the Space Workforce.

Students whose artworks received either the Grand Prize, a First Prize, or an Honorable Mention would all be presented with the following prizes in recognition of their submission:

- · A Certificate of Merit Award
- Having their art displayed at the 2024 SmallSat Education Conference held October 26-27 2024, where it could be viewed by the public and space professionals from around the world.
- The possibility of being exhibited at the 2025 International Space Development Conference.
- The possibility of being displayed at other relevant venues during 2025.
- Having their art featured on the SmallSat Education Conference website.
- Having their art featured on the NSS website in the "2024 Roadmap to Space Student Art Contest Winners Gallery".
- Having their artwork considered for possible publication in various forms in association with NSS and/or the SmallSat Education Conference.

The student receiving the Grand Prize would receive the following:

- Having their artwork printed as 5 postcards and flown into space aboard a
  Blue Origin rocket. These postcards would be addressed to the winner and
  four others of the winner's choosing. After flight, these postcards are
  stamped for authenticity of flight and sent via US Postal mail to the
  addressees.
- A \$300 cash prize.
- Publication of their artwork as part of an article in the National Space Society's award-winning magazine, Ad Astra.

- A 1 year National Space Society student membership, which includes a digital subscription to the award-winning Ad Astra magazine.
- 5 complimentary copies of the Ad Astra magazine issue in which their artwork is featured.

#### The students receiving a First Prize also receive:

- Having their artwork printed as a postcard and flown into space aboard a Blue Origin rocket. The postcard would be addressed to the winner. After flight, the postcard is stamped for authenticity of flight and sent via US Postal mail to the winner.
- A 1 year National Space Society student membership, which includes a digital subscription to the award-winning Ad Astra magazine.

Lastly, those students whose artwork received an Honorable Mention would have their artwork printed as a postcard and flown into space aboard a Blue Origins rocket with the postcard being addressed to the winner and, post-flight, being stamped for authenticity and sent via US Postal mail to the winner.

## **Art Judging Guidelines**

To assist the contest's judges in evaluating the artwork submitted by the students, a set of judging guidelines was developed. These guidelines are in addition to the submission criteria that were established for the students to follow with respect to the artwork they created for submission.

The initial round of judging was performed by Sînziana Balaceanu, Jim Plaxco, and Xavier Gonzalez. The second, and final, round of judging which was responsible for the selection of the Grand Prize, First Prize, and Honorable Mention artworks was conducted by Bryan Versteeg and Jim Plaxco.

#### The Art Judging Guidelines

- 1. The art must meet the specified criteria of the contest.
- 2. The art must provide a realistic depiction of future human space settlement and associated activities and endeavors. We are not looking for abstract, impressionistic, fantasy, surrealist, or science fiction art.
- 3. If the art is of an interior scene, there should normally be a view to the outside (a window) that makes it possible to easily identify the location or setting of the scene. Exceptions are permissible when the subject matter warrants it.
- 4. The art should provide an uplifting, positive message of our future in space. Images that contain scenes of battle, criminal activity, etc., are to be excluded from consideration.
- 5. The art must be non-offensive and appropriate for viewing by children.
- 6. Depictions of identifiable persons (other than the artist), whether real or fictional, is not permitted.
- 7. Artwork should be the entrants own work and not contain in whole or part the work of others or generative artificial intelligence. Judges should take care to identify if any of the work has been plagiarized or generated by artificial intelligence.
- 8. In addition to meeting all stated guidelines of submissions, a consensus of the judges may decide not to award Grand, First, and/or Honorable Mention awards in any particular year if it is determined that sufficient artistic merit has not been achieved.
- 9. Judges should consider usage of medium to complement design.
- 10. Judges should consider the short description of the artwork.

## **Contest Commentary By Bryan Versteeg**

Art opens a gateway to visualizing the future — a first step in making it real. Art inspires, challenges, and provokes. The NSS Student Art Competition gives young minds a way to explore, unbound by the harsh cold and vacuum of space. Here, they're free to dream of life beyond Earth, and every year, their visions are stunning.

When you ask a child to describe something from their dreams, you get an unfiltered, boundless perspective. There's no "knowing better," no restrictions — just pure imagination. Without the biases of experience, children are free to try everything.

Watching these students use different techniques to bring their visions to life is incredible. Judging their work has truly been an honor.

I hope the students enjoy this creative act of discovery as much as I do.

Bryan Versteeg



Pioneers of the Cosmos by Adrianna Allen Grand Prize Winner, 2016

## **2024 Grand Prize Winner**



Lunar Descent: The Astral Spiral Quest
By Kavana Satish Siddenahalli
Narayana e-Techno School - Nandini Layout, India

**Description:** In a distant future, a team of astronauts embarks on a mysterious mission: to uncover the hidden energies of the lunar core. Armed with spiral drills, they descend into the moon's surface, carving through ancient, silvery rock.

**Medium/Tools:** Poster Colors: Tubes and bottles of water-based poster colors. Palette: To mix colors and dilute with water. Brushes: Different sizes of brushes are used for varying details. Paper: Used thick drawing sheet that can handle water without warping. Pencil & Eraser: For the initial sketching. Water Jar: Used to rinse brushes and dilute paints. Cloth: Used for wiping brushes and controlling

## First Prize for Age Group 10-13



*Frontier of Universe*By Kathikeya Indrajith Reddy Devarapalli
Sri Chaitanya School-Mogalrajhpuram, India

**Description:** Frontier of Universe depicts the vastness and mystery of outer space, showcasing an expansive cosmic landscape filled with colorful nebulae, distant stars, and swirling galaxies. In the foreground, a spacecraft or exploration vessel can be seen navigating through the stellar environment, symbolizing humanity's quest for knowledge and adventure. The artwork captures the awe-inspiring beauty and complexity of the universe, inviting viewers to ponder the endless possibilities that lie beyond our world.

**Medium/Tools:** 100 GSM A4 sheets, poster colors, Brushes (000, 2 and 6 round brushes)

## First Prize for Age Group 10-13



*My Family - Space Tour*By Niharika Bhukya
Sri Chaitanya School, India, India

**Description:** My art work shows my family of three members in space along with a guide. We went to space to explore it. Me and my father are observing space and trying to understand the science of space. My Mother is very excited and she is asking doubts and clarifying then from the guide. The space tour seems perfect! The guide is explaining the regions of space. By listening to the development of space with all the new technologies, people there in space are surprised.

**Medium/Tools:** A4 Sheet - 100 GSM, Poster Colors, Brushes (000,2 and 6 round brushes)

# **Honorable Mentions for Age Group 10-13**



The Harmony of Future Cities By Shreekruthi Kethuri Narayana school WANAPARTHY, India



A mother's love: Beyond the space By DanialBenhur Palaparthi Narayana school Rjd vlpuram branch, India



Research in Agricultural Space By Deekshitha Neelisetti Sri Chaitanya School-Naidupet, India

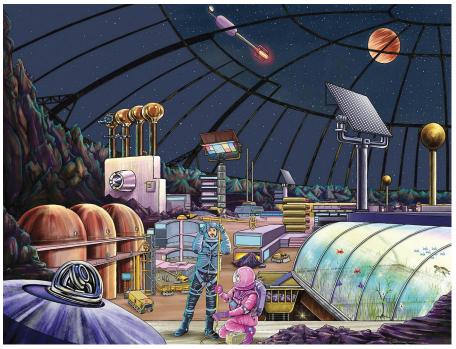


The Plant Scientist By Nakshatra Guguloth Sri Chaitanya International CBSE School, India



Trio Engaged in Moon Observation By Vijai Vyoma Teja Guthula Boon International School-Kakinada, India

# First Prize for Age Group 14-18



# **Dome of Dreams: Space Colony Innovation**By Bavishiya R Narayana e-Techno School Madurai, India

**Description:** Dive into the world of advanced space settlements with "Dome of Dreams." This image showcases a futuristic space colony under a transparent dome, brimming with cutting-edge technology. The dome shelters various facilities and vehicles, pointing towards a self-sustaining habitat on the Moon or Mars. A prominent communication tower and a large satellite dish highlight the colony's ability to maintain connections across vast distances.

**Medium/Tools:** I used Photoshop to draw this painting with the help of a pen tablet

# **Honorable Mentions for Age Group 14 - 18**



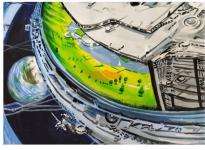
Journey Through Space: A Lifetime of Discovery By Moukthika Reddy Narayana High School, Kukatpally, India



Grandeur - Life among the stars By Pranathi Yathati Sri Chaitanya Techno School, India



Moon Miners: Harvesting the Future Beyond Home By Aditya Kataria Narayana e-techno School - Sector 37C, India



Orbital Eden: Creating Earth-like Habitats in Space By Supriya Jadhav Narayana Collage Nakrekal, India



Eden Metropolis: A Vision of Tomorrow By Parth Agarwal Narayana e-Techno School Gurgaon, India

## First Prize for Age Group 19 - 22



# Cosmic Classroom: Learning Among the Stars By Geyamrutha Poluru Narayana Engineering College, Gudur, India

**Description:** Imagine being a student in a futuristic classroom, surrounded by the wonders of space. This image captures a person standing in front of large window, holding a small globe, while various mathematical and physics equations are displayed on this window. The intricate circular structures floating in space, adorned with solar panels, hint at advanced technology and space exploration. This scene inspires curiosity and a passion for learning.

Medium/Tools: Photoshop

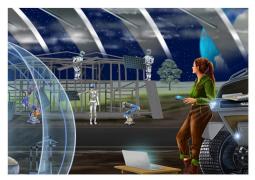
# **Honorable Mentions Age Group 19 - 22**



Colonial Outpost: Living on the Frontier of Space By Parvathi K Narayana Engineering College, Gudur, India



Architects of Space: Crafting the Future By Harikrishna T.V Narayana Engineering College, Gudur, India



Building the Future: Robots on the Moon By Pravallika Perisetla Narayana Engineering College Gudur, India

## First Prize for Age Group 23-25

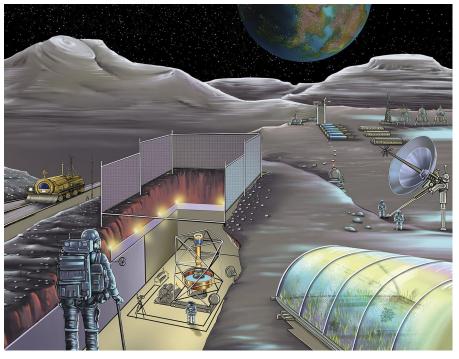


# Cosmic Briefing. Innovating In Space By Muni Sai Kiran Veluru Narayana Engineering College, Gudur, India

**Description:** Step into a futuristic scene where cutting-edge technology and human ingenuity converge. In this image, a group of people, along with a robot, gather around a large, transparent spherical display. The display projects a holographic image of a space station or satellite, showcasing various technological components against the backdrop of a bustling cityscape visible through the spacecraft's large windows. The surrounding planet adds to the sense of scale and possibility.

**Medium/Tools:** Bottles of water-based poster colors. Different sizes of Brushes used for varying details. Thick drawing paper is used for drawing that can handle water without warping. I used Water Jar to rinse brushes and dilute paints. Used rag for wiping brushes and controlling moisture.

# First Prize for Age Group 23 - 25



# Research On Water Resources By Kavya M Narayana Engineering College, Gudur, India

**Description:** A new planet has been identified within our galaxy, revealing the presence of valleys on its surface. Ongoing research is focused on the examination of mineral compositions and the availability of water resources on this newly discovered celestial body.

**Medium/Tools:** Digital painting in Illustrator and Photoshop.

# **Honorable Mention for Age Group 23 - 25**



Explorers Of The Cosmos: Guiding The Next Generation By Monika Chadalawada Narayana Engineering College, Gudur, India

# Artwork Submissions By Students Aged 10 to 13

There were 162 artwork submissions accepted into the ages 10-13 art category. Given the large number of entries and their overall quality, the judges had a challenging time determining which of the artworks would receive an award. However, it was this challenge that made the experience a rewarding one.



Artwork Submissions By Students Aged 10 To 13

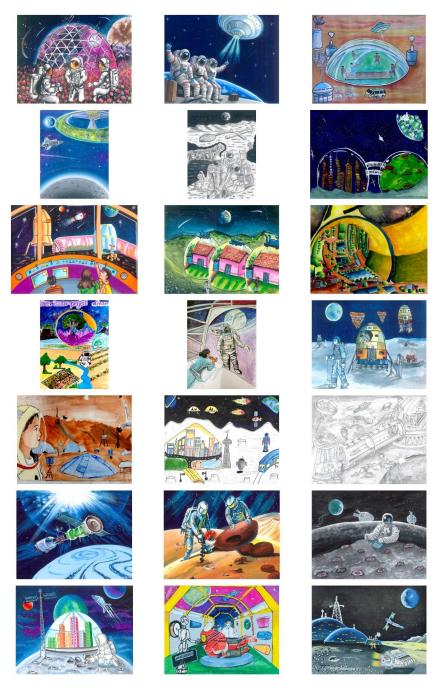


Artwork Submissions By Students Aged 10 To 13

#### ROADMAP TO SPACE STUDENT ART CONTEST



Artwork Submissions By Students Aged 10 To 13

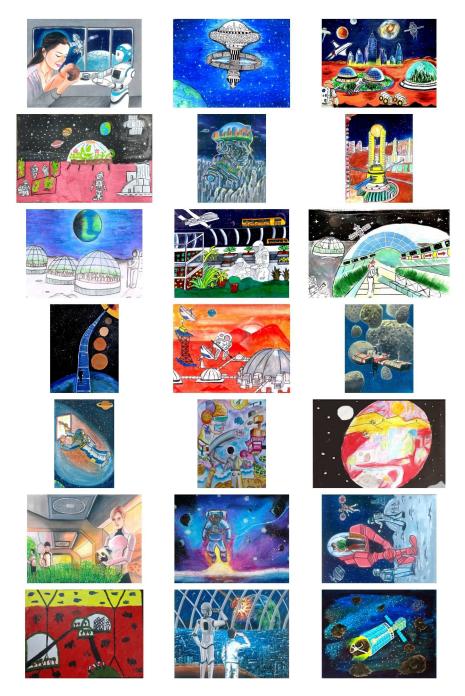


Artwork Submissions By Students Aged 10 To 13

#### ROADMAP TO SPACE STUDENT ART CONTEST



Artwork Submissions By Students Aged 10 To 13



Artwork Submissions By Students Aged 10 To 13

#### ROADMAP TO SPACE STUDENT ART CONTEST



Artwork Submissions By Students Aged 10 To 13



Artwork Submissions By Students Aged 10 To 13

# Artwork Submissions By Students Aged 14 to 18

There were 204 artwork submissions accepted into the ages 10-13 art category, which corresponds to grade levels 9 thru 12. In terms of submissions, this was the largest of the four age groups. As the category receiving the largest number of submissions, the variety of styles and subjects was not surprising, which made the job of judging the art most challenging.



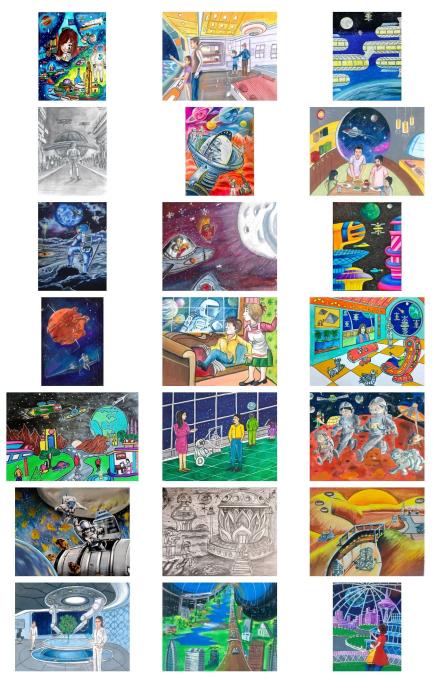
Artwork Submissions By Students Aged 14 To 18



Artwork Submissions By Students Aged 14 To 18



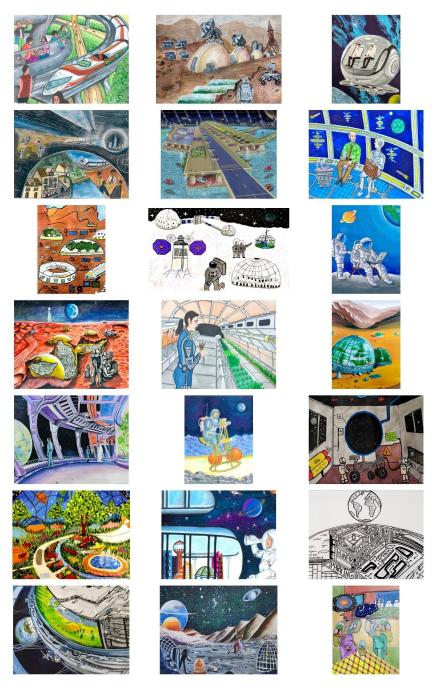
Artwork Submissions By Students Aged 14 To 18



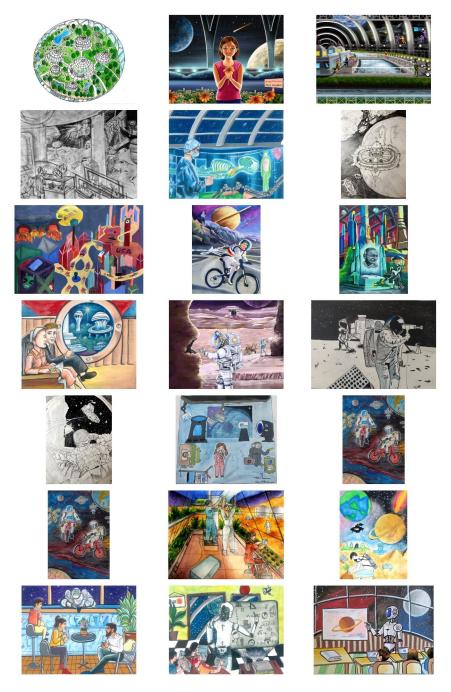
Artwork Submissions By Students Aged 14 To 18



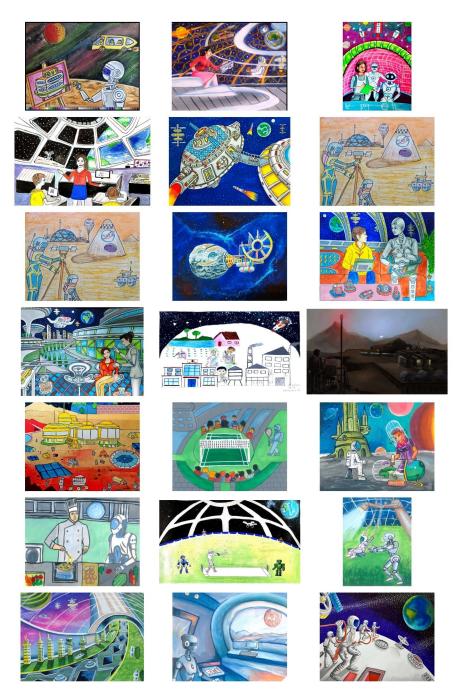
Artwork Submissions By Students Aged 14 To 18



Artwork Submissions By Students Aged 14 To 18



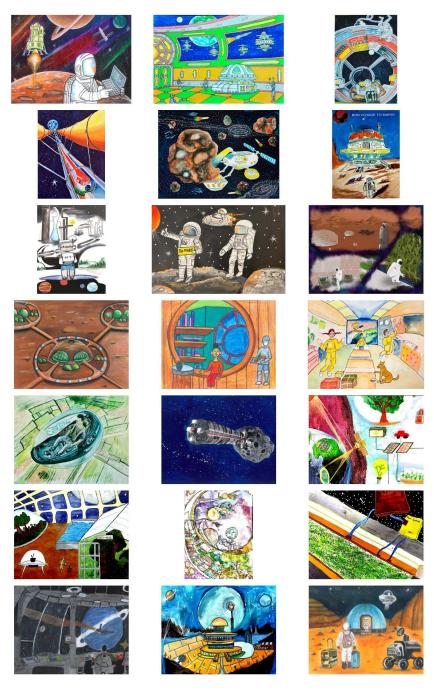
Artwork Submissions By Students Aged 14 To 18



Artwork Submissions By Students Aged 14 To 18



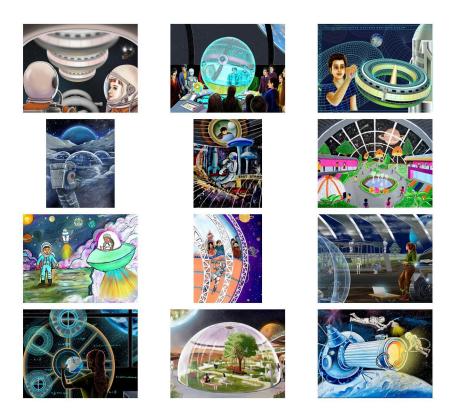
Artwork Submissions By Students Aged 14 To 18



Artwork Submissions By Students Aged 14 To 18

# Artwork Submissions By Students Aged 19 To 22

There were 28 artwork submissions accepted into the ages 19-22 art category, which corresponds to a university undergraduate grade level. The artwork in this category is dominated by submissions from the Narayana Engineering College Gudur, India.



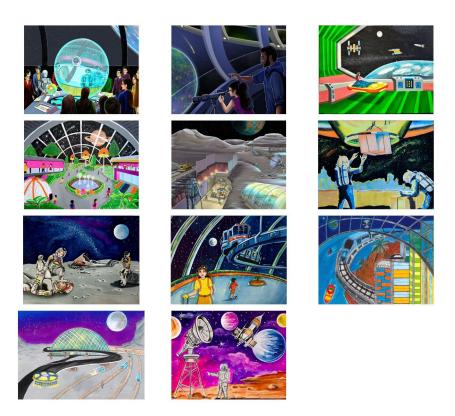
Artwork Submissions By Students Aged 19 To 22



Artwork Submissions By Students Aged 19 To 22

# Artwork Submissions By Students Aged 23 To 25

There were 11 artwork submissions accepted into the ages 23-25 art category. This age range corresponds to a university graduate student grade level. Artwork in this category is also dominated by submissions from the Narayana Engineering College Gudur, India. While small in number, their was a surprising degree of diversity in the submissions received.



## **Reflections on the 2024 Contest**

The variety of subjects for which the students submitted artwork was very refreshing. From robot-human collaboration to everyday life, from space elevators to asteroid mining: the students' depictions of our human future in space were intriguing.

An interesting aspect of the art was the way in which the interpretation of the contest's theme — *Our Future in the Space Workforce* — varied by age group and within age groups. Clearly, space is conceptually a vast frontier.

The team was gratified to see a number of submissions that addressed the fundamental challenge of sustaining humanity in these new environments: feeding the inhabitants of this new frontier and maintaining human health.

A wide range of emotions was portrayed in the artwork, from the whimsical to the romantic, to the reflective, to a general sense of wonder at our place in the universe. As a fundamentally new environment with a multitude of unique challenges, succeeding at space settlement will provide humanity with a multiplicity of paths for evolutionary growth.

The experience of serving as a judge in all of the NSS Roadmap to Space Student Art Contests has been a most rewarding one and I look forward to the contest's continued success and students expanding interest in exploring, developing, and settling the final frontier.

Contest Operations Manager & eBook Creator

Jim Plaxco,

## Web References

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