Scientific Facts of Climate Change

Climate Change · Answer Key · 10 Questions

1. Which greenhouse gas has a Global Warming Potential (GWP) roughly 28 to 36 times higher than carbon dioxide over a 100-year timescale?

A) Methane
B) Nitrous oxide
C) Water vapour
D) Ozone

2. What term describes the measure of surface reflectivity, which decreases as dark ocean water replaces melting Arctic ice?

A) Emissivity
B) Radiative forcing
C) Albedo
D) Insolation

3. What chemical compound is produced when atmospheric carbon dioxide dissolves into ocean water, causing ocean acidification?

A) Sulfuric acid
B) Carbonic acid
C) Nitric acid
D) Hydrochloric acid

4. At which observatory has atmospheric carbon dioxide been continuously measured since 1958, producing the famous Keeling Curve?

A) Mauna Loa Observatory
B) Cape Grim Baseline Air Monitoring Station
C) Jungfraujoch Station
D) Samoa Observatory

5. Approximately what was the pre-industrial concentration of atmospheric carbon dioxide before large-scale fossil fuel usage began?

A) 180 ppm
B) 280 ppm
C) 380 ppm
D) 480 ppm

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6. Which two international organizations established the Intergovernmental Panel on Climate Change (IPCC) in 1988?

A) UNEP and WMO
B) UNESCO and WHO
C) FAO and UNDP
D) IMF and World Bank

7. Which Milankovitch cycle refers to the change in the shape of Earth's orbit around the Sun over a cycle of roughly 100,000 years?

A) Obliquity
B) Precession
C) Axial tilt
D) Eccentricity

8. According to IPCC reports, approximately how much of the excess heat trapped in the Earth system by greenhouse gases has been absorbed by the oceans?

A) 30%
B) 50%
C) 70%
D) 90%

9. When organic matter trapped in anaerobic permafrost thaws and decomposes, which potent greenhouse gas is primarily released alongside carbon dioxide?

A) Methane
B) Sulfur hexafluoride
C) Chlorofluorocarbons
D) Nitrous oxide

10. Besides melting land ice, what is the other major driver of global mean sea-level rise caused by climate change?

A) Increased river runoff
B) Thermal expansion of seawater
C) Undersea volcanic activity
D) Decreased ocean evaporation

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