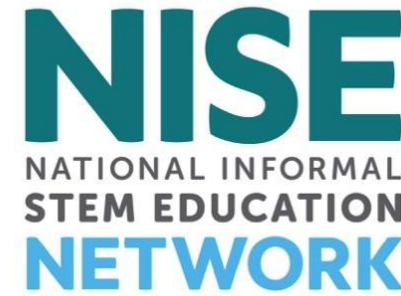


# NISE Net Online Workshop

## Engaging audiences in the launch of the James Webb Space Telescope – Part 2

Tuesday, August 31, 2021



### Today's presenters:

**Christopher Britt**, PhD, Space Telescope Science Institute,  
Baltimore, MD

**Yesenia Perez**, Space Telescope Science Institute,  
Baltimore, MD

**Paul Siboroski**, Fleet Science Center, San Diego, CA

**Theodore Forte**, Patterson Observatory & Bob Gent Science  
Center, Sierra Vista, AZ

**Meghan Fitzgerald**, Marbles Kids Museum, Raleigh, NC

**Beth Demke**, North Dakota's Gateway to Science, Bismarck, ND

**Inés Jijón**, Cradle of Aviation Museum, Garden City, NY

### Welcome!

As we wait to get started with today's discussion, please:

**Introduce yourself!** Type your name, institution, and location into the [Chat Box](#)

**Questions?** Feel free to type your questions into the [Chat Box](#) at any time throughout the webinar or use the raise your hand function in the participants list and we'll unmute your microphone.

Today's discussion will be recorded and shared on nisenet.org at: [nisenet.org/events/online-workshop](https://nisenet.org/events/online-workshop)

# Future Online Workshops

**Bust out that Chemistry kit for  
National Chemistry Week 2021 -  
Fast or Slow...Chemistry Makes  
It Go!**

Tuesday, September 15, 2021  
2pm-3pm Eastern / 11am-12pm  
Pacific

**Learn more at [nisenet.org/events](https://nisenet.org/events)**



# [www.nisenet.org/webb](http://www.nisenet.org/webb)

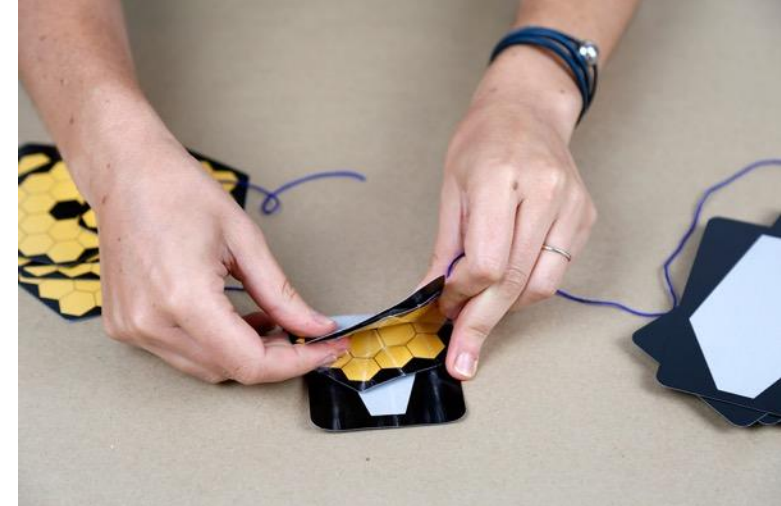
Links to...

- Map and list of official NASA supported locations hosting Webb events
- Hands-on activities and public engagement resources
- Professional development workshops
- NASA images, multimedia, and more!

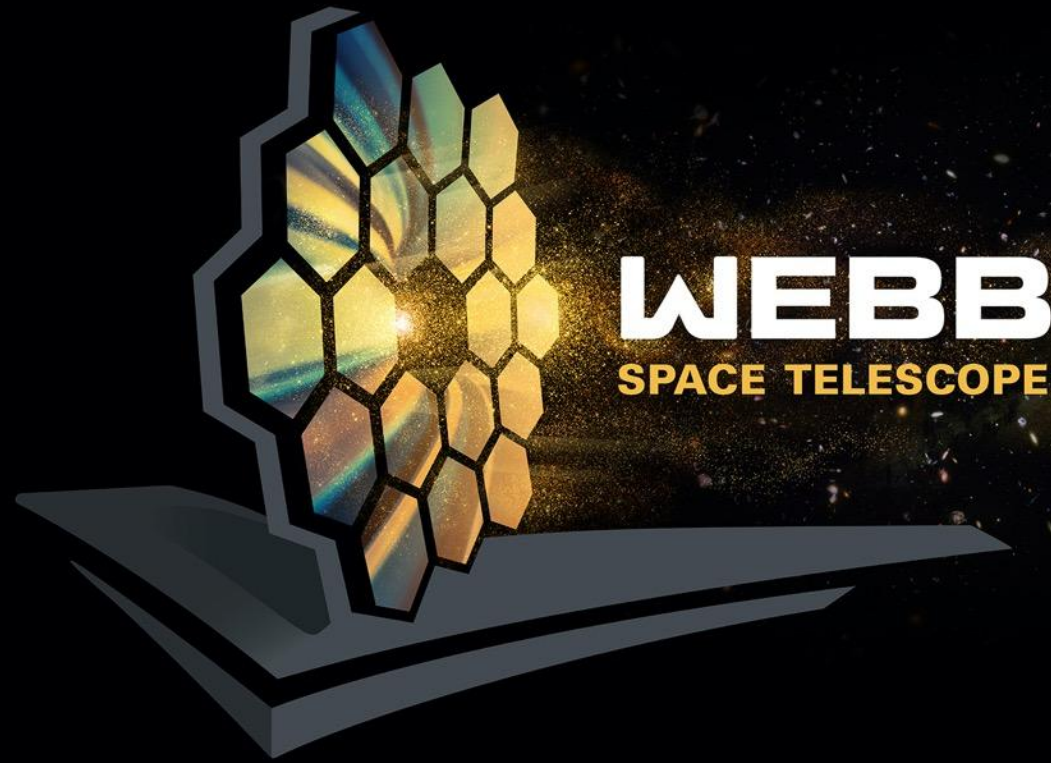




# Exploring the Universe: Pack a Space Telescope







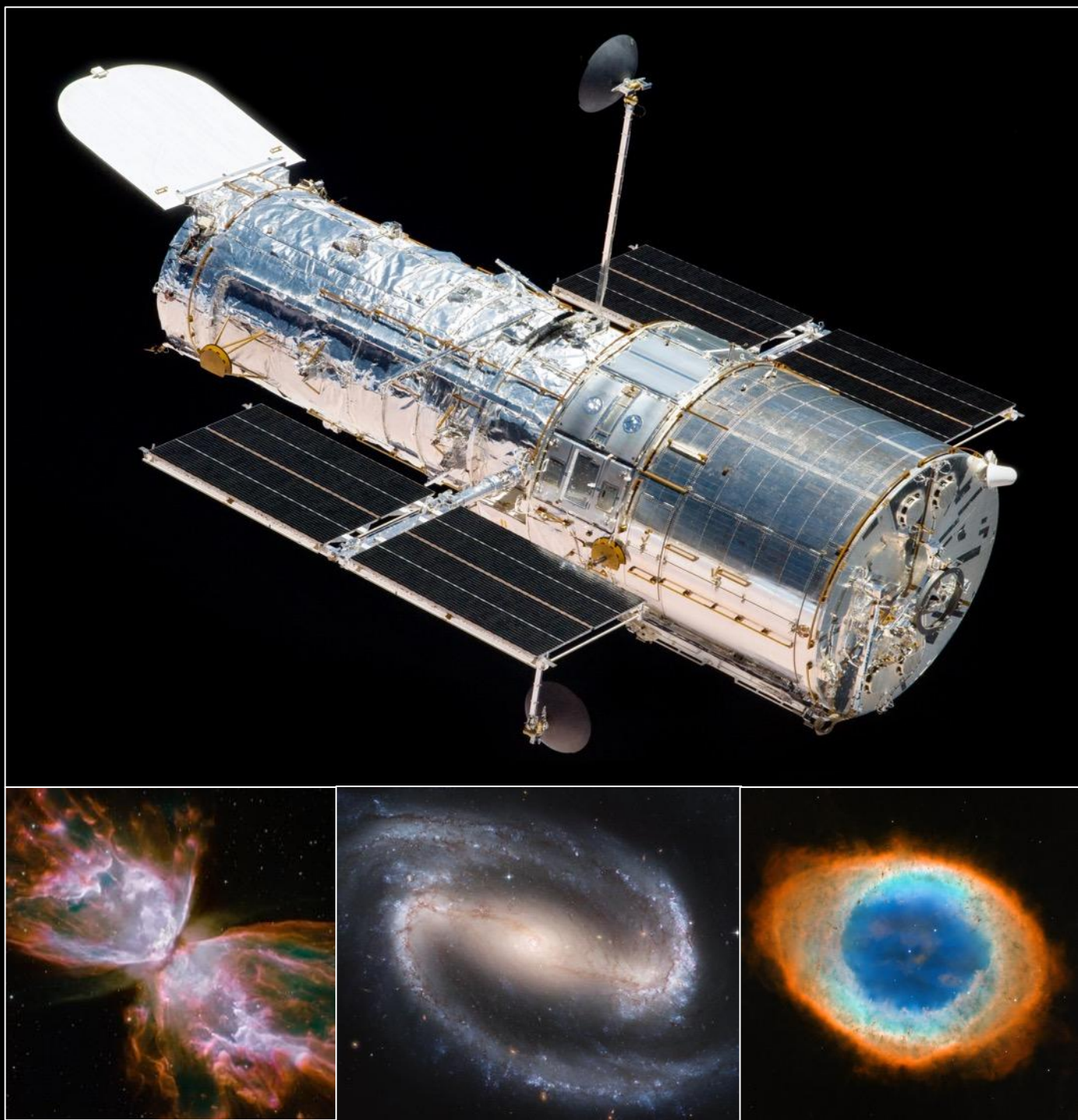
# Unfold the Universe with the Webb Space Telescope

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Dr. Christopher Britt  
Space Telescope Science Institute  
August 31, 2021

# The Hubble Space Telescope

30 years in space  
and a legacy of  
images and  
discoveries



*Image credit: NASA; NASA, ESA, and the Hubble SM4 ERO Team; NASA, ESA/Hubble and the Hubble Heritage Team; NASA, ESA, and the Hubble Heritage - ESA/Hubble Collaboration*





**Early  
Universe**



**Galaxies  
Over Time**



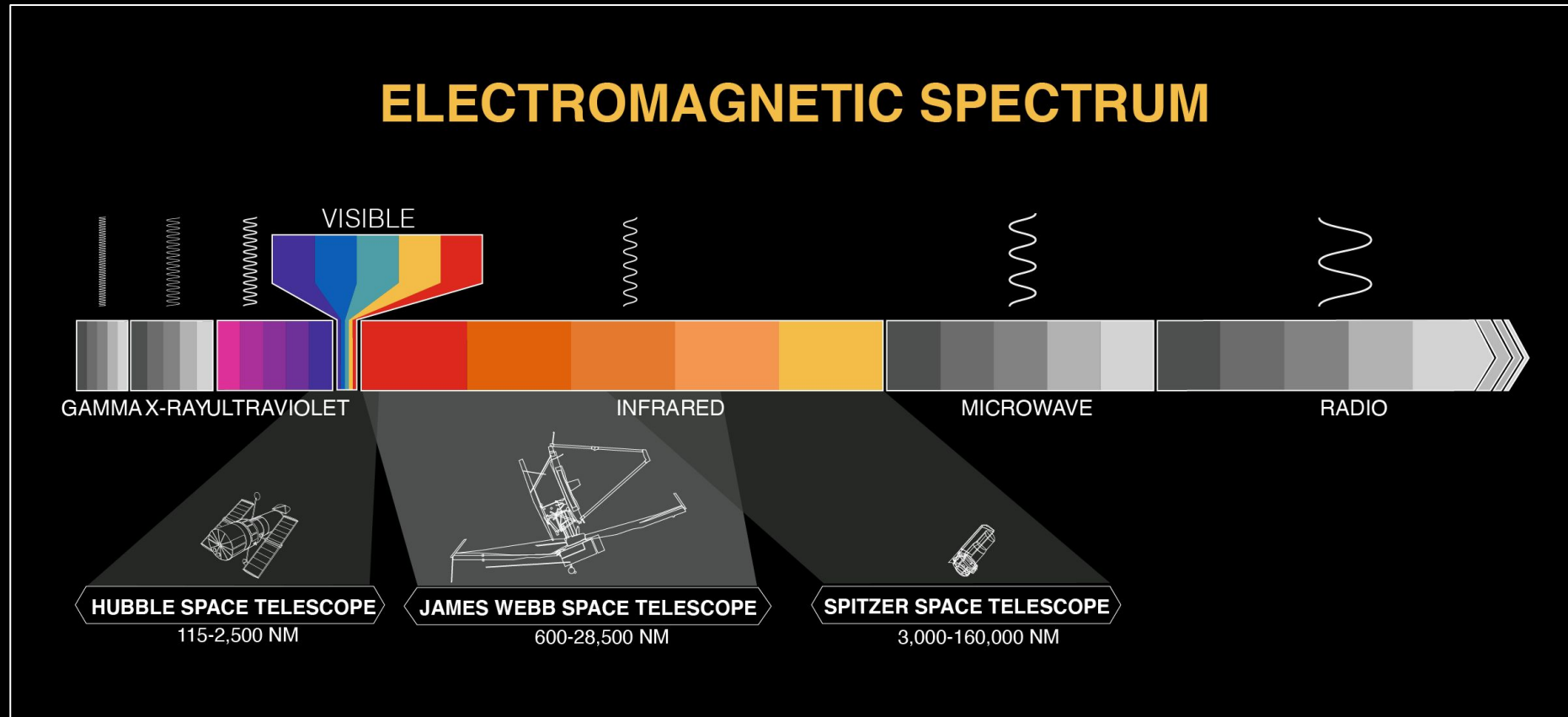
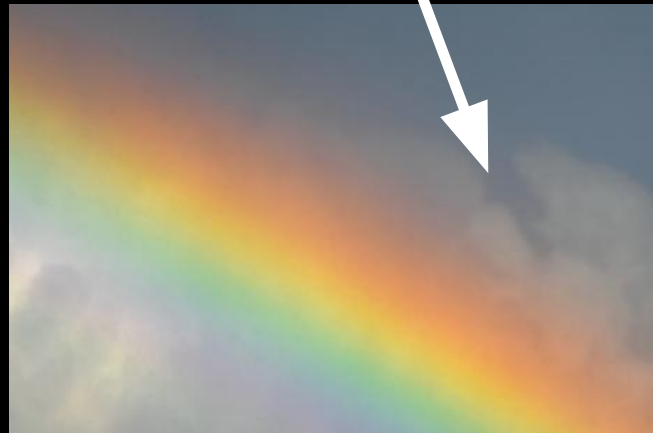
**Star  
Lifecycle**



**Other  
Worlds**

# Webb is tuned to infrared light

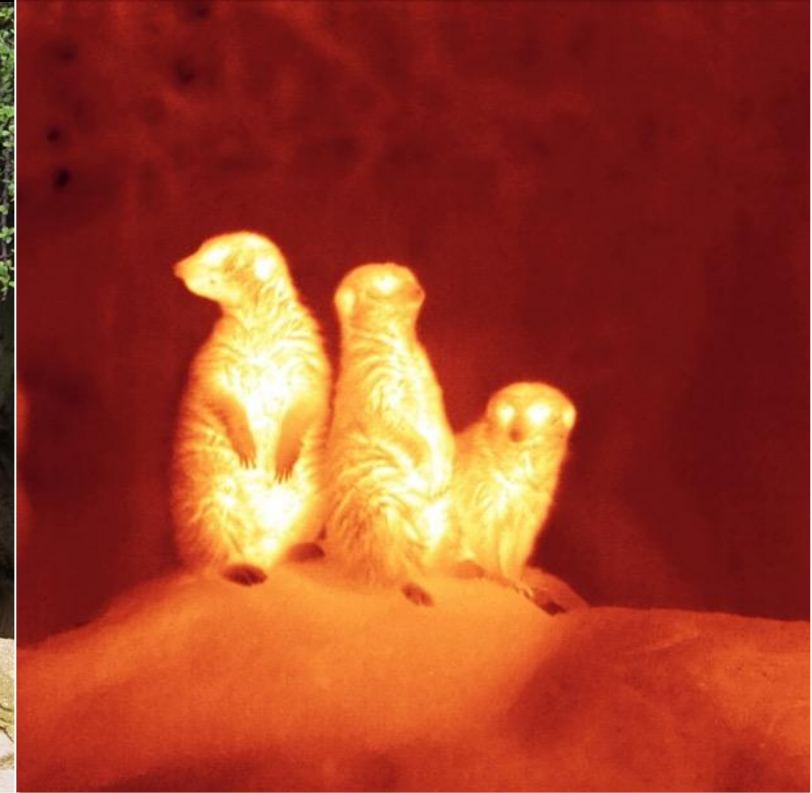
What color is out here?





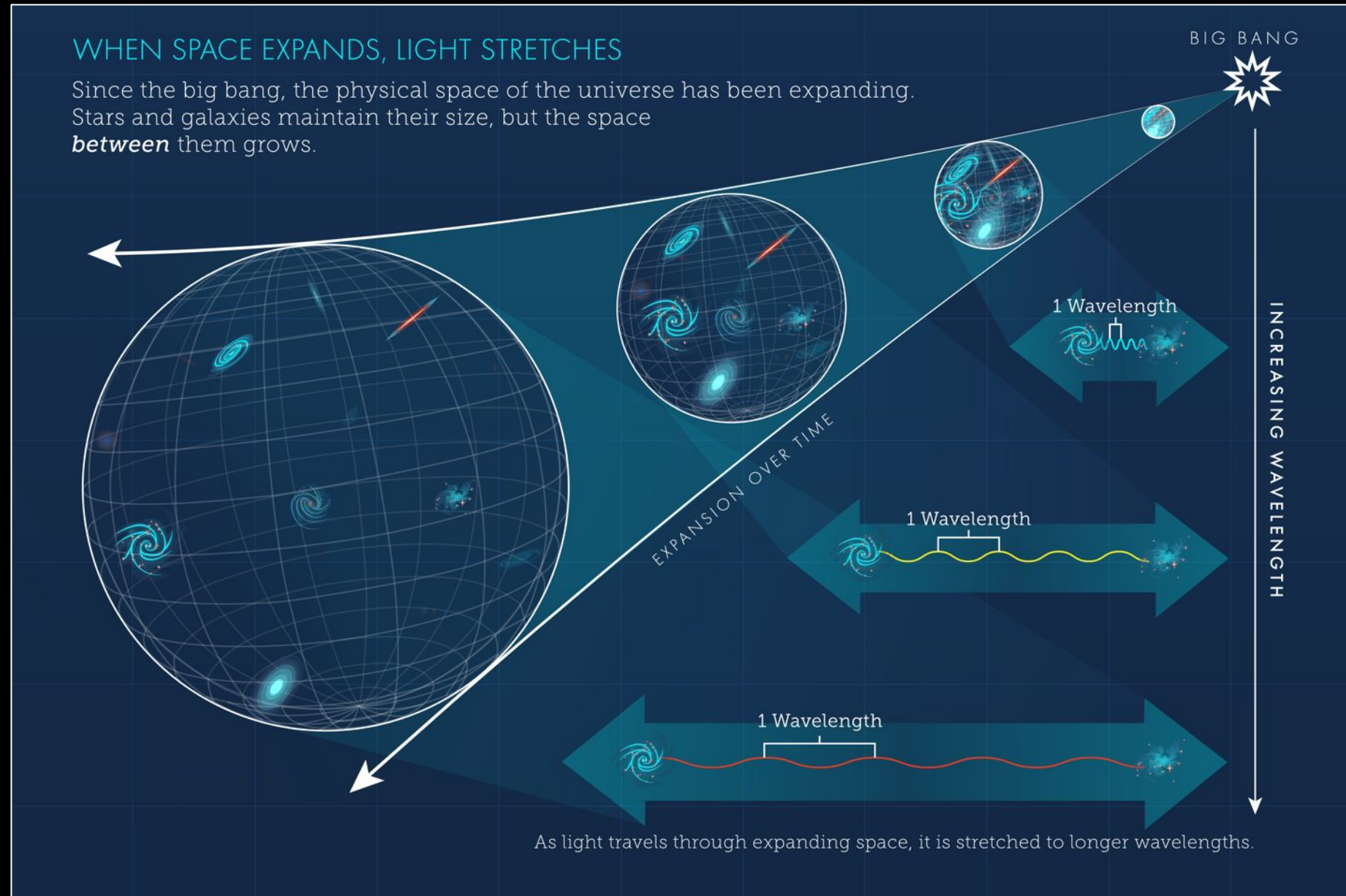
# Everything is glowing

*We perceive infrared radiation as a form of heat*



# Seeing into the past

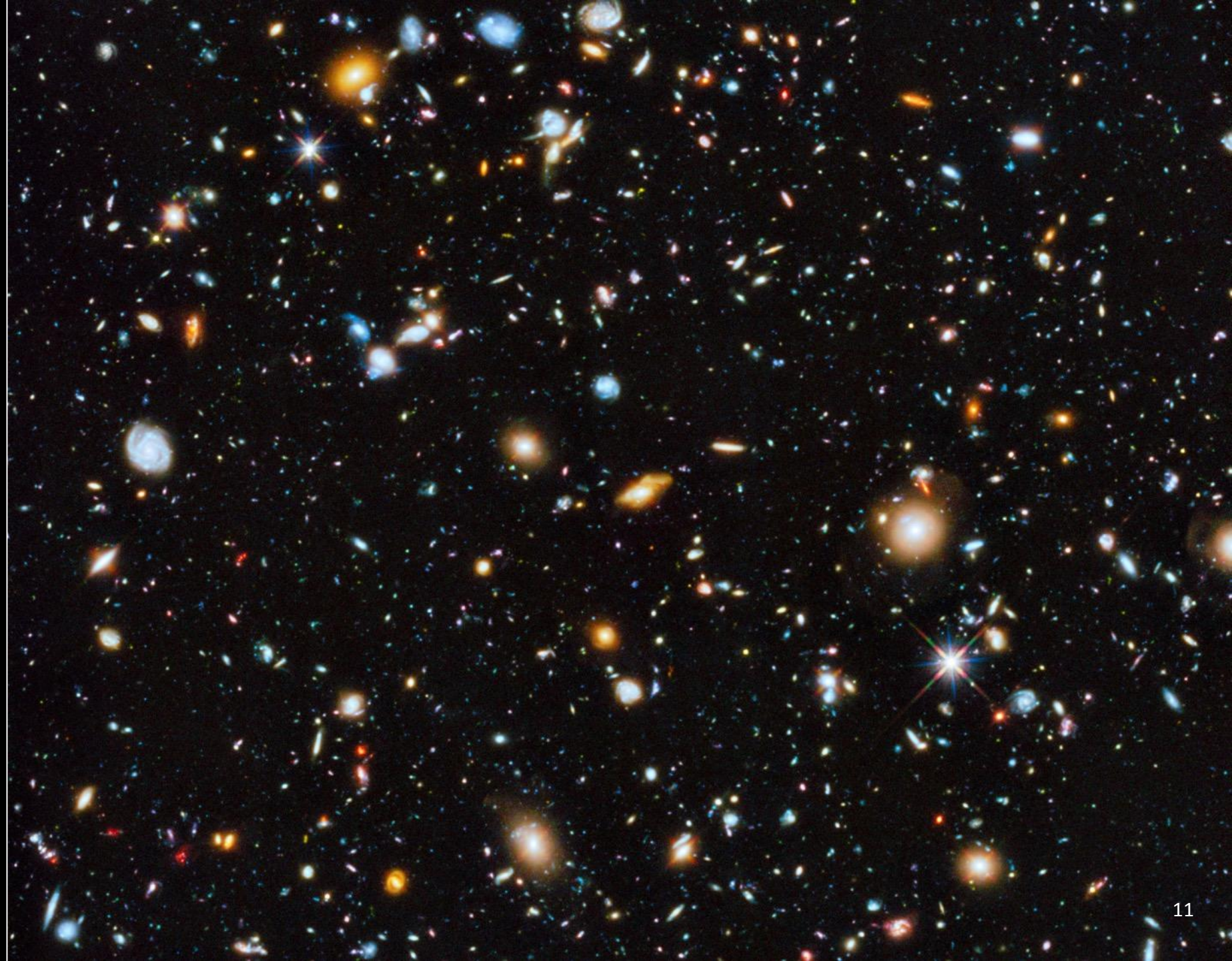
As the Universe expands it stretches light to redder wavelengths





# The Hubble Ultra Deep Field

*Image credit: NASA, ESA, H. Teplitz and M. Rafelski (IPAC/Caltech), A. Koekemoer (STScI), R. Windhorst (Arizona State University), and Z. Levay (STScI)*





We can use  
deep fields to  
construct the  
history of  
galaxies over  
time

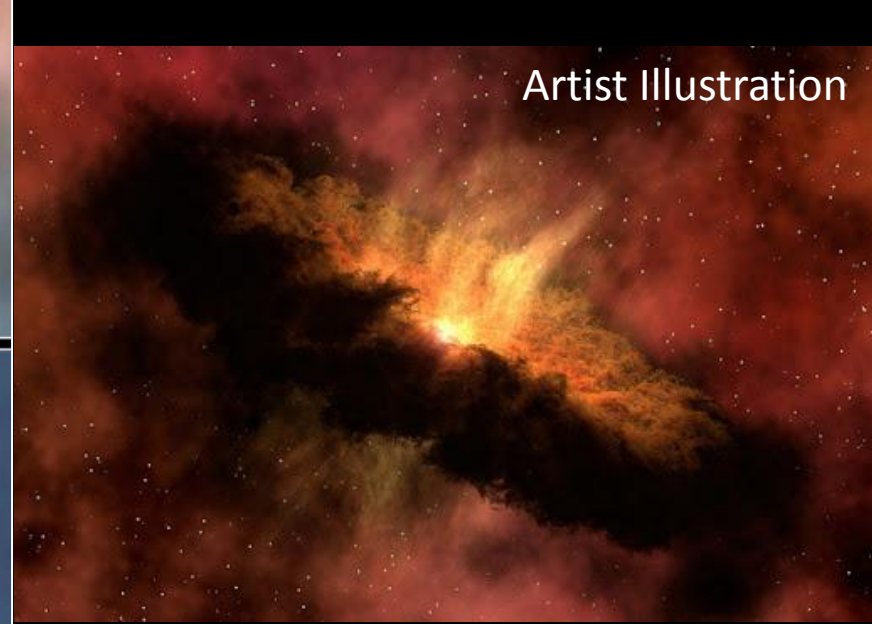
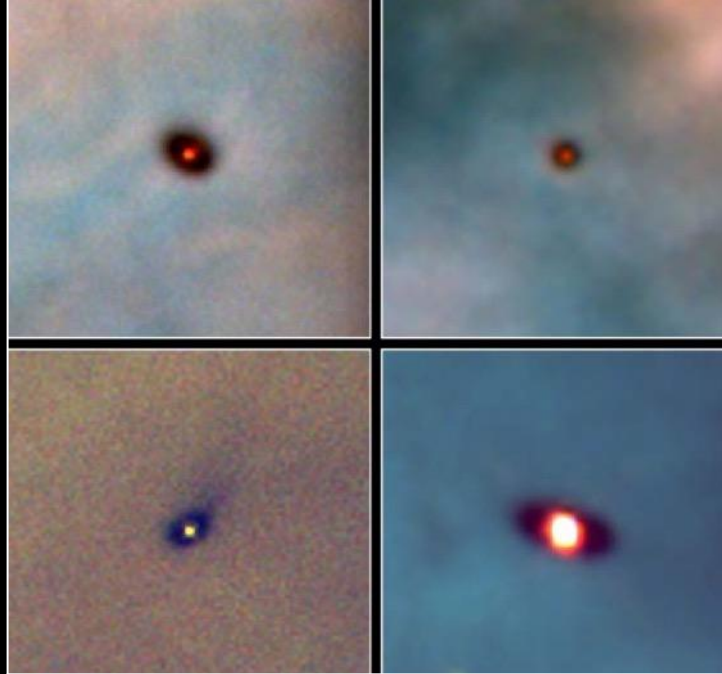
*But what about  
the first galaxies?*



*Image credit: Frank Summers, Alyssa Pagan,  
Leah Hustak, Greg Bacon, Zolt Levay, Lisa  
Frattare (STScI), Anton Koekemoer, Bahram  
Mobasher, and HUDF Team*



# The Birth of Stars and Planets



Artist Illustration



**Image credit:** M. McCaughrean (Max-Planck-Institute for Astronomy), C. Robert O'Dell (Rice University), and NASA; NASA, ESA, and the Hubble Heritage Team (STScI/AURA); NASA, ESA/Hubble and the Hubble Heritage Team

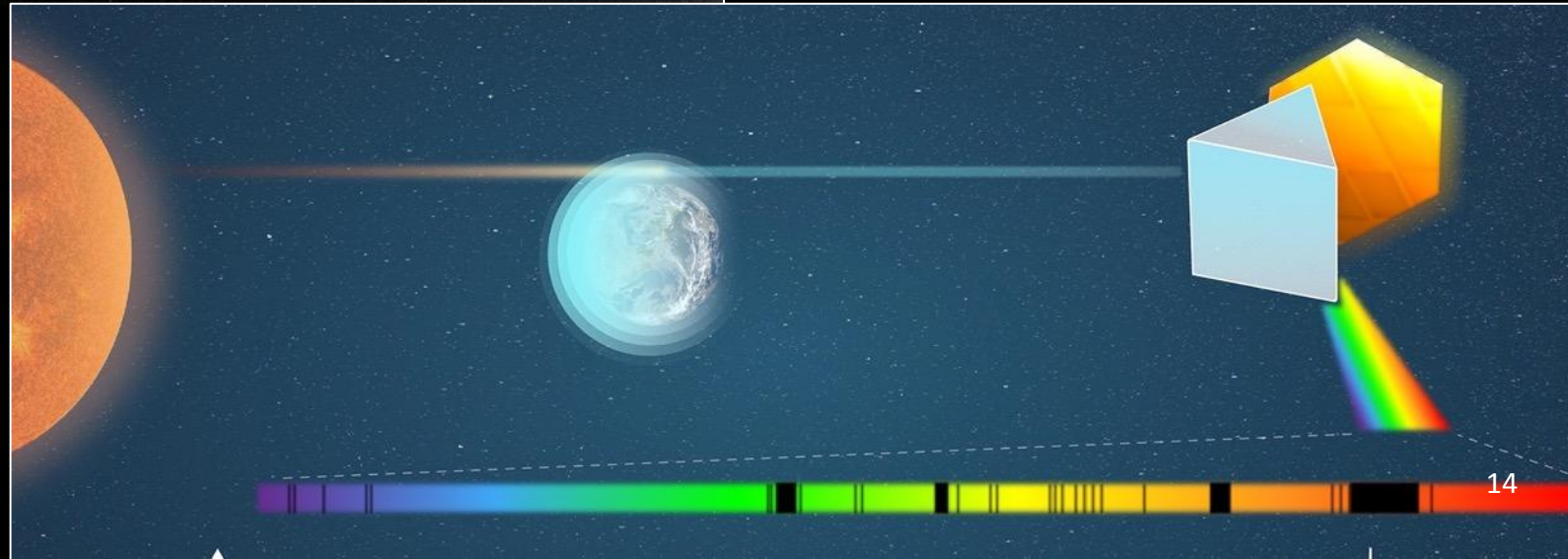
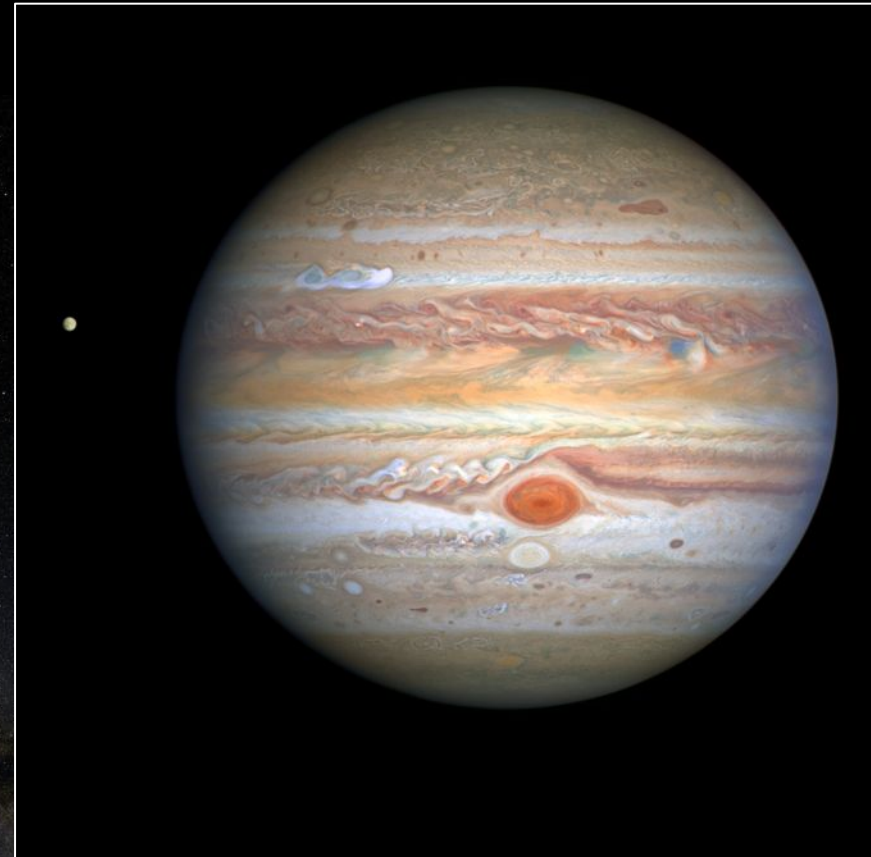


# Other Worlds

Webb will be able to observe exoplanets *and their atmospheres*.

It can also observe solar system objects beyond the orbit of Mars.

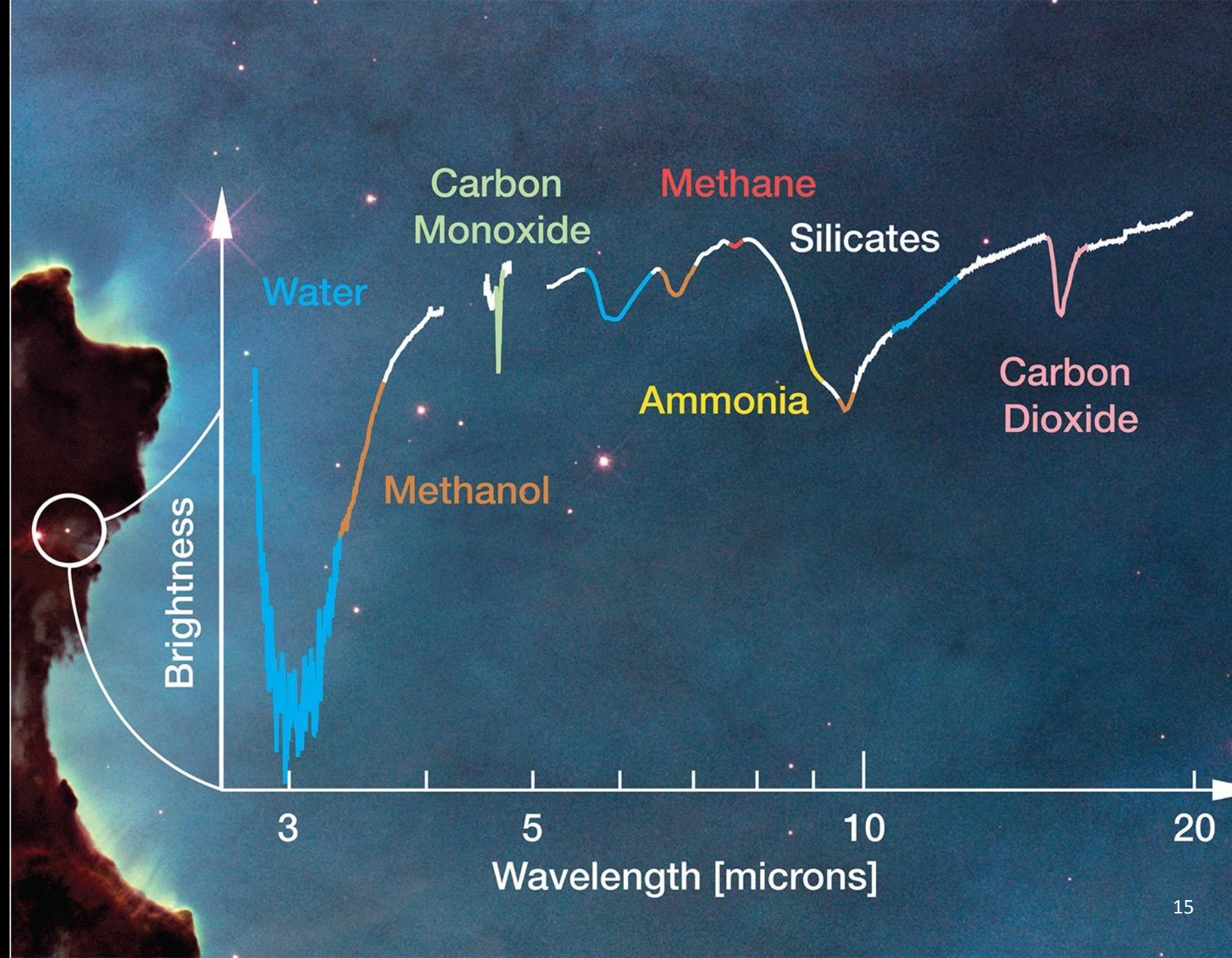
*Image credit: ESO/A.-M. Lagrange et al.; NASA, ESA, STScI, A. Simon (Goddard Space Flight Center), and M.H. Wong (University of California, Berkeley) and the OPAL team; STScI*





# You can study molecules

*In planetary atmospheres or nebulae*



*Image credit: NASA, ESA, the Hubble Heritage Team (STScI), and M. McClure (Universiteit van Amsterdam) and A. Boogert (University of Hawaii)*



# The Main Innovations

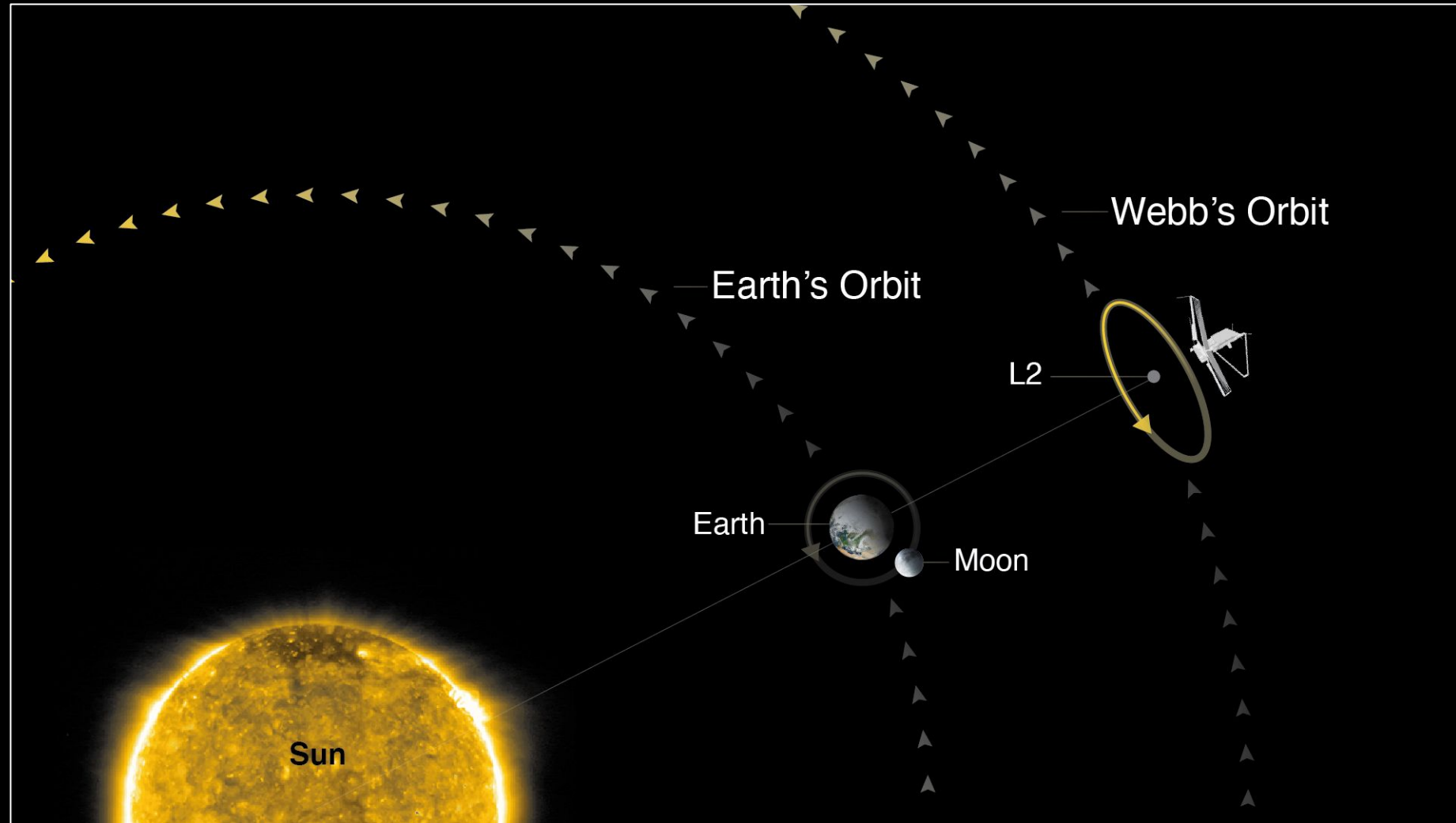
The two most striking and novel parts of the telescope are the primary mirror and the sunshield.





# Webb will orbit at L2

The Second Lagrange Point (L2) is a stable orbit that balances the Earth's and the Sun's gravity.



Webb will  
launch from  
Kourou, French  
Guiana on an  
Ariane 5 rocket  
in late fall.

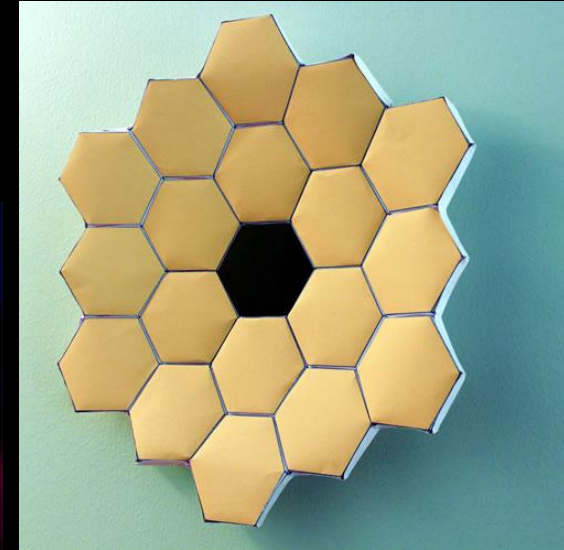
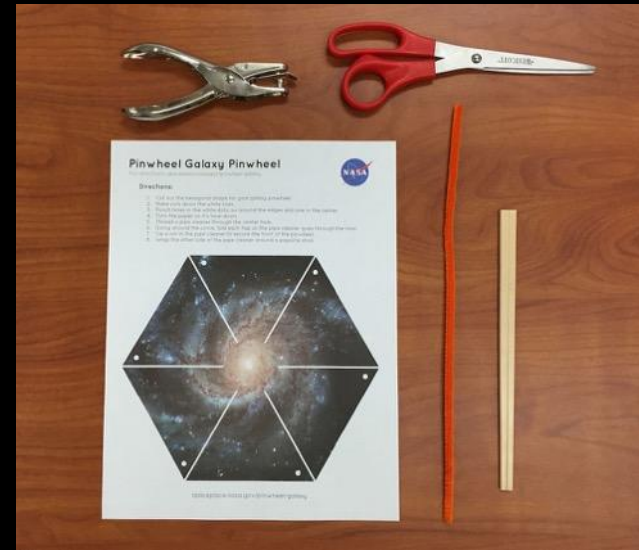
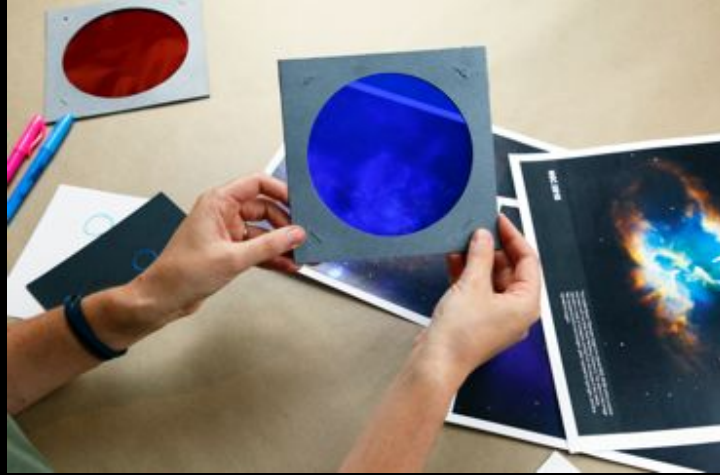




## Resources for the Public

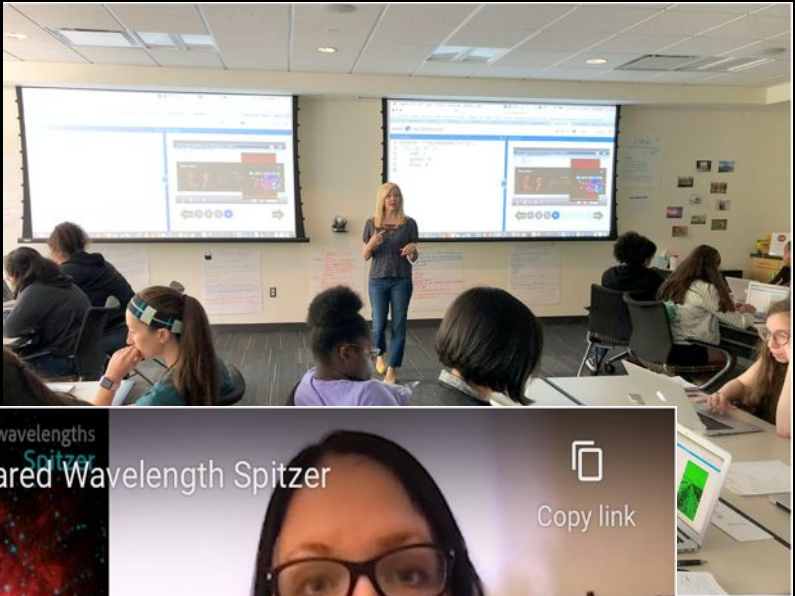
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# Activities





# Connecting with a Subject Matter Expert!



# Webb Space Telescope Community Events





Thank you!

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Questions?



# WEBB

## SPACE TELESCOPE

**COMMUNITY EVENTS**  
**OCTOBER 2021-FEBRUARY 2022**



# Patterson Observatory and Bob Gent Science Center

## Sierra Vista, Arizona



In collaboration with:

Henry F. Hauser Museum

University South Foundation. Inc.

Huachuca Astronomy Club

Ethel Berger Center

Sierra Vista Public Library

Sierra Vista Leisure Facilities

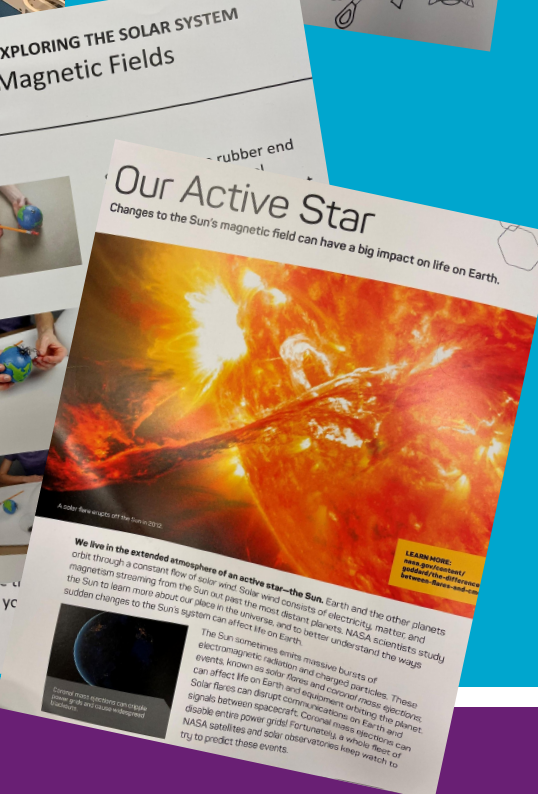
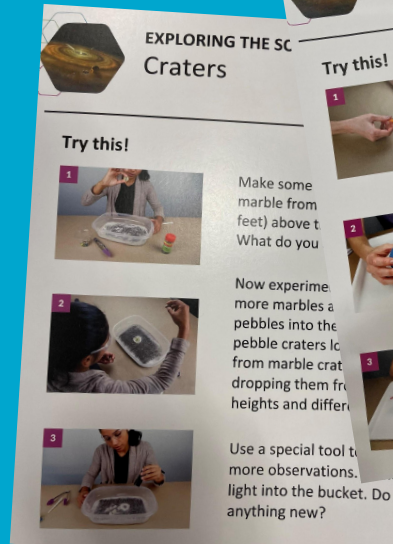
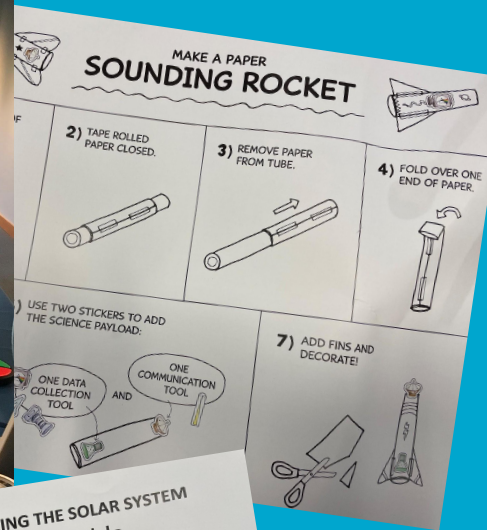
### Saturday, October 23, JWST Launch Party

- Virtual Presentation by a NASA Scientist
- Solar Viewing with the Huachuca Astronomy Club
- Infrared camera demonstration
- Build your own Webb (paper model activity)
- Spanish Language JWST presentation
- Display of NASA artifacts
- JWST videos and static display



Plus more than a dozen community events throughout October including talks, star parties, and hands-on activities









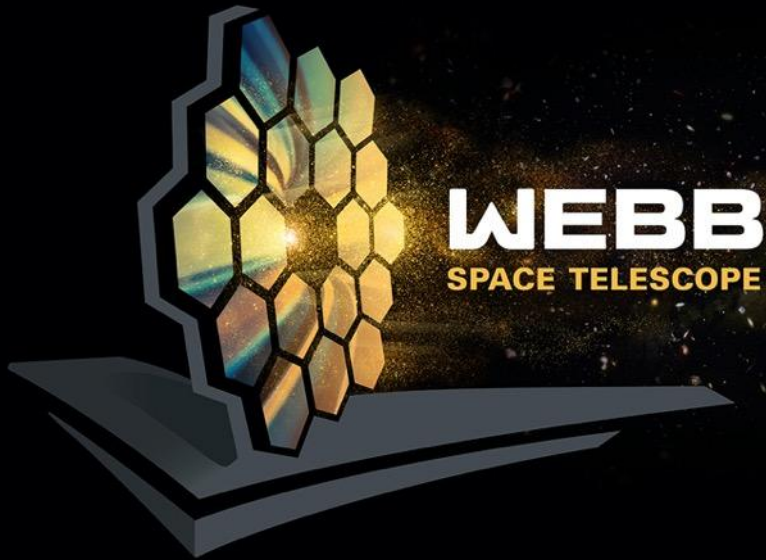
North Dakota's  
**Gateway to  
Science**

# Webb Site Community Events

Event Description	Partners
Telescope Workshop for Physics Students (SME)	NASA, UMary, UTTC, BSC
Public Presentation (SME)	NASA, NDSHS, VSS
Portable Planetarium (GeoDome)	UND, VCSU, VSS
Portable Planetarium (Discovery Dome)	School Districts
Stargazing/Telescope Workshop	UND, VCSU, VSS
Science Pub	VSS
Free Family Event	BPS



# Cradle of Aviation Museum



## Events

***Wednesday, October 6, 2021, at 10 am and Noon  
Virtual***

- *Celebrating Hispanic Heritage Month as you learn about the James Webb Space Telescope and the contribution of Latinx.*

***Tuesday, October 19, 2021, at 7pm In-Person or Virtual***

- *Sky at a Glance with Amateur Observers' Society*

***Saturday, November 6, 2021, Date and Time Subject to change based on JWST Launch In-Person***

- *Webb Space Telescope Launch Party*



# Q & A

- Do you have any more templates for the Explore Science: Pack a Space Telescope activity? – **Print your own from our online template:**  
**<https://www.nisenet.org/catalog/exploring-universe-pack-space-telescope>**
- Are there promotional materials for hosts (banners, marketing templates, NASA Webb swag)?
- Suggested resources for engaging the public, in particular families and younger audiences.
- When is JWST going to launch? – **Please note that events do not need to take place on the specific launch date!**
- **Hosting an event? Tell us about it!**

# Future Online Workshops

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National Chemistry Week 2021 -  
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It Go!**

Tuesday, September 15, 2021  
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**Learn more at [nisenet.org/events](https://nisenet.org/events)**





# Get Involved

Learn more and access the  
NISE Network's online digital resources  
[nisenet.org](https://nisenet.org)



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# Thank You

