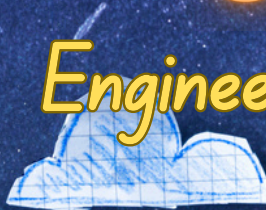


FALL BACK TO SCHOOL

Engineer a great school year!



In this issue

- NASA eClips Videos
- NASA eClips Related Resource
- NASA Spotlight Design Challenges
- Partner Resources & Activities



NASA eCLIPS VIDEOS

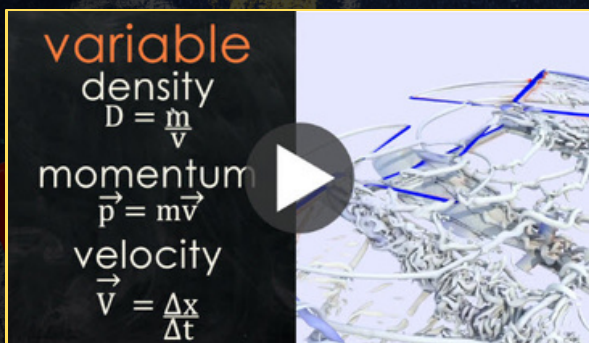
Explore these videos to help learners compare science and engineering practices.

Real World (Grades 5-8)

The Nature of Science



Computer Simulations - Turning Complex Ideas Into Solvable Equations



From Idea to Physical Prototype



Launchpad (Grades 9-12)

Engineering Design to Support Scientific Discovery



Related Activity



Guide Lites

Comparing Science and
Engineering Practices Using
Black Box Models

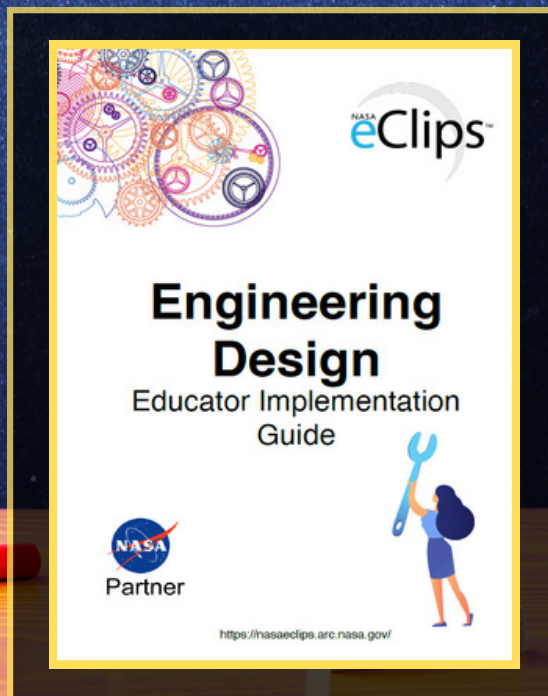
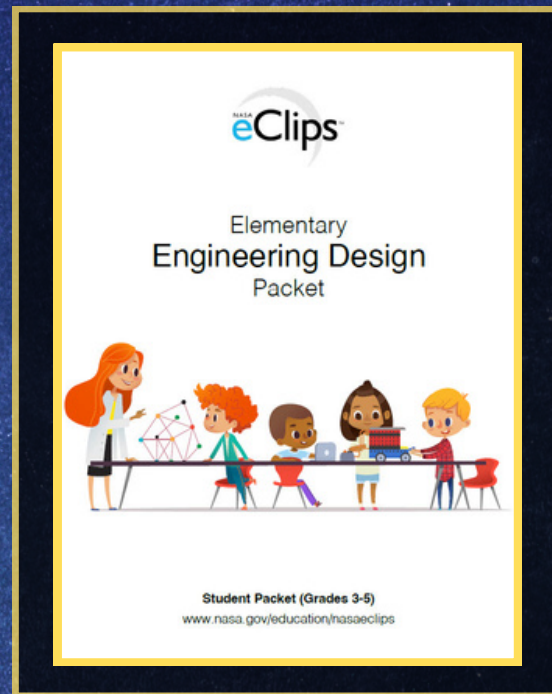
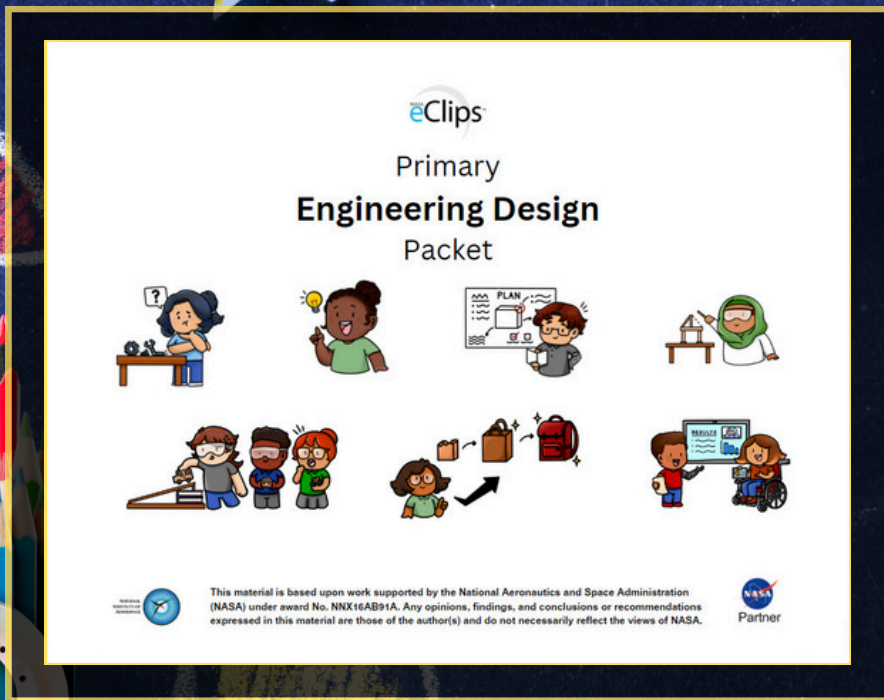


August 2024

nasaclips.arc.nasa.gov

NASA eCLIPS ENGINEERING RESOURCES

Editable, piloted, and intentionally designed for specific grade levels



Access additional engineering resources on the NASA eClips website.

NASA SPOTLITE DESIGN CHALLENGES



Co-developed with
Challenger Center



Plant Growth Habitat Engineering Design Challenge



NASA astronauts Jessica Watkins and Bob Hines work on the XROOTS investigation. Image Credit: NASA.

Lesson Overview:

Plants are essential for humans to survive. As humans explore space, plants can be used for both aesthetic and practical reasons. Astronauts enjoy fresh flowers and gardens on the International Space Station because they create a beautiful atmosphere and let the astronauts take a little piece of Earth with them on their journeys. Plants are good for our psychological well-being on Earth and in space. They also will be critical for keeping astronauts healthy on long-duration missions.

The Plant Growth Habitat challenges learners to select a flowering plant and design a prototype plant growth habitat that could be used on the Moon or anywhere beyond Earth. The plant growth habitat must provide all the basic abiotic requirements to sustain plant life. Learners will also be challenged to design and build a pollinator.



This material is based upon work supported by the National Aeronautics and Space Administration under award No. NND16AB91A. Any opinions, findings, and conclusions or recommendations expressed are those of the author(s) and do not necessarily reflect the views of the National Aeronautics and Space Administration (NASA).








Spotlite Design Challenge: Earth Climate Odyssey

Developed in Collaboration with the Challenger Center

View this page in Spanish
Ver esta pagina en Español

Register
Register your learner production teams to receive a Spotlite Design Challenge starter kit with certificates and badges.

Identify the problem: As Earth Systems Scientists, your challenge is to gather and share evidence to confront a misconception about Earth's climate. You will create a video that captures your questions and findings.

Follow these steps to think and act like scientists as you dig through data and experiment to support the claim that confronts the misconception.

MISCONCEPTION: Climate change is only global warming.






Spotlite Design Challenge: Orbiting Observers

Developed in Collaboration with the Challenger Center

View this page in Spanish
Ver esta pagina en Español

Register
Register your learner production teams to receive a Spotlite Design Challenge starter kit with certificates and badges.

Identify the problem: As Satellite Operations Engineers, your challenge is to gather and share evidence to confront a misconception about satellites orbiting Earth. You will create a video that captures your questions and findings.

Follow these steps to think and act like scientists as you dig through data and experiment to support the claim that confronts the misconception.

MISCONCEPTION: Satellites hover over parts of Earth because there is no gravity that high up.

Also available in Spanish

Educator Guides & Guide Lites



NASA Spotlite Interactive Lesson: Does Land Cover Matter?





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GINGERNEERING STRUCTURE Design Challenge

*Fun for a
Family STEM
Night and
classroom or
club team
building*

PARTNER RESOURCES & ACTIVITIES

Build collaborative groups through designing mission patches.

Mission Patch Design



The mission patch includes all of the crew names and the graphic design depicts aspects of the mission and of the crew's lives that are most important. Students design a mission patch that tells a story about their group, their school and their personal goals.

[Explore the gallery of mission patches](#)

UPCOMING Webinars & Conferences

MakerEd Educators Forum

www.MakerEd.org

NASA eClips:
Resources to
Support
Engineering
Design

Joan
Harper-Neely

Virtual Event
SEPTEMBER 27 & 28, 2024



NOVEMBER 4-8
2024

ITEEA Virtual Conference
Nov. 7th



VCEC STEM Institute
Sept. 21st

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