

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Eco-Architect Challenge: Designing Our Changing World (Grade 5)

Synthesize complex data to evaluate how human innovation and environmental needs collide in this high-level geography mission.

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**1. In the arid regions of Peru, ancient civilizations built 'puquios' (underground aqueducts) to transport water. This is an example of which interaction strategy?**

- A. Direct modification of the lithosphere
- B. Adapting to water scarcity through engineering
- C. Total dependence on seasonal rainfall
- D. Abandoning environments with low resources

**2. The construction of the \_\_\_\_\_ Great Green Wall across Africa is a massive human modification intended to stop the spread of the Sahara Desert through reforestation.**

- A. Trans-Saharan
- B. Pan-African
- C. Sahara
- D. Great

**3. True or False: Using 'biomimicry'—designing buildings to stay cool like termite mounds—is a form of adaptation that reduces human dependence on fossil fuels.**

- A. True
- B. False

**4. When the Aral Sea shrank due to river diversion for cotton farming, what was a critical unintended consequence for the local population?**

- A. An increase in biodiversity in the surrounding basin
- B. A shift toward a more humid, tropical climate
- C. The collapse of the fishing industry and rising respiratory issues
- D. Lower salt concentrations in the remaining groundwater

**5. The Venice MOSE project uses giant \_\_\_\_\_ to adapt to rising sea levels and protect the city from flooding during 'acqua alta' events.**

- A. concrete walls
- B. retractable gates
- C. pumping stations
- D. sand dunes

**6. True or False: Terrace farming used by the Inca in the Andes Mountains is a modification that helps prevent soil erosion on steep slopes.**

- A. True

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B. False

**7. Which of these scenarios best demonstrates human 'dependence' on the environment for renewable energy integration?**

- A. Costa Rica using its high rainfall and volcanic rivers for hydropower
- B. Canada building highways across its northern territories
- C. Egypt constructing the Aswan High Dam to control flooding
- D. Singapore creating land extensions using sand from other countries

**8. The 'urban heat island' effect is a consequence of \_\_\_\_\_ where dark surfaces like asphalt absorb more heat than natural landscapes.**

- A. adaptation
- B. dependence
- C. conservation
- D. modification

**9. Bhutan's policy of 'Gross National Happiness' requires at least 60% of its land to remain forested. This choice reflects a human decision to minimize \_\_\_\_\_.**

- A. economic adaptation
- B. climatic dependence
- C. negative environmental modification
- D. geographical reasoning

**10. True or False: A positive consequence of human-environment interaction is the creation of 'marine protected areas' to restore coral reefs.**

- A. True
- B. False