



## Understanding Global Warming: A Homework Sheet for 11-14 Year Olds

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**Student Name:** \_\_\_\_\_


**Class:** \_\_\_\_\_

**Due Date:** \_\_\_\_\_

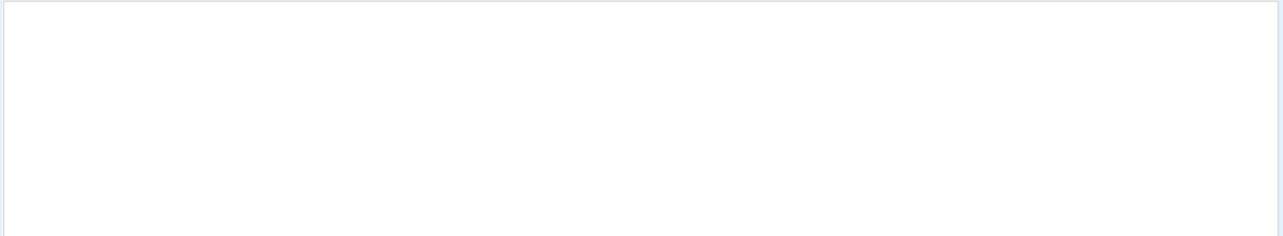
Welcome to this homework sheet on understanding global warming! By the end of this activity, you will be able to:

- Describe the main components of the carbon cycle
- Explain how global warming affects the Great Barrier Reef
- Discuss the consequences of rising sea levels and geological changes

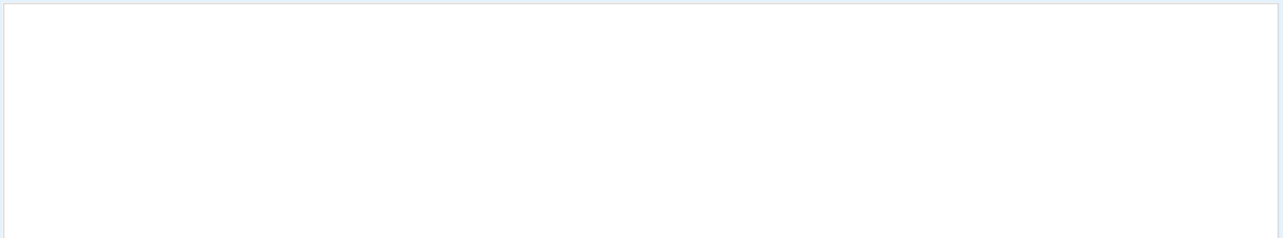
**Foundation Level:** What is global warming? Write a short paragraph explaining what you know about the topic.



**Core Level:** Research and write a short essay on the causes and effects of global warming.



**Extension Level:** Design a poster or infographic about the impact of global warming on the environment.



## The Carbon Cycle

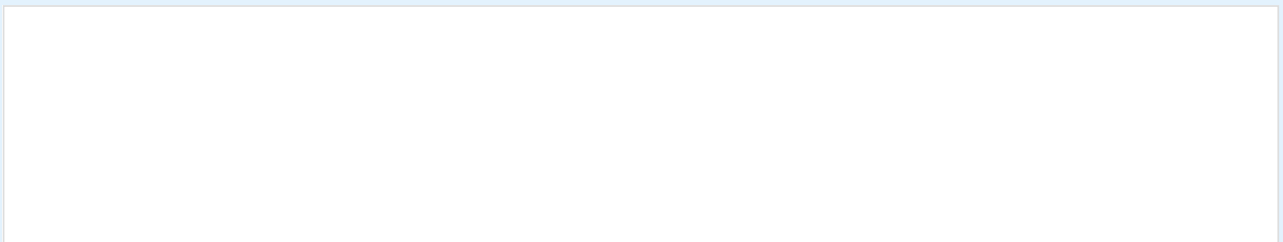
The carbon cycle is the process by which carbon is exchanged between the atmosphere, oceans, land, and living things.

**Foundation Level:** Match the following words to their definitions:

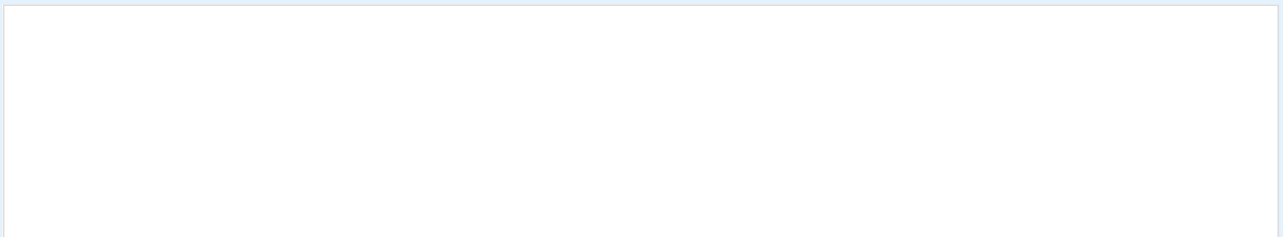
- Atmosphere
- Oceans
- Land
- Living things



**Core Level:** Draw a diagram of the carbon cycle and label its key components.



**Extension Level:** Research and write a short report on how human activities disrupt the carbon cycle.



## The Great Barrier Reef

The Great Barrier Reef is one of the most biodiverse ecosystems on the planet, but it is severely impacted by global warming.

**Foundation Level:** What is coral bleaching? Write a short paragraph explaining what you know about the topic.

**Core Level:** Research and write a short essay on the effects of global warming on the Great Barrier Reef.

**Extension Level:** Design a conservation plan for the Great Barrier Reef, including strategies for reducing the impact of global warming.

## Rising Sea Levels

Rising sea levels are a consequence of global warming, caused by the melting of glaciers and ice caps, and the thermal expansion of seawater.

**Foundation Level:** What is the difference between a glacier and an ice cap? Write a short paragraph explaining what you know about the topic.

**Core Level:** Research and write a short essay on the consequences of rising sea levels for coastal communities.

**Extension Level:** Design a model of a coastal town and simulate the effects of rising sea levels.

## Geological Changes

Global warming induces various geological changes, including more frequent natural disasters like hurricanes, droughts, and wildfires.

**Foundation Level:** What is a natural disaster? Write a short paragraph explaining what you know about the topic.

**Core Level:** Research and write a short essay on the geological changes caused by global warming.

**Extension Level:** Design a plan for mitigating the effects of a natural disaster in your local community.

## Case Study

Choose a case study of a region affected by climate change and research its specific challenges and responses.

**Foundation Level:** Describe the effects of climate change on the region.

**Core Level:** Analyze the social, economic, and environmental impacts of climate change on the region.

**Extension Level:** Evaluate the effectiveness of adaptation and mitigation strategies in the region and suggest improvements.

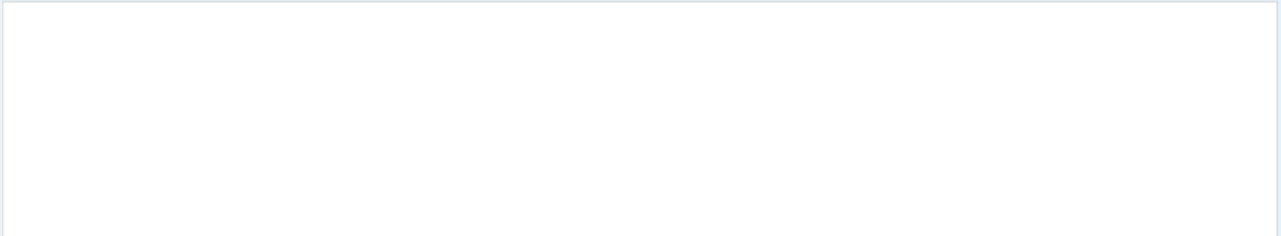
## Climate Change Solutions

Design, propose, and potentially implement a solution to a climate change-related problem, either locally or globally.

**Foundation Level:** Brainstorm ideas for addressing a climate change issue.

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**Core Level:** Develop a detailed plan for a climate change solution, including its potential impact and feasibility.

A large, empty rectangular text box with a thin grey border, intended for developing a detailed plan for a climate change solution, including its potential impact and feasibility.

**Extension Level:** Present the solution to a panel (potentially including local stakeholders or experts) and incorporate feedback for refinement.

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## Reflection

Reflect on what you have learned about global warming and its effects.

**Foundation Level:** Write a short paragraph reflecting on what you have learned.

**Core Level:** Write a short essay reflecting on what you have learned and what you can do to help mitigate the effects of global warming.

**Extension Level:** Design a reflective journal or diary entry on what you have learned and how you plan to apply it in your daily life.

## Quiz

Test your knowledge of global warming and its effects with this short quiz.

1. What is the main cause of global warming?

- a) Burning fossil fuels
- b) Deforestation
- c) Industrial processes
- d) All of the above

2. What is the effect of global warming on the Great Barrier Reef?

- a) Coral bleaching
- b) Increased biodiversity
- c) Improved water quality
- d) None of the above

3. What is the consequence of rising sea levels?

- a) Increased risk of flooding
- b) Decreased risk of flooding
- c) No impact on flooding
- d) None of the above

## Conclusion

Congratulations on completing this homework sheet on understanding global warming! Remember that global warming is a pressing issue that requires immediate attention and action. By understanding the causes and effects of global warming, we can work together to mitigate its impacts and create a more sustainable future.

### Assessment Criteria:

- Completion of all activities and questions
- Depth of understanding and analysis
- Quality of written work and presentations
- Participation and engagement in activities

**Note:** Please ensure that all activities and questions are completed to the best of your ability. This homework sheet is designed to be fun and engaging, while also assessing your understanding of the topic. Good luck!