



## Introduction to Global Warming

### What is Global Warming?

*Global warming refers to the long-term rise in Earth's average surface temperature, primarily caused by human activities that release greenhouse gases, such as carbon dioxide and methane, into the atmosphere.*

### Activity 1: Matching Game

*Match the following terms with their definitions:*

- Global Warming
- Greenhouse Effect
- Carbon Cycle
- Coral Bleaching

*Definitions:*

- The process by which certain gases in Earth's atmosphere trap heat, leading to the warming of the planet
- The gradual increase in the overall temperature of the Earth's atmosphere, primarily caused by human activities
- The process by which carbon is exchanged between the atmosphere, oceans, land, and living things
- When corals expel their algal symbionts and turn white due to stress, often caused by rising sea temperatures

## The Carbon Cycle and its Importance

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### What is the Carbon Cycle?

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*The carbon cycle is the process by which carbon is exchanged between the atmosphere, oceans, land, and living things.*

### Activity 2: Diagram Completion

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*Complete the diagram of the carbon cycle by filling in the missing components:*

 Carbon Cycle Diagram

## Effects of Global Warming on the Great Barrier Reef

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What are the Effects of Global Warming on the Great Barrier Reef?

*Global warming causes coral bleaching, as warmer waters stress the coral, leading to the expulsion of the algae that live inside the coral's tissue, turning the coral white and often leading to its death.*

Activity 3: Short Answer Question

What are the main effects of global warming on the Great Barrier Reef?

## Rising Sea Levels and Geological Changes

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### What are the Effects of Rising Sea Levels?

*Rising sea levels lead to coastal erosion, flooding, and saltwater intrusion into freshwater sources, threatening the habitats of numerous species and human communities that depend on these ecosystems.*

### Activity 4: Case Study

*Read the case study on the impact of rising sea levels on a coastal community and answer the following questions:*

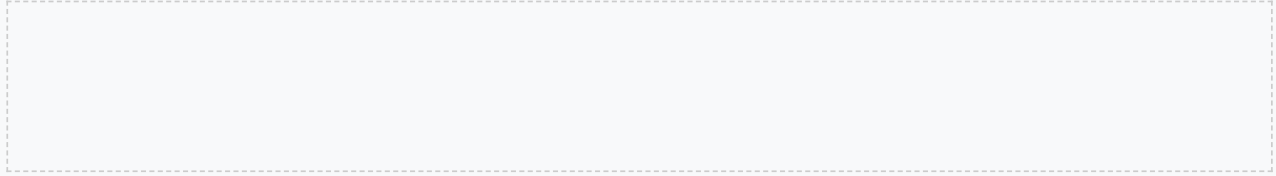
- What are the main effects of rising sea levels on the community?
- What actions can be taken to mitigate these effects?

## Sustainable Practices to Mitigate Global Warming

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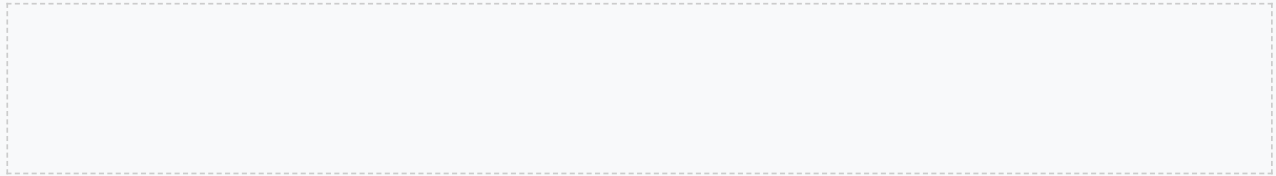
### What are Sustainable Practices to Mitigate Global Warming?

*Individuals can contribute to reducing global warming by adopting sustainable practices, such as using public transport, carpooling, or driving electric vehicles, reducing energy consumption, eating a plant-based diet, and supporting policies that promote renewable energy and conservation.*



### Activity 5: Poster Creation

*Create a poster on sustainable practices to mitigate global warming. Include at least 5 practices and explain how they can help reduce carbon footprints.*



## Activities and Questions

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### Activity 6: Debate

*Debate the following statement: "Rising sea levels pose the most significant threat to coastal communities due to global warming." Prepare arguments for or against the statement and participate in a class debate.*

### Activity 7: Research Project

*Research and create a presentation on a specific aspect of global warming, such as its impact on marine life or the effectiveness of renewable energy sources.*

## Case Study: The Great Barrier Reef

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### What is the Great Barrier Reef?

*The Great Barrier Reef is one of the most biologically diverse ecosystems on the planet, providing habitat for thousands of species of fish, coral, and other marine life.*

### Activity 8: Reflection

*Reflect on what you have learned about the Great Barrier Reef and global warming. What actions can you take to help mitigate the effects of global warming on the reef?*

## Conclusion

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*In conclusion, global warming is a complex and multifaceted issue that requires immediate attention and action. By understanding the carbon cycle, the effects of global warming on the Great Barrier Reef, and the importance of sustainable practices, we can work towards reducing our carbon footprint and mitigating the impacts of global warming.*



## Glossary

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- *Global Warming: The gradual increase in the overall temperature of the Earth's atmosphere, primarily caused by human activities*
- *Greenhouse Effect: The process by which certain gases in Earth's atmosphere trap heat, leading to the warming of the planet*
- *Carbon Cycle: The process by which carbon is exchanged between the atmosphere, oceans, land, and living things*
- *Coral Bleaching: When corals expel their algal symbionts and turn white due to stress, often caused by rising sea temperatures*

