STEM Opportunities and Careers at NIA and NASA

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[Image: NASA website for educators]

Don’t miss out on opportunities available from NASA. Click the category links listed below and be sure to check pages often for new additions.

- Grades K-4
- Grades 5-8
- Grades 9-12
- Higher Education
- Informal Education
- Pre-Service Educators

[Website link]: https://www.nasa.gov/audience/foreducators/current-opps-index.html
Professional Organizations

- Virginia Association of Science Teachers
- Armed Forces Communications & Electronics Association [https://www.aiaa.org/]
- International Technology and Engineering Educators Association (ITEEA) [iteea.org]
- Virginia Technology and Engineering Education Association
- Virginia Association of Science Teachers
- Children's Engineering Council [http://childrensengineering.org/]
- America's Engineering Council
- International Society for Technology in Education (ISTE)
K-12 Education Programs & Classroom Resources

NIA's Center for Integrative STEM Education focuses on the K-12 portion of the education continuum. Emphasizing research driven best practices for teachers and students, the Center and its partners design, develop, and advocate leading edge approaches to teaching and learning that inspire the next generation of the STEM workforce. The Center develops STEM resources that build authentic connections to standards-based curriculum utilizing 21st century teaching strategies delivered in varied media and formats.
NASA eClips™ Mission:

To provide educators with standards-based videos, activities & lessons that increase STEM literacy through the lens of NASA.
NASA eClips™ 4D

Resources

NASA LAUNCHPAD
Videos for grades 9-12 focusing on NASA technologies on topics such as the life cycle of stars, astrobiology, and moisture and soil.

NASA's REAL WORLD MATHEMATICS
Videos for grades 6-8 focusing on the integration of math in topics such as earth systems, soil and moisture, and citizen science.

NASA's OUR WORLD
Videos for grades 3-5 focusing on topics such as soil, plants, solar system and weather.

Exploring and Connecting the Natural and Designed Worlds
Role of Student Produced Videos

- Conceptual change
- Bridging gaps
- Peer influence
- Multiple learning modalities
- Metacognitive knowledge
Career Readiness Skills Developed

Teamwork
Client interviews
Researching
Script writing
Time management
Problem solving
Directing
Producing
Adding/Creating graphics
Sound production and editing
Script Writing, Revising and Editing
Filming Final Shots.
Client Meetings

Real world experience
Guide Lites
Interactive Lesson: Clouds
Grades 3-5

Clouds

NASA Spotlite Lessons
Spotlite Lessons Used in Science Classes
Professional Learning Experiences for Educators
Why does NASA fund education projects?
NOW - MID-2020s
• International Space Station operation through 2024,
• Commercial development of low-Earth orbit.
• Development of deep space systems, life support and human health
PROVING GROUND

2018 - 2030

- Regular crewed missions and spacewalks in cis-lunar space.
- Verify deep space habitation and conduct a yearlong mission to validate readiness for Mars.
- Demonstrate integrated human and robotic operations by redirecting and sampling an asteroid boulder.
EARTH INDEPENDENT
NOW - 2030s & Beyond

- Science missions pave the way to Mars.
- Demonstrate entry, descent, and landing and in-situ resource use.
- Conduct robotic round-trip demonstration with sample return in the late 2020s.
- Send humans to orbit Mars in the early 2030s.
NASA Now: Workforce Distribution at NASA Langley

**Education Distribution**
- Associates, More than Two Years College: 15%
- High School, Advanced Study Certificate, Some College: 6%
- Masters, Post Masters Course Work, Advanced Professional Degree: 32%
- Doctorate, Post Doctorate: 20%
- Bachelors, Post Bachelors Course Work: 27%

**Occupation Distribution**
- Clerical: 2%
- Technician: 12%
- Administrative Professional: 23%
- Scientist & Engineer: 63%

Education and occupation distribution numbers apply to 1,895