Enjoy this FREE World Space Week Toolkit by STEM Next to spark STEM curiosity through out-of-school programs!

As an official partner of the World Space Week Association, STEM Next is excited to share a new collection of activities and resources to help out-of-school-time programs explore Earth and space with youth during World Space Week October 6-10, 2025.

World Space Week is the perfect opportunity to spark kids' curiosity with the wonders of the cosmos while showing them how innovations in science, biotechnology and engineering are making space exploration possible. STEM Next's World Space Week Toolkit provides afterschool educators with engaging, hands-on activities and resources that connect youth to a wide range of STEM careers, from astronaut health and moon colony design to rockets and real-world space trades. Use these activities in your classroom or community, then register your activity as an event on worldspaceweek.org to make it a part of WSW!

Share your stories and photos!

If you use these activities, we would love to hear your feedback, read stories about how youth engaged in these experiences, and see photos of your programs in action! Please email anything you think would be relevant to our team at communications@stemnext.org. You can also tag us on social media:

- @stemnextopportunityfund on Instagram
- @stemnextopportunityfund on LinkedIn
- @STEMnext on Facebook and X

The Toolkit at a Glance

Activities for Youth

- Keeping the Beat Activity Bundle
- Landing Humans on the Moon
- My Moon Colony Design Challenge

Activities for Youth

These activities build a deeper understanding of space, space living, and the variety of careers available to youth who want to work in the space field.

Keeping the Beat Activity Bundle

In this career-connected learning activity bundle created specifically by STEM Next for afterschool programs, youth will explore how the heart, blood, and circulatory system work—and how these systems are affected by gravity on Earth and in space. Throughout the three, one-hour activity sessions, youth apply science and engineering practices, use math to identify patterns, and learn about careers that support astronaut health and fitness. Adapted from NASA eClips, these lessons connect Earth and Space Learning with Health and Life Sciences. **Grade range: 4th–8th**

Landing Humans on the Moon

Over half a century ago, on July 20, 1969, humans walked on the moon for the first time. Youth will take a look back at the history and legacy of our first small steps on the moon with this collection of activities, including videos to relive this amazing moment in our history. **Grade range: 4th–8th**

- Video of First Moon Landing and the Famous Words
- Making a Model: Mapping the Moon
- Forward to the Moon: Explorer Puzzles and Activities
- Make an Astronaut Lander Design Challenge

Learn How to Draw Artemis

NASA's Artemis program is preparing to return astronauts to the Moon and pave the way for future missions to Mars. Through this creative activity, youth can download and color detailed illustrations of the rockets, spacecraft, and systems that will make these missions possible. As they draw, participants

learn about the engineering and innovation behind deep space exploration. Programs can display their creations or share them online using #DrawArtemis and #NASAatHome.

Learn more and download: www.nasa.gov/missions/artemis/learn-how-to-draw-artemis

My Moon Colony Design Challenge

Can we ever live on the moon? To make life on the moon possible, engineers must work together to imagine, design, create, and test advanced technologies to enable humans to inhabit the moon. Using the engineering design process, youth will brainstorm what people would need to live on the moon, design a fantastic moon colony, and decide how to power it. Youth will have an opportunity to investigate forms of energy and recognize the advanced technology that would be needed for humans to inhabit the moon and beyond. **Grade range: 7th–8th**

NASA Rocket Races Design Challenge

Few classroom topics generate as much excitement as rockets. In this educator guide, youth will have an opportunity to explore various facets of a rocket: its design, its power, and its ability. Youth will apply the scientific method to make predictions, collect and interpret data, and practice durable skills necessary for success in a STEM career. **Grade range: 5th–8th**

Club for the Future Activities

To inspire students to help invent the future of life in space, Club for the Future and our collaborators have created STEAM (science, technology, engineering, arts, and math) classroom activities and lessons for K–12 educators and parents. **Grade range: 4th–11th**

Resources

Afterschool Universe

Afterschool Universe is an out-of-school-time astronomy program targeted to middle school students. The program explores astronomy concepts through engaging hands-on activities and takes participants on a journey through the universe beyond the solar system. Afterschool Universe is now widely available to afterschool program providers to run in your local community.

Careers for Engineers Posters (also available in Spanish!)

Looking for career posters for your classroom or afterschool program? Check out these two career posters aimed specifically for careers in space: aerospace engineer and computer scientist.

Here are a few ways you can use career posters in your classroom:

- ☐ Print them!
- ☐ Post them on the wall throughout the year.

- ☐ Have students review them before or after teaching a related engineering unit.
- ☐ Share them electronically!
- ☐ Encourage students to explore hyperlinked resources.
- ☐ Make them available to families.

Space4All

An unprecedented public-private partnership aims to inspire, prepare, and employ a diverse, inclusive space STEM workforce by sharing the excitement of space on a national scale. This partnership is igniting interest in future careers in STEM and space and revealing the many ways that space enhances our lives on Earth. Leaders in the space industry are working together with government, corporations, community organizations, and academic institutions to launch this transformative public awareness campaign—Space4All.

- Josh Dobbs “No Limits” – NFL quarterback Josh Dobbs, renowned not only for his athletic prowess but also for his passion for STEM and space exploration, takes center stage. Dobbs shares his journey, emphasizing that the skills and perseverance required in sports are equally valuable in science, technology, engineering, and math. His message will resonate with young minds, urging them to dream big, explore their interests, and break barriers in both STEM fields and beyond.
- Leland Melvin “Breakthrough for Earth” – Leland Melvin explores how space technology drives groundbreaking advancements that benefit life on Earth. He highlights the transformative impact of space exploration on solving global challenges and improving our daily lives.

Trades in Space

Embark on an unprecedented journey with the Trades in Space Initiative by ExploreMars.org. As we set our sights on the Red Planet, we recognize that achieving our ambitious goals requires more than scientists and engineers—it demands the skill and dedication of tradespeople. From welders and electricians to HVAC technicians and beyond, every maker has a crucial role in propelling humanity into the next frontier of space exploration. Check out these career profile videos of people working in space!

- Trades in Space: Master Technician
- Trades in Space: Marshall NASA Space Flight Center
- Trades in Space: Space Medicine and Astrobiology

A Universe of Options

Studying the effects of gravity on the human body. Building the next generation of telescopes. Explaining discoveries about the solar system in understandable terms. These are just a few examples of the projects undertaken by people working in careers related to space exploration. Astronauts may be the most well-known space workers, but they hold few of the jobs. This article describes some of the science, engineering, technical, and communications career options in space exploration. Keep reading

to learn about different types of professionals involved in space-related occupations and whether one of these jobs might be right for your youth. You'll get an overview of these careers, including brief descriptions of occupations, what the work is like, and how to prepare for them.

Women at NASA

Women at NASA: Women have always played a critical role in NASA's history. From the first Black woman engineer to the first woman astronaut, many of our women pioneers have been the first to achieve something monumental in their fields. Today, the women of NASA continue to lead and inspire in STEM and truly make an impact on society. As we look ahead, we know it will take a diverse workforce to achieve our ambitious goals. NASA is committed to recruiting and retaining women in STEM to help the agency continue to push boundaries to achieve the impossible.

Space Education

Space Education from the Space Foundation develops and delivers inclusive, innovative, and sustainable workforce and economic development initiatives for the space industry through space-inspired education, lifelong learning, and improved skills and interest in STEM. Check out this resource page that offers pre-K–20 standards-based curriculum and activities, professional development, and e-learning tools for educators.