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## Regenerative architecture: Beyond sustainability with biomimicry

**1. Define the terms regenerative architecture and biomimicry, and explain how each differs from related concepts such as sustainability and carbon neutrality.**

**Your answer should include at least one example of each concept in practice**

Regenerative architecture goes beyond sustainability by actively restoring and enhancing ecosystems improving site ecology and water cycles, while biomimicry draws design inspiration from nature's strategies—like using termite-mound-inspired passive cooling—to solve human challenges; unlike sustainability or carbon neutrality, both focus on positive environmental impact and innovation rather than simply minimizing harm.

**2. You are tasked with designing a mid-rise urban building using regenerative design principles.**

**Outline two strategies (e.g., living materials, water-sensitive urban design, carbon-absorbing elements) that could be applied, and discuss how each contributes to environmental restoration and carbon reduction over the building's lifecycle.**

Two strategies are incorporating living materials, such as green walls and roofs, which restore biodiversity, improve air quality, and sequester carbon, and implementing water-sensitive urban design, like rain gardens and greywater recycling, which restore natural hydrology, reduce energy use for water treatment, and lower the building's lifecycle carbon footprint.

**3. Which of the following best reflects a regenerative approach to architecture?**

- A. Designing a building with only low VOC materials**
- B. Using energy-efficient systems to reduce energy use**
- C. Creating a building that generates more energy than it uses and enhances local biodiversity**
- D. Minimising construction time to lower labour costs**

Correct Answer: C