

Understanding Climate Change Basics

Climate Change · Answer Key · 20 Questions

1. What is the primary cause of the current, rapid climate change?

- A) Natural variations in Earth's orbit
- B) Volcanic eruptions releasing ash
- C) Increased greenhouse gas emissions from human activities**
- D) Changes in solar radiation intensity

2. Which gas is the most abundant greenhouse gas in Earth's atmosphere?

- A) Carbon dioxide (CO₂)
- B) Methane (CH₄)
- C) Nitrous oxide (N₂O)
- D) Water vapor (H₂O)**

3. What is the term for the long-term heating of Earth's climate system observed since the pre-industrial period (between 1850 and 1900) due to human activities?

- A) Climate oscillation
- B) Global warming**
- C) Weather fluctuation
- D) Atmospheric cooling

4. Melting glaciers and ice sheets contribute to which of the following?

- A) Decreased sea levels
- B) Increased global temperatures
- C) Rising sea levels**
- D) More predictable weather patterns

5. Which human activity is a major source of carbon dioxide (CO₂) emissions?

- A) Recycling plastic
- B) Planting trees
- C) Burning fossil fuels (coal, oil, natural gas)**
- D) Using solar power

6. What is the 'greenhouse effect'?

- A) A process that cools the planet
- B) The trapping of heat by gases in Earth's atmosphere**
- C) A natural phenomenon that causes ice ages
- D) The reflection of sunlight back into space

7. Which of the following is a consequence of climate change?

- A) Decreased frequency of extreme weather events
- B) More stable ocean currents
- C) Increased frequency and intensity of extreme weather events**
- D) Expansion of polar ice caps

8. What is the main component of the air that acts as a greenhouse gas, whose concentration is increasing due to human activities?

- A) Oxygen
- B) Nitrogen
- C) Carbon dioxide**
- D) Argon

9. Which international body provides scientific assessments on climate change?

- A) The World Health Organization (WHO)
- B) The International Monetary Fund (IMF)
- C) The Intergovernmental Panel on Climate Change (IPCC)**
- D) The United Nations Educational, Scientific and Cultural Organization (UNESCO)

10. Ocean acidification is a direct result of increased absorption of which gas by the oceans?

- A) Oxygen
- B) Nitrogen
- C) Methane
- D) Carbon dioxide**

11. Deforestation contributes to climate change primarily by:

- A) Increasing the amount of oxygen in the atmosphere
- B) Reducing the amount of carbon dioxide absorbed from the atmosphere**
- C) Cooling the planet by removing shade
- D) Increasing rainfall in affected areas

12. Which of these is a renewable energy source that can help reduce greenhouse gas emissions?

- A) Coal
- B) Natural gas
- C) Solar power**
- D) Petrol

13. The average temperature of the Earth's surface has been observed to be increasing. This is a key indicator of:

- A) Natural climate cycles
- B) Global warming**
- C) Short-term weather variations
- D) Volcanic activity

14. Which of the following is a common consequence of rising sea levels?

- A) Increased freshwater availability
- B) Coastal erosion and flooding**
- C) Expansion of coral reefs
- D) Reduction in storm intensity

15. Which industrial process is a significant source of methane (CH₄) emissions?

- A) Manufacturing paper
- B) Livestock farming and waste management**
- C) Producing electricity from wind
- D) Operating wind turbines

16. The increase in atmospheric carbon dioxide is primarily linked to:

- A) The natural decay of organic matter
- B) Volcanic eruptions
- C) The burning of fossil fuels and deforestation**
- D) The oceans absorbing too much oxygen

17. What does the term 'climate' refer to?

- A) The weather on a specific day
- B) The average weather conditions over a long period in a region**
- C) The temperature of a single city
- D) The amount of rainfall in a season

18. Permafrost, a layer of soil that remains frozen year-round, is thawing due to warming temperatures. This thawing can release large amounts of what greenhouse gas?

- A) Oxygen
- B) Nitrous oxide
- C) Methane**
- D) Carbon monoxide

19. Which country is a major contributor to global greenhouse gas emissions due to its large population and industrial activity?

- A) Brazil
- B) Canada
- C) China**
- D) Argentina

20. What is the primary goal of international climate agreements like the Paris Agreement?

- A) To increase fossil fuel production
- B) To limit global warming to well below 2 degrees Celsius, preferably to 1.5 degrees Celsius, compared to pre-industrial levels**
- C) To encourage deforestation
- D) To promote the use of single-use plastics