

McGraw-Hill School Education

Grade 5 ELA Performance Task - Living in Space

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Grade 5 Performance Task 1

In this task, you will read and study two sources to learn about the International Space Station. You will answer questions about the information in each source. Then you will use what you have learned to write an essay describing what a day aboard the International Space Station might be like.

First, read the text. Then answer the questions that follow.

The International Space Station



What weighs thousands of pounds yet travels 17,000 miles per hour? It is the International Space Station! The International Space Station is a spacecraft. It is also a community in outer space.

A New Project

For many years, the countries of the world had only their own space programs. Each country competed against each other to be the first to make new discoveries. Each country tried to be better than the others. In 1993, the United States and Russia agreed to work together. They decided to build an area in space where astronauts could live and study for long periods of time. In 1998, the first pieces of the space station were sent into space.

Making It Work

Since that time, other countries have joined Russia and the United States. Canada, Japan, Brazil, and 11 European countries have given money and time to build the space station. It has taken over a decade so far and will take many more years to complete. That's because the space station is being built one or two pieces at a time. The pieces have to be built on Earth and sent into space. Then they are joined to the other pieces. When it is complete, the space station will be the size of an entire football field. That is quite immense!

Studies and Discoveries

You may be wondering why the scientists are building the space station in the first place. Why do they have to study Earth from 220 miles away? The truth is that the astronauts are able to study Earth in ways they never could here at home. In space, the astronauts can study Earth's climate and atmosphere. They can get a better

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idea how pollution affects our world. Some astronauts are even finding cures for diseases.

Everyday Life

Living on the space station is different from anything on Earth. The temperature outside the station can be very cold or very hot. Sometimes the temperature is 250 degrees below zero. Other times it is 250 degrees above zero. When astronauts are working on the outside of the station, they have to wear very special uniforms. Their uniforms are filled with oxygen so the astronauts can breathe while outside. Inside, though, the men and women can wear T-shirts and shorts!

There is very little gravity in space. That means that inside the station, there is no difference between the ceiling and the floor. At night, the astronauts have to strap themselves down to sleep. If they do not, they will float around the spacecraft like clouds float across the sky! They also need to do special exercises to stay strong. When they have free time, they like to take pictures, read, or listen to music.

The Future

The space station still has a long way to go. It will take a lot of time and money to complete. It is an amazing project, though, and has created great partnerships among many countries.

Image of International Space Station courtesy of NASA.

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1. The chart below shows four of the section headings that are used in the text. Complete the chart by writing at least **three** notes related to the most important ideas in each section. Use the information in the text to write your notes. The first section has been done for you.

Section Headings	The Most Important Ideas
A New Project	<ul style="list-style-type: none"> • countries used to have separate space programs • in 1993 US and Russia agreed to work together to build space station • first pieces sent into space in 1998
Making It Work	
Studies and Discoveries	
Everyday Life	

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Grade 5 Performance Task 2

2. Imagine that you have been asked your opinion about the International Space Station. On the lines below, write a paragraph expressing the view that the International Space Station is a worthwhile project. Include at least **three** details from the text to support your answer.

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Grade 5 Performance Task 3

In “The International Space Station,” the author points out that astronauts “need to do special exercises to stay strong.” Now read the text “Keeping Fit in Space” to learn more about keeping fit while traveling in space. Then answer the questions that follow.

Keeping Fit in Space

Imagine you are an astronaut on the International Space Station. You are orbiting about 220 miles above Earth. You are enjoying incredible views. You are doing experiments in space. Best of all, you are weightless! You can float and tumble in mid-air!

However, what looks like so much fun can actually harm your body. It is not the views or the tumbling that do the harm. It is the weightlessness, or “zero gravity.” Over time, this can cause bone loss and muscle loss.

In the past, when astronauts returned to Earth, scientists discovered that their bones had weakened. They would lose about one to two percent of their bone mass each month while in space. Why does this happen? It happens for the same reason it happens to patients who are confined to beds. When our skeletons no longer have to support weight, our bodies stop making new bone cells to replace old ones. This makes bones weak.

Astronauts can also lose muscle quickly in space. That is because they do not get regular exercise. They also do not have to work against the forces of gravity as they move around. On long space flights, they can lose as much as twenty percent of their muscle mass. Muscles also weaken from lack of hard work. This includes the heart muscle. It is very important to keep that muscle strong!

What is the best way for astronauts to keep their bones and muscles strong? They need to get plenty of exercise. Of course, exercising in space is not easy. Astronauts have no body weight to hold them down. They have to use special exercise machines that are adapted for use in space.

A treadmill in space has straps to pull astronauts down the way Earth’s gravity would. The treadmill helps reduce bone loss and gives the heart a workout. A stationary bicycle in space has shoe straps and seat belts to hold astronauts down while they pedal. This workout helps muscles stay strong. Another machine is the weightlifting machine. It uses tension and gears to imitate the weights used in weightlifting exercises. This also helps keep muscles strong.

With regular exercise, astronauts in space can stay healthy. That means they can work in space and enjoy the incredible views for a very long time!

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3. This question has two parts. Answer each part on the lines below.

A. Why is keeping fit in space important? Use at least **three** details from the text in your answer.

B. How does the astronauts' special exercise equipment work in space? Use at least **three** details from the text in your answer.

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Grade 5 Performance Task 4

4. Think about the two sources you have studied in this task. What have you learned about the International Space Station and how astronauts live in this environment? What would it be like to be an astronaut aboard the International Space Station? On a separate sheet of paper, write an essay to describe what a day aboard the International Space Station might be like.

In your essay,

1. Explain how you might spend your time
2. Discuss the challenges you might face
3. Use information from both texts

As you plan, write, and edit your essay, be sure to

- Provide a clear introduction to your essay
- Support your essay with relevant details from both texts
- Organize your ideas logically
- Provide a concluding statement or section
- Check your writing for correct spelling, grammar, capitalization, and punctuation

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