

Sustainable Building Practices for a Greener Future

Part 1: Roleplay Dialogue

Characters:

- **Emily** – Civil Engineer
- **Daniel** – Project Manager

Emily: Daniel, we need to ensure this project follows **green building** principles. Have you reviewed the sustainability guidelines?

Daniel: Yes, and I think we should aim for **LEED certification** to make the project more environmentally friendly.

Emily: I agree. That means improving **energy efficiency** by incorporating better insulation and renewable energy sources.

Daniel: Good point. Also, selecting **sustainable materials** like recycled steel and low-impact concrete will reduce environmental harm.

Emily: Exactly. And we should analyze the **carbon footprint reduction** potential of using solar panels and energy-efficient HVAC systems.

Daniel: That makes sense. If we implement these strategies, we'll create a more sustainable structure.

Emily: Absolutely. I'll coordinate with suppliers to source the best eco-friendly materials.

Daniel: Great. I'll make sure the construction plan aligns with LEED requirements and sustainability goals.

Emily: Perfect. Let's also track our energy savings and material usage to document our progress.

Daniel: Agreed. A well-documented approach will help us improve future projects.

Part 2: Comprehension Questions

1. What certification do Emily and Daniel want to achieve for their project?
 - (A) ISO 9001
 - (B) LEED certification
 - (C) OSHA compliance
 - (D) Structural integrity approval
 2. How do they plan to improve energy efficiency?
 - (A) By adding more windows
 - (B) By using traditional construction methods
 - (C) By incorporating better insulation and renewable energy
 - (D) By reducing the number of floors in the building
 3. Why do they want to use sustainable materials?
 - (A) To lower construction costs
 - (B) To speed up the project timeline
 - (C) To reduce environmental harm
 - (D) To comply with labor regulations
 4. How do they plan to track carbon footprint reduction?
 - (A) By increasing fuel usage
 - (B) By purchasing more materials
 - (C) By designing taller buildings
 - (D) By tracking energy savings and material usage
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Part 3: Vocabulary List

- **Green building (環境配慮型建築)** – A construction approach that minimizes environmental impact.
 - **LEED certification (LEED 認証)** – A globally recognized standard for sustainable building design.
 - **Energy efficiency (エネルギー効率)** – Using less energy to achieve the same results.
 - **Sustainable materials (持続可能な材料)** – Building materials that have a low environmental impact.
 - **Carbon footprint reduction (炭素排出量削減)** – Strategies to decrease the carbon emissions of a project.
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Part 4: Answer Key

1. What certification do Emily and Daniel want to achieve for their project?
☒ (B) LEED certification
2. How do they plan to improve energy efficiency?
☒ (C) By incorporating better insulation and renewable energy
3. Why do they want to use sustainable materials?
☒ (C) To reduce environmental harm
4. How do they plan to track carbon footprint reduction?
☒ (D) By tracking energy savings and material usage