

Lesson 11 Campus Layout

Learning Objectives

Students will:

1. learn to make a 3D campus model;
2. master the uses of **LaserBox**.

Preparation

1. Engraving materials: 3mm basswood sheets
2. Wood glue
3. **LaserBox**

Session 1 Lead-in

Introduce the topic: "We spend pretty much time at school so you must know a lot about it. Today, let's take a look at how a school separates its space for different uses. Based on what you know, draw a layout plan of your school and mark the blocks. Here's an example."



Source: Beaverton High School map by MB298

(https://upload.wikimedia.org/wikipedia/commons/e/ed/Beaverton_High_School_map.png)

Have students draw their site planning.

Explain to students: "From your drawings, I get it that you know pretty well about your schools. A layout planning tells us how the parts of our school are arranged. In most cases, a school has many blocks for different uses, such as teaching blocks, administration blocks, playgrounds, etc. In teaching blocks, we take classes; in the administration block, teachers are usually working there to deal with administrative affairs; playgrounds are the places where we take exercise. All of these make up our school."

Session 2 How to design a campus

Ask students a question: "What influence do you think the campus environment will have on the educational experience?"

Tell students to have free discussions.

Give further explanations: The campus environment could influence our educational experiences before we even notice. For instance, how are the buildings arranged? How are the walkways designed? And the greens along the sides? The lighting and air in classrooms? All of these might influence our experience in one way or another. However, there is no design that could be 100% perfect. Is there anything that you can improve in terms of the layout of your school? Could you come up with a solution?"

Have students think about the question.

Summarize the problems that came from students and motivate them to brainstorm about solutions.

Session 3 In-class Task

"In today's lesson, you're going to redesign your school based on what you've learned to tackle these problems. You will work in groups and each group will be assigned a different task. So each group will be responsible for one specific function block."

Independent Practice

- Pick a student to be the chief engineer. The chief engineer should be responsible for the planning and layout of the whole school.
- Classify the school space or buildings by functions. (require students to consider how to arrange the transition space between blocks from the very first beginning.)
- Define the function space
- Students work in groups
- Work on designs
- Assemble and decorate

- Share and present
- Projects compilation

Session 4 Blocks Division & Information Gathering

Have students design the blocks in groups. They need to collect evidence to justify their designs.

What parts does a school campus include:

Teaching buildings

Playgrounds

Administration buildings

Basketball court

Walkways

Greens (The greens team communicates with other teams to let them leave room for plants and gather their requirements.)

...

Session 5 Task Allocation & Making

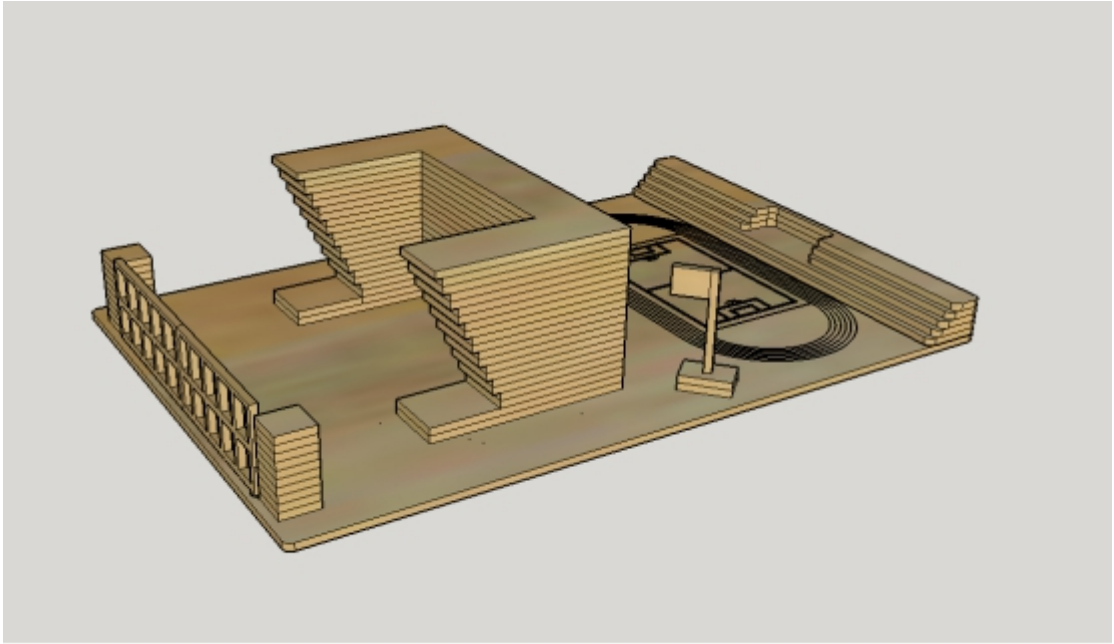
Each group should have a project manager. Project managers should communicate with each other to determine how transition space between blocks is arranged.

Other team members are responsible for the part that's assigned to them by the PM.

No specific requirement for project structures.

Note: We can draw the planning map and cut multiple sheets to quickly add more layers to our buildings.

3D model - A layered-structure-based campus:



Session 6 Share

Ask students to present the projects to the class and articulate their design concepts, for instance what factors they took into consideration.

Session 7 Wrap -up

Conclude the lesson: "In this lesson, we applied different structures to make a school campus model. We need to take many things into consideration to ensure the layout makes sense. A well-designed campus really matters a lot because it can enhance your learning experience."