

QUIZ 1 - FUNDAMENTALS OF CLIMATE CHANGE SCIENCE



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Instructions

Below are 10 multiple-choice questions related to fundamental concepts of climate change. Choose the correct answer for each question.

1. What is the primary source of energy for processes occurring on Earth's surface?

- a) The Earth's internal system
- b) Geothermal energy from inside the Earth
- c) Solar radiation
- d) Physical activity of organisms

2. What happens when Earth's energy balance is positive?

- a) Earth's surface temperature decreases
- b) The planet warms up
- c) Temperature remains constant
- d) The amount of greenhouse gases decreases

3. What phenomenon describes the Earth's surface's ability to reflect solar radiation?

- a) Greenhouse effect
- b) Energy balance
- c) Tipping point
- d) Albedo

4. Which of the following greenhouse gases is the most powerful in terms of energy retention capacity?

- a) Carbon dioxide (CO₂)
- b) Water vapor
- c) Methane (CH₄)
- d) Nitrogen

5. What is the main consequence of the increase in greenhouse gases in the atmosphere?

- a) A decrease in Earth's average temperature
- b) A reduction in absorbed solar radiation
- c) Retention of more energy on Earth
- d) Increase in Earth's surface albedo

6. What is a consequence of glacier and ice sheet melting?

- a) Reduction in absorbed solar energy
- b) Increase in high albedo surfaces
- c) Increase in reflected solar radiation
- d) Increase in absorbed solar energy

7. Which parameter determines how much solar radiation is reflected by various surfaces on Earth?

- a) Energy balance
- b) Greenhouse effect
- c) Albedo
- d) Tipping point

8. What occurs when too many greenhouse gases accumulate in the atmosphere?

- a) Increase in Earth's albedo
- b) Cooling of Earth's surface
- c) Excessive retention of solar energy
- d) Dispersion of energy outside the atmosphere

9. What is an example of a tipping point in Earth's climate system?

- a) Increase in greenhouse gases
- b) Melting of the Arctic ice sheets
- c) Increase in Earth's surface albedo
- d) Energy balance of the Earth

10. What phenomenon helps maintain Earth's temperature at a level optimal for life?

- a) Increase in albedo
- b) Greenhouse effect
- c) Reduction in greenhouse gases
- d) Tipping point