

Climate Change Fundamentals

Climate Change · Answer Key · 8 Questions

1. Which of the following gases is the most significant contributor to the enhanced greenhouse effect due to human activities?

- A) Methane (CH₄)
- B) Nitrous oxide (N₂O)
- C) Carbon dioxide (CO₂)**
- D) Ozone (O₃)

2. The Intergovernmental Panel on Climate Change (IPCC) is a leading international body for assessing what?

- A) Economic impacts of climate change
- B) Climate change science**
- C) Renewable energy technologies
- D) Ocean acidification research

3. What is the primary cause of the observed increase in global average temperatures since the mid-20th century?

- A) Natural variations in solar activity
- B) Volcanic eruptions
- C) Human-caused emissions of greenhouse gases**
- D) Changes in ocean currents

4. Which of these phenomena is a direct consequence of rising global temperatures leading to a reduction in Earth's reflective surface?

- A) Increased cloud cover
- B) Decreased sea ice extent**
- C) More stable weather patterns
- D) Expansion of polar ice sheets

5. The 'Paris Agreement' is an international treaty adopted in 2015 with the goal of limiting global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. What is the primary mechanism it relies on?

- A) Global carbon tax implementation
- B) Mandatory geoengineering projects
- C) National Determined Contributions (NDCs) from signatory countries**
- D) Formation of a global climate police force

6. Ocean acidification, a significant impact of increased atmospheric CO₂, is primarily caused by the absorption of CO₂ by seawater, which leads to a decrease in:

- A) Salinity
- B) Temperature
- C) pH**
- D) Oxygen levels

7. Which of the following is a major source of anthropogenic methane emissions?

- A) Burning of fossil fuels for electricity
- B) Industrial manufacturing processes
- C) Deforestation and land-use change
- D) Livestock farming and natural gas leakage**

8. The term 'climate feedback loop' refers to processes that can amplify or dampen the effects of climate change. Which of the following is an example of a positive feedback loop?

- A) Increased cloud cover reflecting sunlight
- B) Melting Arctic permafrost releasing methane**
- C) Increased plant growth absorbing CO₂
- D) Ocean absorbing more heat