



# 21<sup>st</sup> CCLC NASA Projects



[y4y.ed.gov/STEMChallenge/NASA](http://y4y.ed.gov/STEMChallenge/NASA)

## NASA and 21<sup>st</sup> Century Community Learning Centers Frequently Asked Questions

### What is the U.S. Department of Education's 21<sup>st</sup> Century Community Learning Centers program?

The 21<sup>st</sup> CCLC program (<http://www2.ed.gov/programs/21stcclc/index.html>) provides funding for community learning centers around the country to connect students with academic enrichment opportunities during non-school hours, particularly students who attend high-poverty and low-performing schools. The 21<sup>st</sup> CCLC program sites help students meet state and local standards in core academic subjects, such as reading and math, and offer enrichment activities designed to complement and reinforce school-day programs.

The 21<sup>st</sup> CCLC program was created as part of the 1994 reauthorization of the Elementary and Secondary Education Act (ESEA). ESEA was initially signed into law in 1965 by President Lyndon Baines Johnson, who believed that "full educational opportunity" should be "our first national goal."

### What is STEM and why is it a priority?

STEM refers to the fields of science, technology, engineering and mathematics. The United States is a global leader in STEM partly because of the ability of American scientists, engineers and innovators with highly developed knowledge and skills to solve tough problems, gather and evaluate evidence, and make sense of information. STEM is an educational priority for several reasons, including these:

- STEM is a critical lever for equity. Reports from the U.S. Bureau of Labor Statistics show that over the past 10 years, STEM occupations grew by 10.5 percent compared to 5.2 percent in non-STEM occupations, and STEM jobs are expected to continue to grow at a faster rate than other jobs in the coming decade. Wages in STEM-related fields are generally higher than in non-STEM fields.
- It is not just STEM jobs that are relevant, but the skills that are cultivated in the pursuit of STEM fields — critical thinking and problem solving are among the most important skills sought by employers.
- The problem is not just a lack of *proficiency* among American students — there is also a lack of *interest* in STEM fields among many students. The nation faces a shortage of teachers in STEM fields and students interested in pursuing a future in STEM.

The goal of the 21<sup>st</sup> CCLC STEM program is to provide students with access to engaging and challenging STEM activities that connect school-day learning with real-life applications. The activities strengthen student skills and increase their interest in STEM learning.



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## In general, what is the government doing to support STEM?

In December 2018, a [five-year strategic plan for STEM education](#) was released by the National Science and Technology Council. The government has a vision for the future where “all Americans will have lifelong access to high-quality STEM education and the United States will be the global leader in STEM literacy, innovation and employment”. This vision includes three goals: (1) building strong foundations for STEM literacy; (2) increasing diversity, equity and inclusion in STEM; and (3) preparing the STEM workforce for the future. The 21<sup>st</sup> CCLC initiative is one of many successful efforts linked to this plan because it leverages the Department’s vast reach to support students who would normally lack access to unique, engaging STEM content and access to STEM professionals from the mission agencies.

## What is the partnership between the Department and NASA?

The Department has been collaborating with NASA since 2013 to bring exciting, STEM-based educational content and experiences to students. In 2019-20, NASA activities will take place during out-of-school time at as many as 300 21<sup>st</sup> CCLC sites in 23 states. Through a collaboration between the Department’s You for Youth (Y4Y) team and NASA, student teams are tackling real-world engineering design challenges and learning about scientific investigation, with opportunities to interact directly with NASA scientists and engineers.

## What do students learn in the 21<sup>st</sup> CCLC NASA program?

The collaboration with NASA provides students with an opportunity to tackle real-world challenges being addressed by NASA scientists and engineers.

- Throughout the program, 21<sup>st</sup> CCLC staff and students interact directly with NASA scientists and engineers, learning firsthand about engineering design.
- The Engineering Design Challenges provide students in grades 3-8 with opportunities to work on engineering design problems that are based on real mission data and experiences encountered by NASA scientists and engineers, and that highlight NASA’s unique mission of space exploration. In 2019-20, seven challenge options will be offered to students:
  - **Let it Glide.** (*grades 6-8*) Students build a shoebox glider to produce the greatest glide slope.
  - **Mission to Mars.** (*grades 3-5*) Students develop a device to slow down spacecraft landing on Mars.
  - **Packing Up for the Moon.** (*grades 6-8*) Students design a plant growth chamber that could be used by astronauts to grow vegetables on the moon.
  - **Parachuting onto Mars.** (*grades 6-8*) Students develop a drag device to slow the descent of a spacecraft or probe, while protecting its cargo for a successful landing.
  - **Safe Travels.** (*grades 3-5*) Students develop devices for astronauts traveling to the Moon or Mars.



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- **Spacecraft Safety.** (*grades 6-8*) Students help design NASA's next generation spacecraft.
- **Why Pressure Suits?** (*grades 6-8*) Students design a pressure suit or spacesuit that will protect a high-altitude pilot or astronaut from the low-pressure, near-vacuum environment that is experienced in space.

## How many students in New York State do the Department and NASA reach with these programs?

There are twenty-eight (28) 21<sup>st</sup> CCLC sites in New York State offering NASA STEM programs in 2019- 20, and they serve over 1,000 students. Click [here](#) to view a list of participating sites.

## Where can I find more information and resources for educators?

STEM activity resources are available through the You for Youth (Y4Y) online community (<https://y4y.ed.gov/stemchallenge>), which provides free, research-based content to more than 165,000 21<sup>st</sup> CLCC practitioners in 11,500 program sites across the nation. For more information on the 21<sup>st</sup> CCLC program and the interagency collaboration, visit this website: <http://www2.ed.gov/programs/21stcclc/index.html>.

Please note that scientist and engineer connections and support are available only to sites participating in this school year's initiative; however, activity materials are available for other sites to use on their own.

NASA STEM Engagement Resources are available here: <https://www.nasa.gov/stem/foreducators>