

Architectural Model Prototyping

Part 1: Dialogue

Daniel (Architect): Lisa, I just finished the preliminary **scale model** for the new museum project. Do you want to take a look?

Lisa (Architectural Assistant): Absolutely! What materials did you use for the model?

Daniel: I used **foam core** for the structure since it's lightweight, and I also incorporated some **modeling clay** to shape intricate details.

Lisa: That's a great choice. Foam core keeps it sturdy but easy to modify. Did you consider using **laser cutting** for precise edges?

Daniel: Yes, I did! The laser cutter helped with the fine details, especially for the window frames. It was much faster than cutting by hand.

Lisa: That makes sense. Are you planning to include a **3D-printed facade** to give the model a more refined look?

Daniel: That's the next step. We can print intricate exterior elements that are hard to achieve with traditional materials.

Lisa: That would definitely help the client visualize the design better. Also, have you thought about adding interior details?

Daniel: I was thinking about it. Maybe we can use transparent materials to showcase the layout inside without removing sections.

Lisa: Great idea! Let's finalize the details so we can present this model in our next client meeting.

Daniel: Sounds like a plan. I'll get started on the 3D printing process right away!

Part 2: Comprehension Questions

1. Why did Daniel use **foam core** for the model?
 - (A) It is fire-resistant
 - (B) It is easy to modify and lightweight
 - (C) It is the most expensive material
 - (D) It is a mandatory building material
 2. How did **laser cutting** help with the model?
 - (A) It made the model stronger
 - (B) It helped cut precise edges
 - (C) It allowed the model to be waterproof
 - (D) It changed the color of the materials
 3. What is the purpose of a **3D-printed facade** in the model?
 - (A) To create detailed exterior elements
 - (B) To reduce the model's overall weight
 - (C) To make the structure flexible
 - (D) To make it easier to paint
 4. Why does Lisa suggest adding **interior details**?
 - (A) To make the model taller
 - (B) To help balance the model's weight
 - (C) To create more storage space inside
 - (D) To help the client visualize the design better
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Part 3: Vocabulary with Definitions

- **Scale model (縮尺模型)** – A smaller, physical version of a building or structure used to study design and details.
- **Laser cutting (レーザーカット)** – A process that uses a laser to precisely cut materials for architectural models.
- **Foam core (フォームコア)** – A lightweight board used in model making, consisting of foam sandwiched between two sheets of paper.

- **3D-printed facade (3D プリントされたファサード)** – An exterior surface of a model created using a 3D printer to add intricate details.
 - **Modeling clay (モデリングクレイ)** – A soft, moldable material used for creating shapes and details in architectural models.
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Part 4: Answer Key

1. **Why did Daniel use foam core for the model?**

(B) It is easy to modify and lightweight

2. **How did laser cutting help with the model?**

(B) It helped cut precise edges

3. **What is the purpose of a 3D-printed facade in the model?**

(A) To create detailed exterior elements

4. **Why does Lisa suggest adding interior details?**

(D) To help the client visualize the design better