

Quiz: Climate Change

Topic: climate change

Questions: 5

Difficulty: Medium

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Question 1

Which of the following is the MOST significant contributor to the enhanced greenhouse effect and subsequent global warming?

- A) Increased volcanic activity releasing sulfur dioxide.
- B) Deforestation reducing the planet's capacity to absorb carbon dioxide.
- C) Natural variations in the Earth's orbit around the sun.
- D) The release of chlorofluorocarbons (CFCs) from refrigeration and aerosols.

Question 2

A coastal community is experiencing increased flooding due to rising sea levels. Which of the following adaptation strategies would be the MOST effective in the long term?

- A) Building higher seawalls to protect existing infrastructure.
- B) Regularly dredging channels to improve water flow.
- C) Relocating vulnerable infrastructure and populations to higher ground.
- D) Implementing temporary flood barriers during storm events.

Question 3

Which of the following policy approaches is MOST likely to effectively reduce carbon emissions from the transportation sector?

- A) Providing subsidies for the purchase of large, fuel-inefficient vehicles.
- B) Investing in public transportation infrastructure and promoting electric vehicle adoption.
- C) Lowering fuel taxes to make driving more affordable.
- D) Relaxing emission standards for gasoline-powered vehicles.

Question 4

Which of the following is a positive feedback loop associated with climate change?

- A) Increased plant growth due to higher CO₂ levels, leading to more CO₂ absorption.
- B) Melting permafrost releasing methane, a potent greenhouse gas, further warming the planet.
- C) Increased cloud cover reflecting more sunlight back into space, cooling the planet.
- D) Ocean acidification leading to increased carbon sequestration by marine organisms.

Question 5

What is the primary goal of the Paris Agreement?

- A)** To immediately eliminate all fossil fuel use worldwide.
- B)** To establish legally binding carbon emission reduction targets for all countries.
- C)** To limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.
- D)** To provide financial assistance to developing countries for adaptation measures only.

Answer Key

1. Answer: B

Explanation: While volcanic activity and CFCs contribute, deforestation's impact on carbon sequestration is a major factor. Orbital variations are a natural process, but the current warming trend is happening at a much faster rate than can be explained by these variations.

2. Answer: C

Explanation: While seawalls and temporary barriers offer short-term protection, relocation addresses the root cause of the problem and provides a more sustainable solution in the face of continued sea level rise. Dredging has limited impact on sea level rise.

3. Answer: B

Explanation: Investing in public transportation and promoting electric vehicles directly reduces reliance on fossil fuels and lowers emissions. The other options would likely increase emissions.

4. Answer: B

Explanation: A positive feedback loop amplifies the initial change. Melting permafrost releasing methane leads to further warming, which in turn melts more permafrost. The other options describe negative feedback loops or processes that mitigate climate change.

5. Answer: C

Explanation: The Paris Agreement aims to limit global warming to a specific target. While it encourages emission reductions, it doesn't mandate legally binding targets for all countries. It also addresses both mitigation and adaptation.