

# Practice Test

## English Language Arts Reading Comprehension

**GRADE 4**

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Student Name

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School Name

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District Name



This is a practice test. Your responses to practice test questions must be recorded on your Practice Test Answer Document.

Mark only one answer for each multiple-choice question. If you are not sure of the answer, choose the answer you think is best.

### **HOW TO ANSWER OPEN-RESPONSE QUESTIONS**

- **READ** the question carefully.
- **PLAN** your answer.
- **FIND** details from the selection to support your answer.

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## DIRECTIONS

This practice test contains one reading selection with two multiple-choice questions and one open-response question. Mark your answers to these questions in the spaces provided on page 7 of your Practice Test Answer Document.

*Have you ever wondered what it would be like to train as an astronaut? Each year, many children have that opportunity when they spend a week at U.S. Space Academy. Read the selection to learn more about their experiences and answer the questions that follow.*

## ULTIMATE Field Trip 5: Blasting Off to Space Academy

*by Susan E. Goodman*

### COUNTDOWN TO ADVENTURE

- 1 WHAT'S THE BEST PART of being an astronaut? Is it the thrill of rocketing out of Earth's atmosphere at 25,000 miles per hour? Is it the chance to make new scientific discoveries? Or is it the adventure of leaving the familiar behind and going, as someone once put it, "where no man has gone before?"
- 2 Few people actually get to answer these questions by traveling into space. But some kids took the first step by going to U.S. Space Academy at the United States Space and Rocket Center in Huntsville, Alabama. For almost a week they used the same simulators<sup>1</sup> that real astronauts use and learned how to walk on the Moon and work without gravity. They built their own rockets and visited the ones scientists used to launch the Apollo astronauts to the Moon. They tried tasting space food and wearing space suits. They learned how to eat in space, sleep in space, even how to go to the bathroom without any gravity.

#### AMAZING SPACE FACT

The last time astronauts walked on the Moon was in 1972, but all of their footprints are still there. Since the Moon does not have an atmosphere, there is no wind to blow the prints away.

<sup>1</sup> *simulators* — machines that allow a person to experience what it is like to fly a plane, travel in space, etc., by using computer technology, film, and movement

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- 3 During their training they became a team, Team Europa, named after one of Jupiter’s seven moons. Then, Europa blasted off on a mission of its own. . . .

### ON THE TRAINING FLOOR

- 4 “EUROPA, THE TRAINING CENTER is a dirt-free zone,” said Paul. “Gum and drinks can create disasters here.”

- 5 Paul, one of Europa’s team leaders, led the kids through a maze of strange-looking machines. As they walked, the kids peeked at other teams jumping high enough to dunk a basketball and spinning in what looked like a giant gyroscope.<sup>2</sup> Paul explained that astronauts trained for years before going into space. It takes lots of practice to learn how to function in such a different environment. On space walks, for example, they must make delicate repairs while floating upside down. In their ships they must learn how to drift rather than walk through the air.

- 6 How do they learn these things while anchored by Earth’s gravity? To find out, Europa tried some of the simulators that astronauts have used.

### THE $\frac{1}{6}$ GRAVITY CHAIR

- 7 “The Moon has only one-sixth of our gravity,” explained Paul. “If you weigh one hundred twenty pounds here, you’d only weigh twenty pounds on



“I felt like I was on a trampoline,” said Lindsay, “but I didn’t go down—just up!”

<sup>2</sup> *gyroscope* — a wheel that spins inside a frame and causes the frame to balance in any position

the Moon. And you'd have to learn to walk differently because there isn't as much traction."

8 To practice this movement, the kids used a  $\frac{1}{6}$  Gravity Chair similar to the Apollo astronauts'. In fact, Europa learned from the astronauts' experiences. The best ways to get around were a slow jog and the bunny hop.

9 John waited impatiently while Paul adjusted the chair to offset five-sixths of his weight.

10 "Bunny hop for me," said Paul.

11 "You've got to be kidding," answered John. "I can barely reach the ground."

12 Soon, however, he was leaping across the training floor.

13 "This looks like good practice for the high jump," said Stephanie.

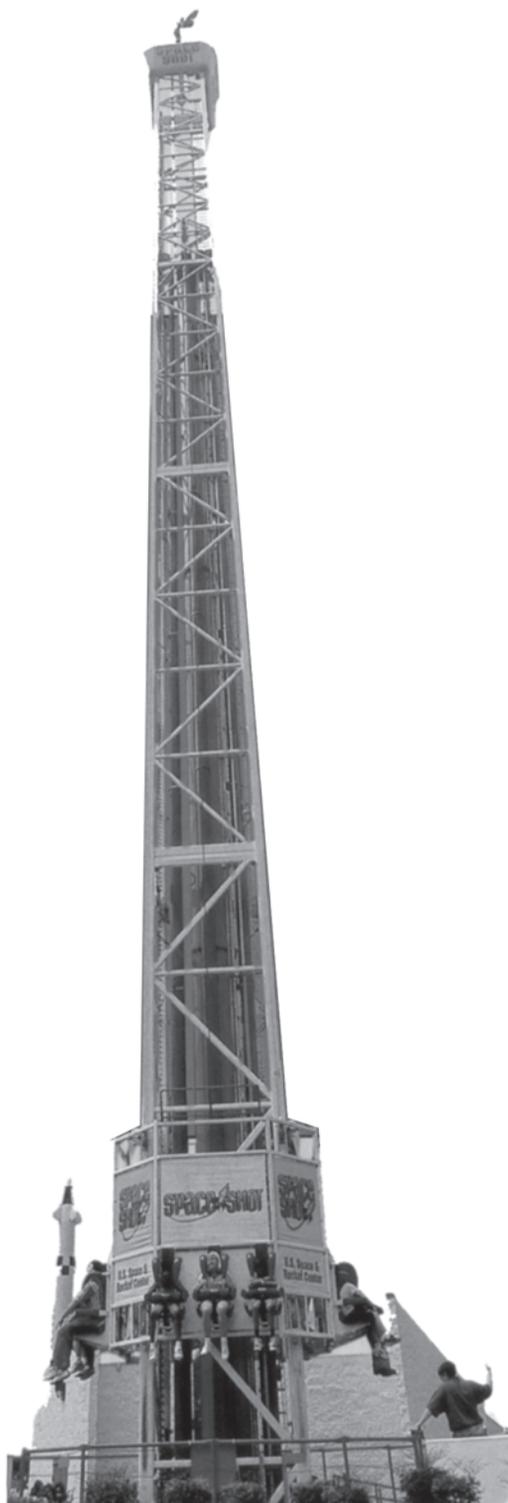
14 "It shouldn't be; you want to jump for distance, not height," said Paul. "Astronaut Charlie Duke of *Apollo 16* tried to set a height record. But his life-support pack changed his center of gravity. He landed on his back and couldn't get up, just like a beetle. If John Young hadn't been around to help him, he could have been stuck there until *Apollo 17!*"

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### SPACE SHOT

15 "This is your last chance to change your mind," said the operator. "Once the generator has been charged, we cannot stop."

16 In just seconds, the kids were blasting off on the Space Shot. They would rocket skyward with a force of 4 Gs, one more than astronauts experience during their launches. All that force



Some people call the Space Shot "an elevator with an attitude."

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meant that, for a few seconds at the top, before gravity pulled them back, the kids could feel what it was like to be weightless.

17 NASA doesn't use the Space Shot to simulate weightlessness; it trains astronauts aboard its KC-135 airplane. The plane climbs sharply and then free-falls straight toward the ground, up again, then down again, and again. For twenty-five seconds, at the top of each roller-coaster ride, the plane's passengers are weightless. But many astronauts have paid a price for this amazing experience. The KC-135 is nicknamed the "Vomit Comet" for good reason.

18 "I wish I hadn't eaten so much breakfast," said Erin S. as she waited for her turn on the Space Shot. "I'm going to scream. It helps you not throw up."

19 Before her second ride, Erin was too excited to feel sick. "I love that feeling of just shooting up there," she said.

20 "Then you rise up out of your chair and float there for a second," said Stacy. "Weightlessness, I wish it lasted a lot longer."

### THE POOL

21 Another way the earthbound astronauts simulate working in weightlessness is by going underwater. At Houston's Lyndon B. Johnson Space Center, astronauts practice in a huge water tank holding a full-scale model of the Shuttle's payload bay. At Space Academy, the kids went to a swimming pool.

22 "Your job is to build a cube underwater as fast as possible," said Bethany. "It takes teamwork, an ability to work in weightlessness, and—something astronauts don't need, I hope—an ability to hold your breath."

23 The water started boiling as kids grabbed struts and dove underwater. It kept boiling as they came up for air again and again, slowly realizing they needed a better plan. . . .

24 "Ten minutes and fifty-six seconds," Bethany said when they finally finished. "Well, every astronaut has to start somewhere. How could you have gone faster?"

25 "Talk more to each other?" said Isabelle.

26 "That's right," Bethany agreed. "Communication, letting your leaders lead, and teamwork. It's true in the pool, and it will be even more important when you work to make your own space mission a real success."

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# Reading Comprehension

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- 1 What is the **most likely** reason the author asks questions in paragraph 1?
- A. to list the training center’s activities
  - B. to highlight the astronaut’s duties
  - C. to describe the selection’s topic
  - D. to grab the reader’s interest
- 2 Which sentence from the selection is an opinion?
- A. “Europa, the training center is a dirt-free zone,” said Paul.
  - B. “The Moon has only one-sixth of our gravity,” explained Paul.
  - C. “This looks like good practice for the high jump,” said Stephanie.
  - D. “Your job is to build a cube underwater as fast as possible,” said Bethany.

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**Question 3 is an open-response question.**

- **Read the question carefully.**
- **Explain your answer.**
- **Add supporting details.**
- **Double-check your work.**

**Write your answer to question 3 in the space provided on page 7 of your Practice Test Answer Document.**

- 3 Based on the selection, explain how the experiences at U.S. Space Academy help kids understand what it is like to be in space. Support your answer with important information from the selection.

**MASSACHUSETTS COMPREHENSIVE ASSESSMENT SYSTEM**

Grade 4 English Language Arts

Practice Test Answer Document

<p>School Name: _____</p> <p>District Name: _____</p> <p>Last Name of Student: _____</p> <p>First Name of Student: _____</p>	<p style="text-align: center;"><b>Marking Instructions</b></p> <ul style="list-style-type: none"><li>• Use a No. 2 pencil only.</li><li>• Do not use ink, ballpoint, or felt tip pens.</li><li>• Make solid marks that fill the circles completely.</li><li>• Erase cleanly any marks you wish to change.</li><li>• Make no stray marks on this form.</li><li>• Do not fold, tear, or mutilate this form.</li></ul>
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