**Climate Change**

Climate change\*\* is a long-term shift in ……………………………patterns and average temperatures on Earth. While the Earth’s climate has naturally fluctuated throughout history, scientists now agree ……………………..human activities are significantly accelerating the process. The primary cause of modern climate change is the ……………………….of \*\*greenhouse gases\*\* into the atmosphere. These gases, particularly carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O), trap heat and cause the Earth's …………………………. temperature to rise, a phenomenon known as the \*\*greenhouse effect\*\*.

The consequences of climate change are far-reaching and include rising sea…………………………., more frequent and severe weather events ………………….hurricanes and droughts, and disruptions to ecosystems. Melting polar ice caps and glaciers contribute ……………………..rising sea levels, which pose a serious threat to coastal cities and low-lying countries. In ………………………….to environmental changes, climate change also affects agriculture, water resources, and human health.

To mitigate climate change, many countries are transitioning to \*\*renewable energy sources\*\* ………………………as wind, solar, and geothermal power. These sources produce …………………………or no greenhouse gas emissions. Reducing the use of fossil fuels, increasing energy efficiency, and protecting forests—vital carbon sinks—are other crucial strategies. International agreements, such as the \*\*Paris Agreement\*\*, aim to unite countries in the effort to …………………………global temperature rise to below 2°C above pre-industrial levels, with an aspiration to limit the ………………………to 1.5°C.

The challenge of addressing ……………………..change is immense, but it is not insurmountable. With coordinated global action, technological innovations, and changes …………………..behavior, humanity can significantly reduce its carbon footprint and …………………….the progress of climate change.

Exercises:

1. \*\*Vocabulary Matching:\*\*

Match the words on the left with their correct definitions on the right.

| \*\*Word\*\* | \*\*Definition\*\* |

|------------------------|---------------------------------------------------------------|

| 1. Greenhouse gases | A. The average temperature of Earth rising due to trapped heat |

| 2. Greenhouse effect | B. Gases that trap heat in the Earth’s atmosphere |

| 3. Renewable energy | C. Energy sources that don’t deplete over time or harm the environment |

| 4. Paris Agreement | D. A global pact to limit global warming and address climate change |

| 5. Fossil fuels | E. Non-renewable energy sources derived from ancient plants and animals |

2. \*\*True or False:\*\*

Read the statements below and decide if they are true or false based on the text.

1. The greenhouse effect only exists because of human activity.

2. Rising sea levels are caused by melting glaciers and ice caps.

3. Climate change affects agriculture, but not human health.

4. The Paris Agreement’s goal is to limit global temperature rise to 2°C above pre-industrial levels.

5. Renewable energy sources include coal, oil, and natural gas.

3. \*\*Fill in the Gaps:\*\*

Complete the sentences with the correct words from the text.

1. The main cause of modern climate change is the release of \_\_\_\_\_\_\_\_ gases into the atmosphere.

2. Melting polar ice caps are contributing to the rise in \_\_\_\_\_\_\_\_ levels.

3. To limit global warming, countries are working together under the \_\_\_\_\_\_\_\_ Agreement.

4. \_\_\_\_\_\_\_\_ energy sources like wind and solar power help reduce greenhouse gas emissions.

5. Climate change leads to disruptions in agriculture, water resources, and \_\_\_\_\_\_\_\_ health.

#### 4. \*\*Short Answer Questions:\*\*

1. What is the greenhouse effect, and how does it contribute to climate change?

2. How can renewable energy sources help in the fight against climate change?

3. What is the Paris Agreement, and why is it important in addressing climate change?

### Answers:

#### 1. \*\*Vocabulary Matching:\*\*

| \*\*Word\*\* | \*\*Definition\*\* |

|------------------------|---------------------------------------------------------------|

| 1. Greenhouse gases | B. Gases that trap heat in the Earth’s atmosphere |

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#### 2. \*\*True or False:\*\*

1. False

2. True

3. False

4. True

5. False

#### 3. \*\*Fill in the Gaps:\*\*

1. \*\*greenhouse\*\*

2. \*\*sea\*\*

3. \*\*Paris\*\*

4. \*\*Renewable\*\*

5. \*\*human\*\*

#### 4. \*\*Short Answer Questions:\*\*

1. The \*\*greenhouse effect\*\* occurs when certain gases in the atmosphere (like carbon dioxide) trap heat from the sun. While it is a natural process that helps keep Earth warm enough to support life, excessive amounts of greenhouse gases from human activities are intensifying the effect, leading to higher global temperatures and climate change.

2. \*\*Renewable energy\*\* sources, such as wind and solar power, produce little to no greenhouse gas emissions, helping reduce the buildup of harmful gases in the atmosphere. By replacing fossil fuels, renewable energy helps slow down the rate of climate change.

3. The \*\*Paris Agreement\*\* is an international treaty signed by many countries to limit global temperature rise and reduce the impacts of climate change. It aims to keep global warming below 2°C, ideally 1.5°C, compared to pre-industrial levels, to prevent catastrophic climate impacts. The agreement encourages countries to take action to reduce their greenhouse gas emissions and work together on climate solutions.

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This set of exercises is more complex, providing deeper insights into climate change and challenging 9th-grade students to engage critically with the topic. Let me know if you need further adjustments!