



Introduction (10 minutes)

Read the introduction to global warming and its impact on the environment. Answer the following questions:

1. What is global warming, and how does it affect the environment?

2. Why is it essential to understand the impact of global warming on the Great Barrier Reef, rising sea levels, and geological changes?

The Carbon Cycle (20 minutes)

Create a diagram of the carbon cycle, labeling its key components and explaining how human activities affect it.

Foundation Level:

Describe the basic components of the carbon cycle.

Core Level:

Explain how human activities, such as burning fossil fuels, affect the carbon cycle.

Extension Level:

Analyze the role of the carbon cycle in regulating Earth's climate and propose strategies for reducing carbon emissions.

Effects of Global Warming on the Great Barrier Reef (25 minutes)

Research and present on the impact of global warming on the Great Barrier Reef, including coral bleaching and habitat destruction.

Foundation Level:

Describe the basic effects of global warming on the Great Barrier Reef.

Core Level:

Explain the process of coral bleaching and its impact on marine biodiversity.

Extension Level:

Research and present on the economic and social impacts of coral bleaching on communities dependent on the reef.

Rising Sea Levels and Geological Changes (25 minutes)

Describe the effects of rising sea levels on coastal communities and ecosystems, and propose ways to mitigate these effects.

Foundation Level:

Describe the basic effects of rising sea levels on coastal communities.

Core Level:

Explain the causes of rising sea levels and their impact on ecosystems.

Extension Level:

Analyze case studies of coastal cities and their responses to rising sea levels, including innovative engineering solutions and policy changes.

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Mitigation and Adaptation Strategies (25 minutes)

Brainstorm and present on ways to reduce carbon emissions and mitigate the effects of global warming.

Foundation Level:

Describe simple ways to reduce carbon footprint, such as using public transport or recycling.

Core Level:

Explain the importance of renewable energy sources and propose ways to increase their use.

Extension Level:

Research and present on advanced technologies and policies aimed at mitigating global warming, such as carbon capture and storage.

Reflective Journal (15 minutes)

Maintain a reflective journal throughout the lesson, recording thoughts, questions, and insights about global warming and its effects.

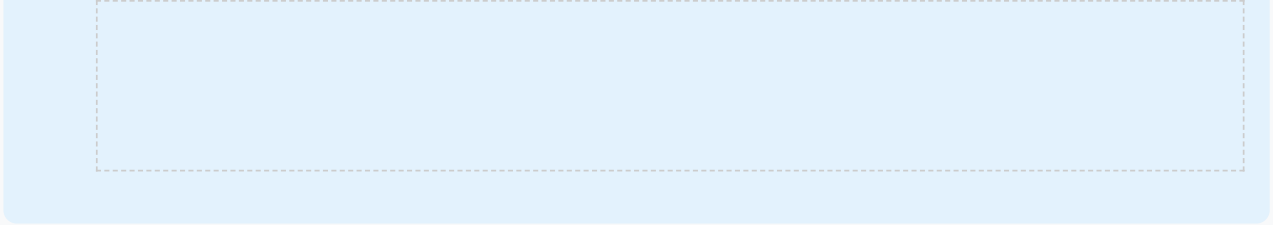
Individual Reflection:

1. What was the most surprising thing you learned today?

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2. How will this learning change your actions in the future?

3. What questions do you still have about global warming and its effects?



Conclusion (10 minutes)

Summarize the key points learned throughout the lesson and propose ways to apply this knowledge in everyday life.

Assessment Criteria

Review the assessment criteria for the lesson and reflect on your own learning.

Foundation Level:

Demonstrates a basic understanding of the carbon cycle and its relation to global warming.

Core Level:

Explains the effects of global warming on the Great Barrier Reef and rising sea levels, and proposes ways to mitigate these effects.

Extension Level:

Analyzes the role of the carbon cycle in regulating Earth's climate, and proposes advanced strategies for reducing carbon emissions and mitigating the effects of global warming.

