

# WEBB'S WONDERS



## SEEING INTO SPACE

NASA's James Webb Space Telescope captured its first set of images over the summer.

**LEXILE:** 1040L (850L alternate reading level)

**SOCIAL STUDIES (NCSS) STANDARD:** Science, Technology, and Society

**COMMON CORE (CCSS) STANDARDS:** RI.6-8.4, RI.6-8.9, SL.6-8.1

### ENGAGE THE READER

Have students look at the images in the article. Ask: What do you see? What can these images tell us about our universe? What curiosities or wonderings do these images spark? (Encourage the class to refer to details in the images while students describe their reactions to the photos.) Take note of the questions students have about the images and record them on the board as a guide for reading.

### QUESTIONS FOR CLOSE READING AND DISCUSSION

- Why is the Webb telescope important? What has the telescope enabled us to discover?
- Webb is capable of taking images that show how the universe looked 13.6 billion years ago. What does that mean? How is it possible to see backward in time?
- Bill Nelson said, "Somewhere, something incredible is waiting to be known." What is he saying about scientific exploration? How can this quote help explain our fascination with space?

### EXTEND LEARNING

Remind the class that the Webb images convey more than information. They also aim to create an experience for the viewer, in order to generate an appreciation for space and the technologies we have built to explore it.

Tell students that NASA has developed another way to experience the otherworldly images captured by the James Webb Space Telescope, through sound. This project can be found [here](#). Scientists, musicians, and members of the blind and visually impaired communities worked to translate the Webb images into sound, by assigning notes to visual data. Have students watch the short videos on the site and listen to the soundtracks. Then start a discussion by asking: In what way do these sounds represent Webb's images? Do you think the experience of hearing the Webb data is the same as seeing it? Explain. What can the sound of Webb's images tell us about space?

### COVER STORY QUIZ + ANSWER KEY

The cover quiz can be found on page 3 of this guide.  
For the Google Forms quiz, click [here](#).

- 1. B** (RI.2) **2. C** (RI.6) **3. A** (RI.1) **4. A** (RI.3) **5. D** (RI.9)  
**6. B** (RI.4) **7. Answers will vary.** (W.8)



## LAUNCH DELAY

NASA called off the launch of its Artemis I moon rocket for the second time in a week.

**LEXILE:** 1010L (850L alternate reading level)

**SOCIAL STUDIES (NCSS) STANDARD:** Science, Technology, and Society

**COMMON CORE (CCSS) STANDARDS:** RI.6-8.1, RI.6-8.3, RI.6-8.8, SL.6-8.1

### BEFORE READING

Open up the topic of this week’s news article—the delayed launch of Artemis I—by pairing it with this week’s debate, “Do We Still Need to Send People into Space?” Have students read the introduction to the debate for a brief description of NASA’s Artemis missions, from the uncrewed Artemis I to future missions that could send astronauts to the moon, and eventually, to Mars. Students might also read the Kid Reporter statements and weigh in on the issue. Then, while they read the article “Launch Delay,” have students note their reactions while keeping the debate in mind.

### DISCUSSION QUESTIONS

- Why is NASA sending an uncrewed rocket toward the moon? Why did NASA cancel the launch of the rocket?
- Why do you think delayed launches are so common?
- Why do you think so many people came to watch the launch? What might the Artemis missions mean to people? Explain. Do you think the Artemis missions are important? Why or why not?



## HOW MUCH THE U.S. RELIES ON AIR CONDITIONING, IN FIVE CHARTS

**SOCIAL STUDIES (NCSS) STANDARD:** People, Places, and Environments

**COMMON CORE (CCSS) STANDARDS:** RI.6-8.6, RI.6-8.8, RI.6-8.9, SL.6-8.1

### BEFORE READING

Have students read the headline and ask: What do you think is the author’s perspective on U.S. air-conditioning use? How can you tell? Why do you think Americans use so much air conditioning?

### DISCUSSION QUESTIONS

- Why are charts a good way to tell this story? Which of the charts in the article do you find most surprising, and why?
- Do you expect U.S. air-conditioning use to increase or decrease in the coming years? Explain.
- Based on your reading of the article, how would you advise someone who often uses air conditioning?

### CLOSING ACTIVITY

The article says its five charts “illustrate the country’s paradoxical reliance on air conditioning.” Ask: Why does the article call our dependence on air conditioning *paradoxical*? Do you agree with this statement? Why or why not? Think of other ways that our everyday behavior affects the environment. Would you describe those behaviors as paradoxical? Explain. What do you think is the main takeaway from this article?

Name \_\_\_\_\_ Date \_\_\_\_\_

Use this week's cover story, "Seeing into Space," to answer the questions below. For questions 1–6, circle the letter next to the best answer. If you need more space to write your response to question 7, you may use the back of this page.

<p><b>1.</b> Which statement best represents the article's central idea?</p> <p><b>A.</b> At the Goddard Space Flight Center, in Maryland, NASA revealed images captured by the James Webb Space Telescope.</p> <p><b>B.</b> The Webb telescope has captured spectacular images from earlier in the universe's history.</p> <p><b>C.</b> The Webb telescope has taken pictures of exoplanets that have never been seen before.</p> <p><b>D.</b> The Webb telescope is the most powerful telescope ever built.</p>	<p><b>4.</b> Why is Webb capable of showing images of the universe as it looked around 13.6 billion years ago?</p> <p><b>A.</b> It took a long time for the light from those planets and stars to travel to Earth.</p> <p><b>B.</b> The universe hasn't changed much since then.</p> <p><b>C.</b> Webb's images are not clear enough to see many of the newer exoplanets.</p> <p><b>D.</b> The Webb telescope is not as powerful as the Hubble telescope.</p>
<p><b>2.</b> Which phrase best states the purpose of the article's opening paragraph?</p> <p><b>A.</b> to explain how the Webb telescope works</p> <p><b>B.</b> to describe NASA's process for planning and funding major projects</p> <p><b>C.</b> to illustrate how long it took to build the Webb telescope, and how it cost more than expected</p> <p><b>D.</b> to argue that building the Webb telescope was a huge waste of time and money</p>	<p><b>5.</b> The chart labeled "Atmosphere Composition" shows</p> <p><b>A.</b> carbon content in the atmosphere of WASP-96 b.</p> <p><b>B.</b> the quality of rocks on WASP-96 b.</p> <p><b>C.</b> the presence of rocks on WASP-96 b.</p> <p><b>D.</b> the presence of water on WASP-96 b.</p>
<p><b>3.</b> One reason that scientists are excited about the exoplanet WASP-96 b is because</p> <p><b>A.</b> it shows conditions that are associated with supporting life.</p> <p><b>B.</b> its existence was uncertain until now.</p> <p><b>C.</b> it may be orbited by other planets.</p> <p><b>D.</b> it is evidence that the universe is at least 13.6 billion years old.</p>	<p><b>6.</b> NASA's Bill Nelson said, "Somewhere, something incredible is waiting to be known." One meaning of his statement is that</p> <p><b>A.</b> scientists will likely discover space aliens like the ones in movies.</p> <p><b>B.</b> there are things in space we have yet to discover.</p> <p><b>C.</b> telescopes even better than Webb will be invented.</p> <p><b>D.</b> telescopes are the most effective way to explore space.</p>

**7.** What excites you most about the Webb telescope, and why?

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