

Name: _____ Date: _____

Answer Key: Old Habits vs. New Horizons: Sustainability Quiz for 9th Grade

Life-cycle analysis, biomimicry, and the triple bottom line—critical frameworks for evaluating how human systems can harmonize with the biosphere's limits.

1. The 'Triple Bottom Line' is a framework used by sustainable businesses to measure success. Which three pillars does it evaluate?

Answer: B) People, Planet, and Profit

The Triple Bottom Line expands the traditional focus on profit to include social responsibility (People) and environmental stewardship (Planet).

2. True or False: The concept of the 'Circular Economy' aims to design out waste and keep materials in use for as long as possible.

Answer: A) True

Unlike the linear 'take-make-waste' model, a circular economy mimics natural cycles by recycling and repurposing materials indefinitely.

3. When a product's environmental impact is assessed from the extraction of raw materials to its eventual disposal, it is called a _____ assessment.

Answer: A) Cradle-to-Grave

Cradle-to-grave (or cradle-to-cradle) assessments analyze the full life cycle of a product to identify ecological footprints at every stage.

4. Which of these is an example of 'biomimicry' in sustainable design?

Answer: C) Designing wind turbine blades based on the fins of humpback whales

Biomimicry involves looking to nature's time-tested patterns and strategies to solve human problems sustainably.

5. True or False: Intergenerational equity refers to the idea that current generations have a moral obligation to leave a healthy planet for future ones.

Answer: A) True

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This is a core philosophical pillar of sustainability, ensuring that our resource use today doesn't rob the next generation of their needs.

6. The maximum population size of a species that an environment can sustain indefinitely without degrading the ecosystem is known as _____.

Answer: B) Carrying Capacity

Carrying capacity is a fundamental ecological concept that helps us understand the limits of growth within finite resource systems.

7. Which of the following describes 'Ecological Debt'?

Answer: B) Using resources faster than the Earth can regenerate them in a given year

Ecological debt occurs when we exceed 'Earth Overshoot Day,' meaning we are consuming natural capital rather than living off the interest.

8. Permaculture is a design system that focuses on creating _____ agricultural ecosystems that are self-sufficient and resilient.

Answer: C) Permanent

The word permaculture is a portmanteau of 'permanent' and 'agriculture,' emphasizing systems that work with nature rather than against it.

9. True or False: Sustainability focuses only on the environment and does not consider economic growth or social justice.

Answer: B) False

Sustainability is actually the intersection of three spheres: environmental, social, and economic. One cannot function without the others long-term.

10. Which urban planning concept reduces reliance on cars by ensuring all essential services are within a short walk or bike ride?

Answer: B) The 15-Minute City

The 15-minute city model increases social equity and reduces carbon emissions by decentralizing services and prioritizing pedestrians.