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TEACHING SUSTAINABILITY

Anticipation Guide: Learning About NASA and How They Study Earth

Instructions

Read each statement below and decide if you think it's true or false. Mark your answer, and after learning about NASA @ https://climatekids.nasa.gov/why-earth/, we'll check back to see if your thoughts have changed!

Statement	True	False
1. NASA only studies planets far away and not Earth.	☐	☐
2. NASA has special tools to watch Earth from space.	☐	☐
3. NASA scientists study Earth's weather and climate.	☐	☐
4. NASA can't see things like forests, oceans, or mountains from space.	☐	☐
5. NASA's work helps us understand changes on Earth, like melting ice and rising sea levels.	☐	☐
6. NASA shares information with other countries to help protect Earth.	☐	☐
7. NASA's Earth studies can help us learn how to protect our environment and natural resources.	☐	☐
8. NASA's satellites can help predict natural disasters like hurricanes and wildfires.	☐	☐
9. NASA uses robots and satellites to study Earth and other planets.	☐	☐
10. NASA's work is only important for astronauts and scientists.	☐	☐

After Learning About NASA: Reflection Questions

1. What was one new thing you learned about how NASA studies Earth?

2. Why do you think it's important for NASA to study Earth, not just space?

3. How do you think NASA's work might help us climate change?

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Cloze Test: NASA's Role in Studying Climate Change

Fill in the blanks with the correct words from the information you learned about NASA @ https://climatekids.nasa.gov/why-earth/.

1. NASA is an organization that studies both _____ and _____.
2. NASA uses _____ to collect information about Earth from space.
3. One of NASA's goals is to understand changes in Earth's _____ over time.
4. NASA scientists monitor things like _____ levels, air temperature, and ice _____.
5. By observing Earth, NASA helps scientists understand how _____ change is affecting our planet.
6. NASA shares information with other _____ to help them make decisions about protecting Earth.
7. NASA's satellites can track _____ like hurricanes, fires, and floods.
8. NASA's work helps us understand how _____ _____ (two words) affects the environment.
9. The data NASA collects is useful for predicting _____ patterns and extreme weather events.
10. NASA also studies the impact of rising _____ gases, which trap _____ and warm the planet.

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Answer Key

1. space, Earth
2. satellites
3. climate
4. sea, sheets
5. climate
6. countries
7. disasters
8. climate change
9. weather
10. greenhouse, heat

Anticipation Guide: Why is Climate Change Happening?

Instructions

Read each statement below and mark whether you think it's true or false. After learning more about climate change @ https://climatekids.nasa.gov/why-earth/, we'll revisit these statements to see if your thoughts have changed!

Statement	True	False
1. Climate change happens naturally over thousands of years without human impact.	☐	☐
2. Greenhouse gases, like carbon dioxide, trap heat in Earth's atmosphere.	☐	☐
3. Cutting down large areas of forests can increase the amount of carbon dioxide in the air.	☐	☐
4. Burning fossil fuels, like coal and oil, does not affect Earth's temperature.	☐	☐
5. Human activities are causing climate change to happen faster than in the past.	☐	☐
6. Using more renewable energy sources, like wind or solar power, can help slow down climate change.	☐	☐
7. Ice sheets and glaciers are melting as the planet gets warmer.	☐	☐
8. Climate change only affects temperatures and not other parts of the environment.	☐	☐
9. Everyone, including kids, can make small changes to help reduce climate change.	☐	☐
10. Climate change is a temporary problem that will go away on its own without action.	☐	☐

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After Learning About Climate Change: Reflection Questions

1. What was something new you learned about why climate change is happening?
2. Why do you think people say it's important to take action against climate change now?
3. How can you make small changes to help the environment?

Cloze Test: Understanding Climate Change

Fill in the blanks with the correct words to complete the sentences about climate change (see https://climatekids.nasa.gov/why-earth/)

1. Climate change is the long-term change in Earth's _____ patterns and average _____.
2. One main cause of climate change is the increase in _____ gases like carbon dioxide and methane.
3. Greenhouse gases trap _____ from the Sun, causing Earth's temperature to _____.
4. Human activities like burning _____ _____ (two words), deforestation, and farming release more greenhouse gases.
5. Cutting down trees reduces the amount of _____ that is absorbed from the atmosphere, increasing levels of carbon dioxide.
6. Rising temperatures are causing ice sheets and glaciers to _____.
7. As ice melts, sea levels _____ and can lead to _____ in coastal areas.
8. Extreme _____ events like hurricanes, wildfires, and droughts are becoming more common due to climate change.
9. Renewable energy sources like _____ and _____ power produce little to no greenhouse gases.
10. Taking action now can help reduce the impacts of climate change on _____ and the environment.

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Answer Key

1. weather, temperature
2. greenhouse
3. heat, rise
4. fossil fuels
5. carbon
6. melt
7. rise, flooding
8. weather
9. solar, wind
10. people