

Name: _____ Date: _____

Dissecting the Triple Bottom Line: 11th Grade Sustainability Quiz

Students synthesize systems thinking and lifecycle analysis across 10 complex scenarios to evaluate global resource management and intergenerational equity.

1. Which framework assesses the environmental impact of a product from raw material extraction through disposal, often used in corporate sustainability auditing?

- A. Net-Zero Arbitrage
- B. Life Cycle Assessment (LCA)
- C. The Kuznets Curve
- D. Biomimicry Feedback Loops

2. The 'Precautionary Principle' suggests that if an action has a suspected risk of causing harm to the public or the environment, the burden of proof that it is NOT harmful falls on those taking the action.

- A. True
- B. False

3. In the context of the Tragedy of the Commons, which economic instrument is designed to internalize the costs of pollution by putting a direct price on emissions?

- A. Carbon Sequestration
- B. Subsidized Exploitation
- C. Pigouvian Tax
- D. Dividend Reinvestment

4. How does 'Cradle-to-Cradle' design differ from traditional 'Cradle-to-Grave' manufacturing models?

- A. It prioritizes downcycling materials into lower-quality products.
- B. It eliminates the concept of waste by designing products for infinite closed-loop cycles.
- C. It focuses solely on the carbon footprint of transportation.
- D. It legalizes the release of non-toxic effluents into local watersheds.

5. What term describes the maximum population size of a species that an environment can sustain indefinitely without degrading the natural resource base?

- A. Exponential Ceiling
- B. Trophic Efficiency
- C. Carrying Capacity
- D. Ecological Overshoot

6. The 'Rebound Effect' (Jevons Paradox) occurs when an increase in efficiency leads to an overall increase in resource consumption rather than a decrease.

- A. True
- B. False

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7. Which of these strategies best exemplifies the intersection of 'Social Equity' and 'Environmental Sustainability' in urban planning?

- A. Constructing gated communities with high-efficiency HVAC systems.
- B. Expanding Transit-Oriented Development (TOD) with affordable housing units.
- C. Implementing a flat tax on all electricity consumers regardless of income.
- D. Outsourcing waste management to developing nations to lower local taxes.

8. When a company spends more time and money on marketing itself as environmentally friendly than on actually minimizing its environmental impact, this practice is known as _____.

- A. Eco-arbitrage
- B. Greenwashing
- C. Blue-sky thinking
- D. Virtue signaling

9. The concept of 'Intergenerational Equity' suggests that the current generation has a moral obligation to leave the planet in a state that is at least as productive as they inherited it.

- A. True
- B. False

10. In the context of the UN Sustainable Development Goals (SDGs), what is considered a 'wicked problem' in environmental science?

- A. A problem with a single, clear technical solution.
- B. A challenge that is easily solved through local legislation.
- C. A complex issue with contradictory requirements and shifting social dynamics.
- D. A localized incident of soil contamination that is easily remediated.