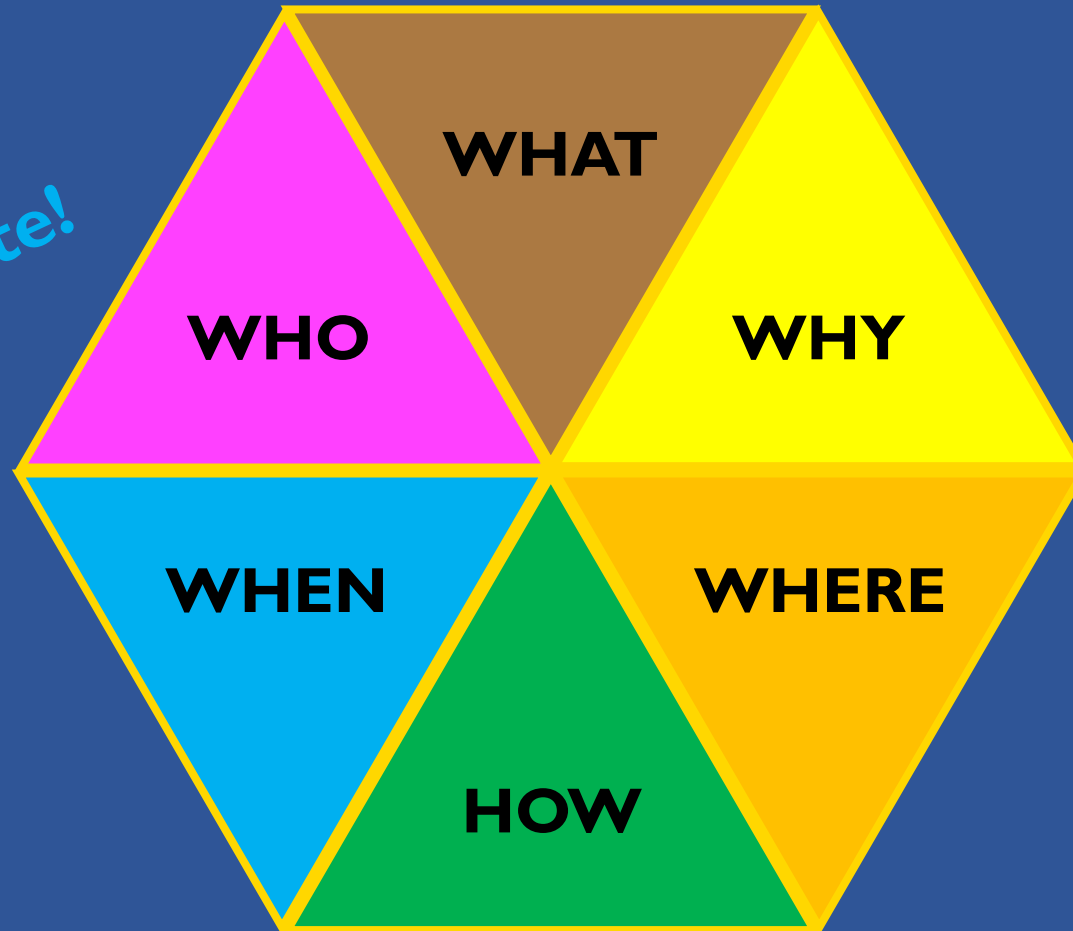


Science Communication

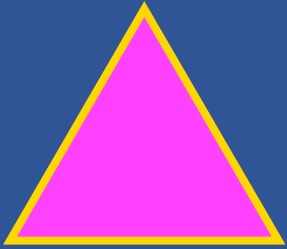
JWST Edition

Play the game!
Learn to communicate!



Mission Acknowledgments

A. Lockwood, B. Meinke, J. Green,
C. Pulliam, D. Smith, K. Pontoppidan

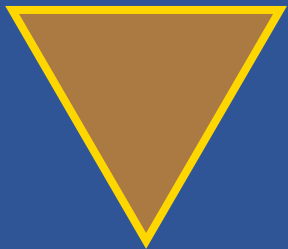


WHO

Who is consulted when we create communications strategies and products?

- a. *NAOSA, EISA, and the POBA*
- b. *Industry partners including Northrop Grumman, Ball Aerospace, Harris, and Lockheed Martin*
- c. *Scientists including the Science Working Group and the JWST User Committee*
- d. *All of the above*
- e. *The Moops*

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WHAT

What do we want the public to know about Webb before it launches?

- a. How infrared light allows us to study the universe*
 - b. The value of spectroscopy*
 - c. How the innovative engineering enabled the future science*
 - d. The first science results they can expect from the observatory, including the Early Release Science programs and Guaranteed Time Observations*
 - e. All of the above*
-

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WHERE

Where do we share science communications about Webb?

- Social media including Twitter, Facebook, and Instagram
- Online websites
- News outlets via public distribution of press releases
- Public outreach events
- Public and scientific talks
- All of the above

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WHEN

When do we strategically release science releases and multimedia?

- a. On a regular basis, almost monthly, to maintain the public's interest and pique curiosity*
- b. Timed, when appropriate, with relevant cultural or historical tie-ins*
- c. In coordination with NASA, EISA, and FOIA*
- d. All of the above*
- e. On the first Wednesday of each month*
-
-

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WHY

Why do we share the science of Webb with the public?

- To inspire the public and the next generation of scientists*
- To ensure public support for the mission and government funding*
- c. To engage the public in infrared science and the four science themes of the*
observatory
- d. All of the above*
-





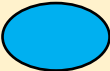
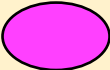
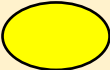

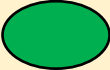

HOW

Choose a card.

How do we share Webb's science?

How do we plan our communications products?

How can one tell a story with science?

-  ...
-  ...
-  ...
-  ...
-  ...
-  ...





HOW

How do we share Webb's science?

-  *Public events*
-  *News releases*
-  *Infographics*
-  *Videos*
-  *All of the above*

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How**

*Click colored text to learn more!

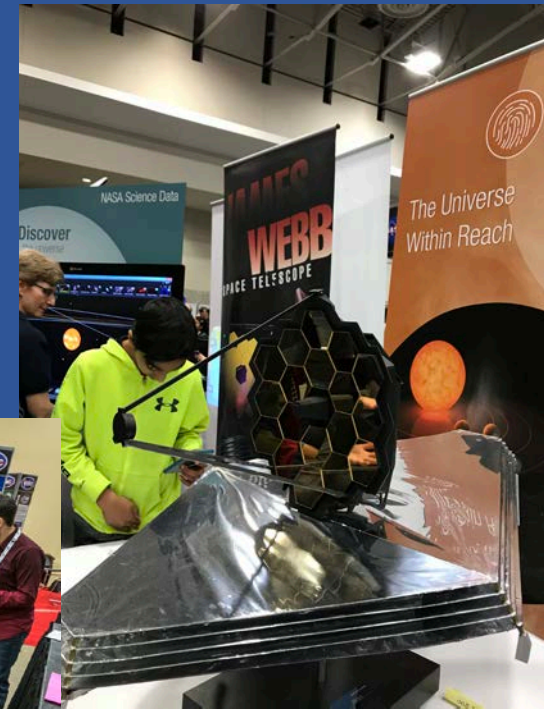


HOW



How do we share Webb's science?

-  *Public events*
-  *News releases*
-  *Infographics*
- 



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Question**



HOW

How do we share Webb's science?

Public events

News releases

Infographics

NASA's Webb Telescope to Make a Splash in the Search for Interstellar Water

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March 09, 2018 10:00AM (EST) Release ID: 2018-14



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[RELEASE IMAGES](#) | [RELEASE VIDEOS](#)

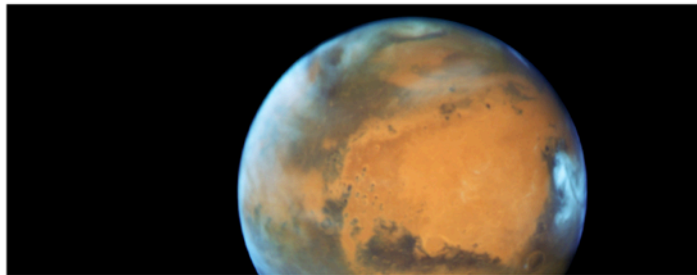
NASA's Webb Telescope will map cosmic ices

Water in the universe floats in vast reservoirs called molecular clouds. It coats the surface of dust grains, turning them into cosmic snowflakes. As stars and planets form, those snowflakes get swept up, delivering key ingredients for life. NASA's James Webb Space Telescope will map water and other molecules to gain new insights into these building blocks for habitable planets.

NASA's James Webb Space Telescope to Reveal Secrets of the Red Planet

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February 20, 2018 10:00AM (EST) Release ID: 2018-10



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Webb will investigate how Mars went from wet to dry

NASA's James Webb Space Telescope Could Potentially Detect the First Stars and Black Holes

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April 25, 2018 10:00AM (EDT) Release ID: 2018-23



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[RELEASE IMAGES](#)

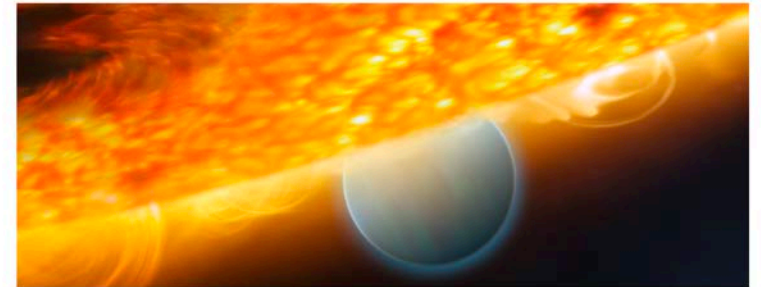
Gravitational lensing by a galaxy cluster could bring the universe into focus for Webb

One of the key science goals of NASA's James Webb Space Telescope is to learn about "first light," the moment when the first stars and galaxies formed. While the first galaxies will be within Webb's reach, individual stars shine so faintly that Webb would not be able to see them. But in special circumstances, the light of a faraway star could be amplified by 10,000 times or more. If Webb monitors several such magnified stars, or possibly the accretion disk of a black hole, it could help scientists understand the properties of the early universe and compare them to our own.

NASA's Webb Space Telescope to Inspect Atmospheres of Gas Giant Exoplanets

[VIEW ALL NEWS RELEASES >](#)

July 11, 2018 10:00AM (EDT) Release ID: 2018-30



ON THIS PAGE

[RELEASE IMAGES](#) | [RELEASE VIDEOS](#)

Webb will train on Jupiter-sized worlds to prepare for smaller super-Earths

Thousands of exoplanets are known to orbit distant stars. Far fewer have had their atmospheres studied. The Webb telescope will bring new capabilities for determining atmospheric compositions, temperatures, and structures. Some of Webb's earliest observations will focus on gas giants, whose puffy atmospheres should be easier to inspect. Lessons learned there will apply to later observations of small, rocky worlds.

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- Infographics*
- Videos*
- All of the above*

Exploring Exoplanets

Most exoplanets can't be seen directly, but astronomers can uncover traits that reveal characteristics of alien worlds.

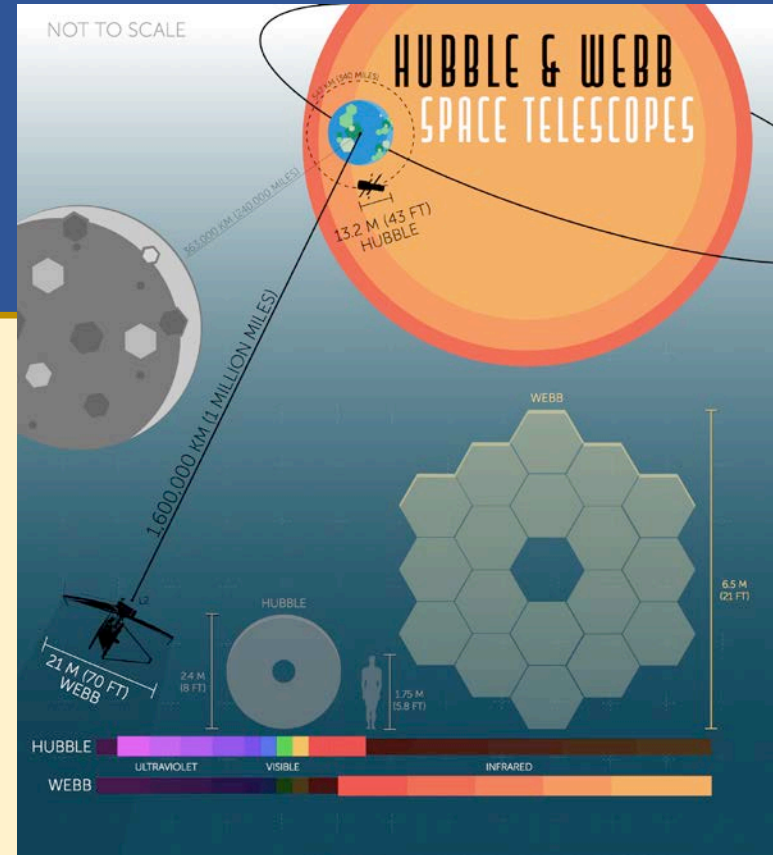
Size, Mass, Density
The size and mass of a planet reveals its density, providing clues to what it's made of—rock, metal, ice, or gas.

Atmosphere
Starlight passing through a planet's atmosphere reveals what the atmosphere is made of and whether it has the ingredients life needs.

Temperature
Partly determined by how far a planet is from its star, temperature indicates the state (liquid, solid, or gas) of materials on a planet.

Orbit
A circular orbit indicates stability, providing relatively even temperatures throughout a planet's 'year,' but orbits that are very close to a star might make planets too hot for life.

Orbits Compared
(all sizes to scale)



Different Kinds of Planets

Some exoplanets resemble those in our own solar system. But others are unfamiliar to us.

Solar System Planets

Earth
Classification: Terrestrial Planet
Size: small
Density: dense (rocky)
Temperature: warm
Orbit: nearly circular, at right distance from the Sun for liquid water to exist.

Jupiter
Classification: Gas Giant
Size: very large
Density: very low (gassy)
Temperature: cool
Orbit: nearly circular, far from the Sun

Neptune
Classification: Ice Giant
Size: large
Density: low (icy/gassy)
Temperature: cold
Orbit: nearly circular, far from the Sun

Pluto
Classification: Dwarf Planet
Size: tiny
Density: dense (rocky/icy)
Temperature: cold
Orbit: elliptical, far from the Sun

Exotic Exoplanets

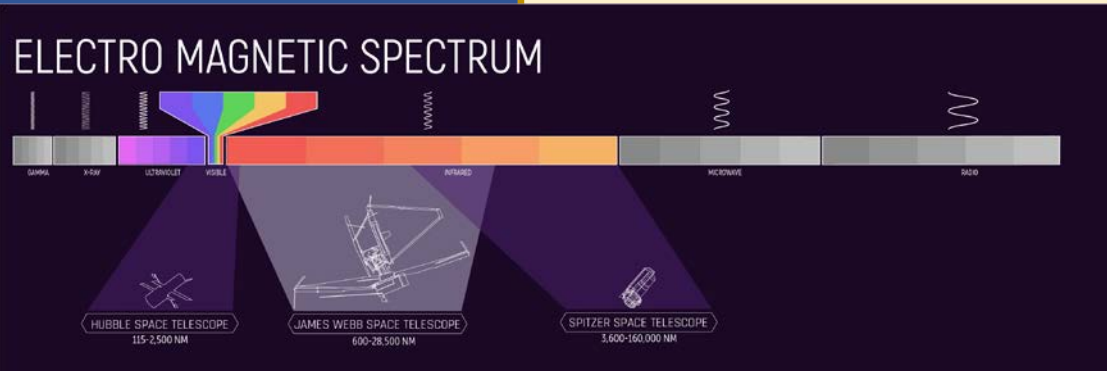
Super-Earth
Size: medium
Density: dense (rocky)
Temperature: cold to hot, depending on distance from its star
Orbit: close or far from star

Hot Jupiter
Size: very large
Density: very low (gassy)
Temperature: hot
Orbit: close to its star

Super-Jupiter
Size: very large
Density: very low (gassy)
Temperature: cold to hot, depending on distance from its star
Orbit: close or far from star

Mini-Neptune
Size: medium
Density: low (gassy/icy)
Temperature: cold to warm
Orbit: close or far from star

Back to Question









HOW

*You can download this video and use it in your own presentations at www.webbtelescope.org/videos/news

How do we share Webb's science?

-  *Public events*
-  *News releases*
-  *Infographics*
-  *Videos*
-  *All of the above*

Animated stories help engage the public in science.

**Back to
Question**



HOW

How do we plan our communications products?

- Begin by detailing the scaffolded messaging we want to communicate*
- b. Choose an audience and a specific message suited for them*
- Tell a story with the narrative*
- Measure the impact however possible*
- Reflect on processes and lessons learned and employ best practices moving forward*
- All of the above*
-








*Click colored text to learn more!



HOW

How can one tell a story with science?

-  *Map the elements of a story to the parts of research*
-  *Choose a character (e.g. a specimen, a scientist, a method)*
-  *Use emotion to engage the user/reader/recipient*
-  *Have fun with it!*
-  *All of the above*

**Back to
How**

*Click colored text to learn more!



HOW

How can I think of a research paper as a story?

- INTRODUCTION = *Story setup and character introductions*
- METHODS = *Plot*
- RESULTS = *Climax*
- CONCLUSIONS = *Conclusions and story wrap-up*
- All of the above

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How**



ACKNOWLEDGMENTS

The NASA James Webb Space Telescope, developed in partnership with the European Space Agency and the Canadian Space Agency, is operated by AURA's Space Telescope Science Institute.



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