NASA eClips™

Winter 2022 Newsletter

This edition of the NASA eClips Newsletter brings you our collection of Earth Day 2022 Resources, our newest NASA Spotlite Design Challenge, and more!

Looking Forward to Spring and Getting Ready for Earth Day

Watch the video!

Real World

Earth Systems

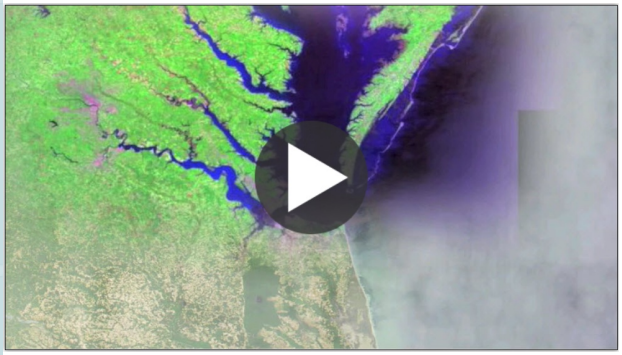
Our Earth is a dynamic system with diverse subsystems that interact in complex ways. Together, Jessica Taylor and Dr. Steven Pawson answer questions and demonstrate how mathematical modeling helps scientists in their predictions of climate, weather, and natural hazards.

Watch the video!

Ask SME: Close-up with a NASA Subject Matter Expert

Jessica Taylor - Physical Scientist

Meet one of our SMEs from Real World: Earth Systems! In this video, Jessica Taylor describes her role in developing and bringing NASA Earth Science data to the public, educators, and learners in fun and engaging ways!



Watch the video!

Real World

NASA and the Chesapeake Bay

Learn how NASA uses Earth observing satellites to monitor conditions in the Chesapeake Bay over time. Information about pollution, eutrophication, land cover and watershed runoff helps water managers enact policies to improve the health of the Bay.

Our World

What is Soil?

Learn about soil and how different kinds of soil hold moisture. See how NASA uses measurements from the Soil Moisture Active Passive Mission, or SMAP, to make Our World a better place to live.

Watch the video!

Real World

What is Soil Moisture?

What is the connection between water, soil, and carbon cycles? The answer may be in the soil beneath your feet. See how NASA measures soil moisture from space with the Soil Moisture Active Passive Mission, or SMAP. Learn to calculate soil moisture in your own backyard and discover the real-world applications for this data.

Watch the video!

Educator Guide, Our World

Dirt

In this Educator Guide, students will

- observe, analyze and compare several Earth soil samples;
- explore the difference between Earth's soil and rocks;
- observe and analyze simulated lunar regolith; and

- explain how and why dirt on the moon is different from soil typically found on Earth.

Working in teams, students create several slides of Earth soil for analysis. Through video segments, students review the rock cycle for rocks on Earth and learn about three types of lunar rocks. Students analyze simulated lunar regolith to make inferences about the formation of regolith.

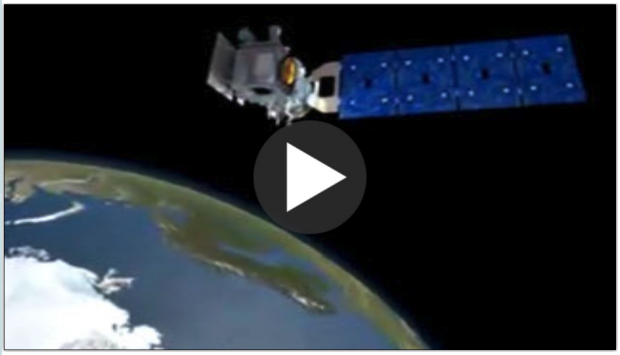
View the activity!

Watch the video!

Our World

ICESat-2 - What Is Ice?

Water has some very unique properties, but what are they? What do they mean for us? Water, unlike other types of matter, is less dense as a solid than as a liquid. This means more than simply floating cubes in a cold drink. The various forms of water allow life on our world to thrive!

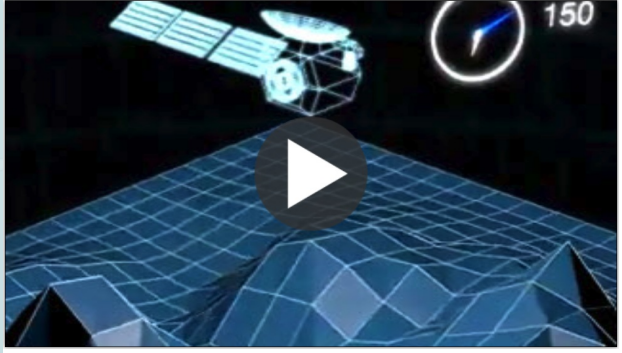


Watch the video!

Real World

ICESat-2 and Earth's Cryosphere

Earth's cryosphere is composed of all its frozen structures including sea ice, ice caps, and permafrost. Understanding changes in the cryosphere provides scientists with valuable information about the planet. ICESat-2 is a satellite designed to help scientists learn more about Earth's ice and the role ice plays in climate.



Watch the video!

Launchpad

ICESat-2 - Next Generation Technology

Learn how the second generation of the Ice, Cloud, and Land Elevation Satellite, better known as ICESat-2, is being used to map the ice structures in the world's polar regions. Manipulating the distribution of photons by lasers to create accurate images of these frozen structures allows scientists to study their changes and impact on Earth's climate.

Join us on April 12th!

Save the Date

Join the NASA eClips Team, Advisory Board Members, and NASA Partners for hands-on activities to celebrate our home planet in preparation for Earth Day.

Learners and their families will follow along with the presenters to complete hands-on activities. Each activity will focus on a different aspect of Earth's biosphere. Sign up below to receive more information!

Sign up here!

NASA Spotlite Design Challenge

NASA SPOTLITE

Science for students by students

There is still time to participate! Our newest NASA Spotlite Design Challenge, Cloud Detectives, is the perfect Earth Day Project for students!

NASA eClips has partnered with NASA's Earth Science Education Collaborative and GLOBE to create the new *Spotlite Design Challenge: Cloud Detectives*. This challenge targets two common misconceptions about clouds:

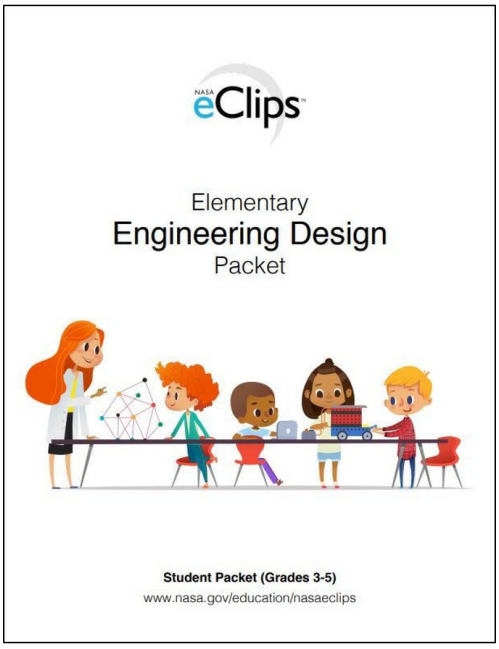
- All clouds produce rain.

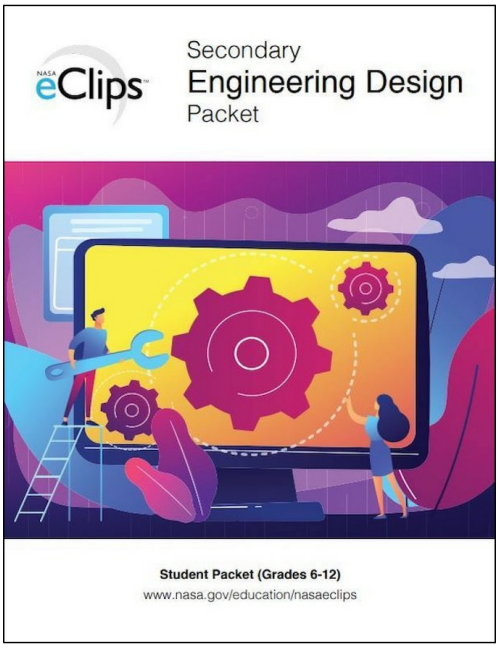
- Clouds are made of gas.

Teams of learners make a claim that refutes one of the misconceptions and then research and gather evidence to support their claim. Teams are tasked with creating a 90-120 second video that helps other learners complete an activity to gather evidence to debunk the misconception.

Learn more!

Engineering Design Packets





We need your help!

Over the years, many educators have used the NASA eClips Engineering Design Packets to introduce students to a formal design process and assess this work with the rubric included in the packet. These open-ended packets can be applied to any design project and can be used to enhance the existing curriculum. ***We've revised our packets and would like your help piloting the new versions!***

Interested? Sign up here!

Resources From Our Partners

Kids Guide to Climate Change
Ever wondered what climate change is and why we care about it so much? NASA scientists have been studying Earth's climate for more than 40 years. We used what we've learned in that time to answer some of your students' biggest questions in this printable guide! Learn more here!

Why does NASA study Earth?
Learn how and why NASA studies our home planet. Also, see a video with images that show how Earth is changing. Explore more here!

TechGirlz inspires middle school girls to explore all the possibilities of technology through free, interactive workshops on 50+ topics! Upcoming workshops include *Infographics: Proving your Point with Pictures* on March 8th and April 7th and 8th. Learn more about upcoming workshops and camps here!

Are you interested in learning more about NASA GLOBE but not sure where to start? NASA has worked with experienced teachers to put together new one-week Pacing Guides providing a five-day sequence of GLOBE and other NASA activities that support a guiding question. You'll find these resources here!

Explore Past Newsletters

National Institute of Aerospace | 100 Exploration Way, Hampton, VA 23666