

NASA eClips™

# Fall 2021 Newsletter

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## NEW! NASA eClips Videos Featuring NASA Harvest

### Our World: Where Do Crops Grow? (Grades 3-5)



Have you ever wondered where food comes from? Learn how Dr.

Catherine Nakalembe, NASA Harvest's Remote Sensing Scientist, uses NASA satellite data to show the health and location of crops around *Our World*. Maps created from these data help people become more food secure. Using the [GLOBE Observer App](#), students can help scientists validate satellite data by describing land covering through the *Adopt a Pixel* program.

[Watch the video here!](#)

## Real World: Food Security - Monitoring Food from Space

(Grades 6-8)



Discover how NASA's Earth-observing satellites gather data to monitor food growth. NASA Harvest Program Director Dr. Inbal Becker-Reshef describes how mathematics is used to interpret satellite data and describe vegetation and crop yield. Dr. Hannah Kerner, NASA Harvest's U.S. Domestic Co-Lead & AI Lead, shares how algorithms and models use NASA data to describe and predict food supply and food shortages. This work through NASA Harvest provides tools for farmers and governments to describe and predict food security worldwide.

[Watch the video here!](#)

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## Countdown to the Webb Launch!

To celebrate the upcoming launch of the James Webb Space Telescope, here is a great collection of activities and resources for learners to complete at home or in the classroom!

# Seeing Starlight with the James Webb Space Telescope



NASA eClips partnered with NASA's Goddard Space Flight Center and Mad Science to bring this fun resource to life! Students learn about the unique stages within a star's life cycle by completing the "Star Life Cycle Loops" activity. This resource also highlights the importance of telescopes and their features!

[View the resource here!](#)

## Make a Pinwheel Galaxy Pinwheel

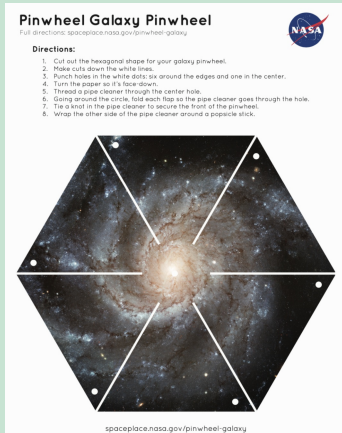


[NASA Space Place](#) has a fun activity to bring a galaxy closer to us!

The Pinwheel Galaxy is a spiral-shaped galaxy about 21 million lightyears away from Earth. It can be found in the constellation Ursa Major in the Northern Hemisphere. With a nice, dark sky, you can see it with binoculars or a small telescope.

For those of us who can't see it in the night sky, we can have the next best thing: a Pinwheel Galaxy pinwheel!

[View the resource here!](#)



## Launchpad Videos for Grades 9-12



The Webb telescope must be kept extremely cold to detect the infrared light from very faint, distant objects. Learn more about cryogenically cold temperatures by viewing [Launchpad: Cryogenics - The Cold Hard Facts](#). You will also discover the everyday applications of cryogenics from magnetic scans to high-tech space telescopes and learn about the Kelvin temperature scale.



Meet JWST engineer Begoña Vila and her scientist-teammate Stefanie Milam in the video [Launchpad: Engineering Design to Support Scientific Discovery](#). By viewing this video, learners discover the roles engineers and scientists play when working together on missions and how science and engineering take turns pushing each other to move exploration forward.

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## Infiniscope Resources

Infiniscope, a NASA-funded partner that specializes in digital learning, has developed two new experiences for classrooms and informal learning spaces that celebrate the launch and science of Webb.

- Take a virtual tour of the Webb assembly facility and the night sky to learn more about humanity's newest endeavor to look deeper into space than we've ever looked before: [Webb for Infiniscope](#)
- Host your own trivia night with Kahoot! and this special edition created for Webb: [James Webb Space Telescope: Revealing the Hidden Universe](#)

To learn more about Infiniscope and find more digital learning assets, please visit <https://infiniscope.org>.

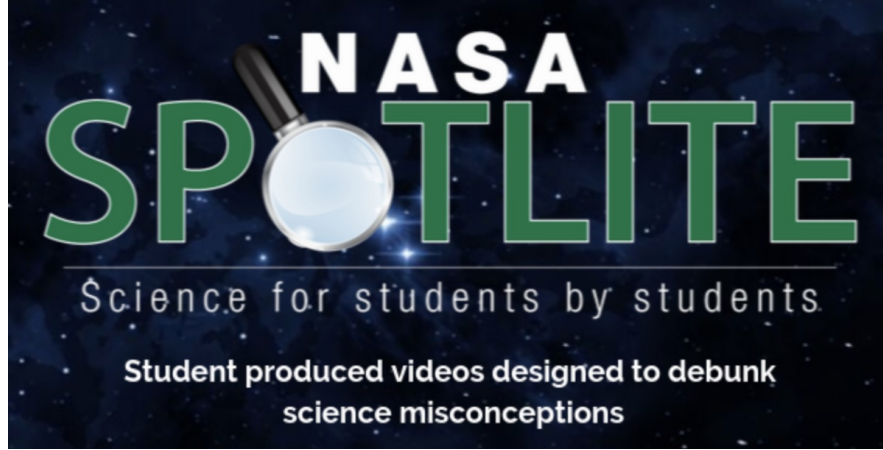
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## Spotlite Design Challenge: Cloud Detectives



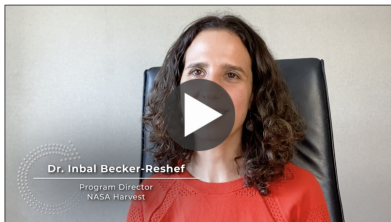
NASA eClips has partnered with [NASA's Earth Science Education Collaborative](#) and [GLOBE](#) to create the new Spotlite Design Challenge: Cloud Detectives. This challenge targets two common misconceptions about clouds!

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. For example, learners demonstrate how to use the [GLOBE Observer app](#) to collect cloud data to confront the misconception that “all clouds produce rain.” To challenge the misconception that “clouds are made of gas,” teams demonstrate how to create a cloud in a bottle.



[Participate here!](#)

## NEW! Ask SME: Close-up with a NASA Subject Matter Expert Videos



[Watch the video here!](#)

### Program Director - Dr. Inbal Becker-Reshef

In this close-up video, Dr. Inbal Becker-Reshef, Program Director for NASA Harvest, describes her journey and how her travels as a child helped her choose a career in science over her passion for art. She shares how cameras on satellites provide data to help farmers and agricultural leaders grow more food and work toward food security worldwide.



[Watch the video here!](#)

### Astrobiologist - Dr. Danny Glavin

In this close-up video, Dr. Danny Glavin, Astrobiologist at NASA's Goddard Space Flight Center, shares his journey in becoming a "rock star" for NASA and how communication is an essential part of his job.

**U.S. Domestic Co-Lead & AI Lead - Dr. Hannah Kerner**



**Watch the video  
here!**

In this close-up video, Dr. Hannah Kerner, Artificial Intelligence Lead at NASA Harvest, shares her experiences in writing code and developing machine learning algorithms that enable NASA satellites to monitor where food is being grown. She describes how her hobbies of hiking, scuba diving, and volunteering intersect with her work.



**Watch the video  
here!**

### **Remote Sensing Scientist - Dr. Catherine Nakalembe**

In this close-up video, Dr. Catherine Nakalembe, Remote Sensing Scientist for NASA Harvest, shares her passion for helping farmers around the world through the use of NASA satellites to monitor crops from space to increase sustainability. She also describes how her love for hiking, photography, and travel supports her work.



**Watch the video  
here!**

### **Physical Scientist - Jessica Taylor**

In this close-up video, Jessica Taylor, Physical Scientist at NASA's Langley Research Center, describes her role in developing and bringing NASA Earth Science data to the public, educators, and learners in fun and engaging ways. She shares how her love of meteorology and, in particular, lightning sparked her interest in becoming a scientist and set her career path. She also shares the joy she finds in family-centered activities like swimming and dancing. You can also engage in NASA Earth Science with projects like My NASA Data and the GLOBE Program.

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## **New Opportunities from Our ITEEA Friends!**

**ITEEA Awards and Scholarships  
(Deadline: December 1, 2021)**

Earn an award or apply for scholarships from ITEEA and its foundation, the Foundation for Technology and Engineering Educators (FTEE). These opportunities help support your work to advance STEM through Technology and Engineering Education. For more information and to see a complete list of the awards and scholarships offered, please visit [ITEEA's Awards and Scholarships webpage](#).

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### **ITEEA STEM School of Excellence (Deadline: December 18, 2021)**

Earn recognition from ITEEA's STEM Center for Teaching and Learning™ for your school's outstanding commitment to providing a robust Integrative STEM education program. Schools recognized exemplify outstanding leadership in the field of STEM education. Award recipients will be recognized at the ITEEA 84th Annual Conference, March 9-12, 2022:

- ITEEA STEM School of Excellence schools will receive a banner and certificate for display in the school.
- ITEEA STEM School of Merit schools will receive a certificate for display in the school.

[Apply here!](#)



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