Astronauts Study Earth's Weather From Space

Grade 6 | Science | Nonfiction | Space explorers Theme | ~140 words | NGSS.MS-ESS2-5

Name: _____ **Date:** _____

READ — READ THIS PASSAGE CAREFULLY. YOU MAY READ IT TWICE.

Space explorers aboard the International Space Station have a unique advantage: they can observe Earth's weather and climate patterns from 250 miles above the planet. Astronauts use special cameras and instruments to track hurricanes, monitor temperature changes, and study cloud formations that would be difficult to see from the ground. These observations help scientists understand how weather systems develop and move across continents. By collecting data on atmospheric conditions, space explorers contribute valuable information about climate change and global weather patterns. NASA scientists combine satellite images captured by astronauts with ground-based measurements to create accurate weather predictions and climate models. This partnership between space exploration and Earth science has revolutionized how meteorologists forecast storms and understand long-term climate trends. The data gathered by these space explorers continues to improve our ability to predict dangerous weather events and protect communities worldwide.

Tip: Read the passage twice before turning to the questions on the next page.

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✏ **ANSWER** *USE THE PASSAGE ON PAGE 1 TO HELP FIND YOUR ANSWERS.*

MAIN IDEA

1. What is this passage mostly about?

TEXT EVIDENCE

2. According to the passage, what specific weather systems do space explorers track from the International Space Station?

VOCABULARY

3. What does the word 'atmospheric' mean as it is used in the passage?

INFERENCE

4. Why would accurate weather predictions be important for communities on Earth?

CAUSE AND EFFECT

5. What is one effect of combining satellite images from astronauts with ground-based measurements?

TEXT EVIDENCE

6. How high above Earth is the International Space Station, and what advantage does this height provide?

✓ ANSWER KEY — Astronauts Study Earth's Weather From Space

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TEACHER / PARENT USE ONLY — Suggested answers shown below each question

Space explorers aboard the International Space Station have a unique advantage: they can observe Earth's weather and climate patterns from 250 miles above the planet. Astronauts use special cameras and instruments to track hurricanes, monitor temperature changes, and study cloud formations that would be difficult to see from the ground. These observations help scientists understand how weather systems develop and move across continents. By collecting data on atmospheric conditions, space explorers contribute valuable information about climate change and global weather patterns. NASA scientists combine satellite images captured by astronauts with ground-based measurements to create accurate weather predictions and climate models. This partnership between space exploration and Earth science has revolutionized how meteorologists forecast storms and understand long-term climate trends. The data gathered by these space explorers continues to improve our ability to predict dangerous weather events and protect communities worldwide.

MAIN IDEA

1. What is this passage mostly about?

> The passage is mostly about how astronauts in space use special instruments to observe and study Earth's weather and climate patterns to help scientists on the ground.

TEXT EVIDENCE

2. According to the passage, what specific weather systems do space explorers track from the International Space Station?

> According to the passage, astronauts track hurricanes, monitor temperature changes, and study cloud formations from the International Space Station.

VOCABULARY

3. What does the word 'atmospheric' mean as it is used in the passage?

> Atmospheric refers to the air and gases that surround Earth; in this passage, it describes the conditions in Earth's air that space explorers measure.

INFERENCE

4. Why would accurate weather predictions be important for communities on Earth?

> Accurate weather predictions would help communities prepare for dangerous weather events like storms and hurricanes, which could protect people and property from harm.

CAUSE AND EFFECT

5. What is one effect of combining satellite images from astronauts with ground-based measurements?

> One effect is that scientists can create more accurate weather predictions and climate models that help them better understand Earth's weather patterns.

TEXT EVIDENCE

6. How high above Earth is the International Space Station, and what advantage does this height provide?

> The International Space Station orbits 250 miles above Earth, which gives astronauts a unique advantage to observe weather and climate patterns that would be difficult to see from the ground.