

Module 4

- **EMPOWER YOUR ENGLISH SKILLS IN YOUR PROFESSION**



SUMMARY

UNIT 1 - Prepositions

UNIT 2 - Reading Comprehension

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ANSWER KEYS

Introduction

Contemporary Yet Traditional Courtyards: Enhancing Living Spaces in Chinese Residential Projects

Courtyards have long been a fundamental aspect of traditional Chinese architecture, serving as central spaces *around* which domestic life is organized. These spaces play a vital role *in* creating a harmonious living environment, offering benefits that range *from* regulating indoor temperatures to enhancing social interactions and fostering a close connection *with* nature.

The Siheyuan, which means "quadrangle," is a common traditional Chinese building typology consisting of a compound of buildings enclosing one or more courtyards. This typology has historically been used *in* residences, palaces, monasteries, and other structures *in* both Chinese cities and rural areas. *Whether in* a refurbishment project or *in* a new build, courtyards remain relevant *in* Chinese homes *today*. They have been reinterpreted *since* ancient times to incorporate gardens and functional exterior areas that also seamlessly integrate the outdoors *with* the interior.

Additionally, the benefits of courtyard typologies include facilitating the introduction of natural light and ventilation, which is especially valuable *in* densely populated neighborhoods. This not only significantly enhances the quality of the space but also creates a sense of spatial amplitude and openness.

UNIT ONE

Prepositions

Prepositions: The Basics

A preposition is a word or group of words used to link nouns, pronouns and phrases to other words in a sentence. Some examples of prepositions are **single words** like in, at, on, of, to, by and with or phrases such as in front of, next to, instead of.

Prepositions in English are most frequently dictated by **fixed expressions**. While there are some general guidelines to follow, many prepositions are used idiomatically with certain verbs. In these cases, it is best to memorize the phrase instead of the individual preposition.

A Few Rules for Usage

Although there are hardly any rules as to when to use which preposition, most commonly prepositions define relationships between nouns and locate words, actions or ideas in a particular time or place. To remember the role of prepositions, notice that "position" appears in the word "**preposition**"!

PREPOSITIONS OF TIME

Preposition	English Usage	Example
in	- months/seasons	- <i>Courtyard renovations start in April.</i>
	- years	- <i>The building was completed in 2015.</i>
	- time of day	- <i>The plumber will arrive in the afternoon.</i>
	- centuries and historical periods	- <i>Courtyards were commonly used in the 18th century.</i>
	- after a certain period of time	- <i>The pipes will be replaced in two days.</i>
at	- specific time of day	- <i>The maintenance team meets at 10:00.</i>
	- noon, night, and midnight	- <i>The fountains in the courtyard are turned off at midnight.</i>
	- names of mealtimes	- <i>The architect arrives at lunchtime.</i>
	- age	- <i>I first studied plumbing at 18.</i>
on	- days of the week	- <i>The courtyard inspection is scheduled on Tuesday.</i>
since	- from a period of time up to the present (start time)	- <i>They have been using this plumbing system since 1995.</i>
for	- how long a period of time has been	- <i>The courtyard has been under renovation for 3 weeks.</i>
from...to...	- beginning and end of a period of time	- <i>The repairs are scheduled from 9:00 to 12:00.</i>
until	- period of time up to a specific point	- <i>The pipes will not be usable until tomorrow morning.</i>
by	- in the sense of "at the latest," due date	- <i>The courtyard must be accessible by Friday.</i>

PREPOSITIONS OF PLACE

Above & Over

These prepositions can be interchangeable, but the most common usage is this:

- Use **above** when there is no movement.
- Use **over** when there is movement.

Examples

- There is a painting **above** the sofa. (*no movement*)
- The chandelier hangs **above** the dining room table. (*no movement*)

- The plane flew **over** the building. (*movement*)
- The dog jumped **over** the log. (*movement*)

Below & Under in Architecture

These prepositions are often used interchangeably, but there are some key distinctions. Here's how to use them in architectural contexts:

- **Use 'under' in most cases**, as it is more commonly used than 'below.'
- **Use 'below' when referring to something that is positioned lower than a certain reference point or level** (e.g., beneath a certain height or in a sub-level space).

Examples:

- The **under**floor heating system is installed **under** the floor slab. (no movement, no touching)
- The **under**ground parking lot is located **under** the building's main level. (touching)
- The utilities are **under** the building's foundation. (no movement, just location)
- The air conditioning system is installed in the room **below** the main floor. (positioned at a lower level)
- The building's basement is **below** the ground level. (reference to a lower floor)

What about beneath and underneath?

These two prepositions are also interchangeable with **under** and **below**, but they are generally considered slightly more formal and are less commonly used in everyday architectural language. **Under** is typically the best choice.

Examples:

- The support beams are placed **under** the structure. (most common)
- The foundation walls are **beneath** the surface level. (more formal)

- The elevator shaft is **underneath** the main structure. (slightly more formal)
- The piping runs **beneath** the flooring system. (more formal)

By focusing on **under** for most cases and using **below** when referring to measurements or lower levels, you'll keep your descriptions both accurate and clear in architectural contexts.

Prepositions – Place (Location and Direction)

Preposition	English Usage	Example
in	- when something is in a place, it is inside it (enclosed within limits)	- <i>The pipes are installed in the courtyard walls.</i>
		- <i>We stored the equipment in the shed.</i>
		- <i>The plumber is in the courtyard.</i>
at	- located at a specific place (a point)	- <i>The architect will meet us at the entrance of the courtyard.</i>
	- for events	- <i>A community event was held at the courtyard.</i>
	- place where you are to do something typical	- <i>The workers are at the construction site.</i>
on	- being on a surface (not enclosed)	- <i>The new tiles are laid on the courtyard floor.</i>
	- for a certain side	- <i>The drainage pipes are located on the left side of the garden.</i>
	- for a floor in a building	- <i>The balcony overlooks the courtyard on the third floor.</i>
	- for public transport	- <i>Materials were delivered on a truck.</i>
to	- moving toward a specific place (the goal or end point of movement)	- <i>The workers brought the tools to the courtyard.</i>

from	- for the origin or starting point	- <i>They transported the bricks from the warehouse.</i>
towards	- movement in the direction of something	- <i>The water flows towards the central drain in the courtyard.</i>
across	- movement from one side to another	- <i>The pipes extend across the courtyard floor.</i>
through	- movement from one side to another but "in something"	- <i>The main pipe runs through the courtyard wall.</i>
between	- a place "in the middle" of two or more separate people or things	- <i>The seating area is located between the garden and the walkway.</i>
among	- a place "surrounded" by more than two people or things together as a group	- <i>The courtyard is designed among various residential buildings.</i>

EXERCISE 1 – Complete this text using these prepositions: in, on, at, for, of, with, between, before, about.

Architect A: Excuse me, when are your office hours?

Architect B: I am available to meet ___ you ___ Wednesday ___ 13:30 and 15:30.

Architect A: I have a site visit scheduled ___ that time. Could we meet ___ lunch?

Architect B: Is it urgent?

Architect A: Yes, I have some questions to ask you ___ the structural design project.

Architect B: You can come ___ my office ___ 11:00. Does that work ___ you?

Architect A: Yes, thank you. Could you remind me where your office is?

Architect B: My office is ___ the third floor ___ room A321 ___ the Architecture Building.

Architect A: Thank you very much! See you then.

EXERCISE 2 - Add the appropriate prepositions where necessary to these sentences.

Architect A: Hi, Prof. Smith. I'm Alex Torres from the Sustainable Architecture project team. I missed our last two meetings due to a project submission that I needed to attend to. I wonder if you might be able to give me notes ___ the discussions that I missed.

Architect B: I'm sorry to hear that you had a project emergency to handle. Unfortunately, I cannot give you my notes ___ fairness to other team members. Do you have any colleagues who could share their notes ___ you?

Architect A: Yes, but their notes are incomplete. What did you discuss ___ the meetings during my absence?

Architect B: ___ the last two sessions, we discussed energy-efficient building materials and passive solar design strategies, ___ a specific emphasis ___ the works of Ken Yeang. You'll find information ___ these topics ___ the project documents, ___ page 208 to page 252.

Architect A: Thank you, I'll review these pages.

EXERCISE 3 - Correct the mistakes in these sentences.

Dear Prof. Brown,

This is Alex Torres from the Sustainable Architecture team. After studying the case study ___ Kisho Kurokawa's Nakagin Capsule Tower, there was something that seemed unusual ___ me. In my notes, I wrote that the modular design concept is intended to adapt over time. Given Kurokawa's views ___ architecture as "metabolic," I understand this interpretation. I'm having difficulty understanding how the structural pods can be said to be "replaceable," though. I understand that it has something to do ___ the architectural principle of adaptability and a response to rapid urbanization, which supports a vision of sustainable growth, but the reliance ___ individual pods does seem to create a unique spatial cohesion. I've talked to a few others in the field, and none of them have been able to

provide me ___ much insight. Would you be able to explain this to me? If you don't have time to do so via email, would you be willing to discuss it ___ the beginning of our next meeting?

Sincerely,
Alex Torres

Tiny Yet Tremendous

Prepositions are everywhere in spoken English, but mastering their use can be tricky, especially for non-native speakers. Here follow some examples of the most common mistakes.

1. Confusing 'In' and 'At' for Locations

Mistake: Saying, "I'm in the construction site" when you mean, "I'm at the construction site."

Correction: Use 'at' when you're talking about specific locations, like "at the construction site" or "at the office." Use 'in' when referring to something more general or enclosed, like "in the building" or "in the office."

"I'm at the store." (specific location)

"I'm in the store." (inside the store)

"I'm on the store." (incorrect usage)

2. Mixing Up 'For' and 'Since' with Time Expressions

Mistake: Saying, "I've been working here since 5 years" instead of "I've been working here for 5 years."

Correction: Use 'for' when talking about the length of time (a duration), like "for 5 years." Use 'since' when referring to the starting point in time, like "since 2018."

3. Incorrect Use of 'By' and 'Until'

Mistake: Saying, "I will finish the design by next Monday" instead of "I will finish the design until next Monday."

Correction: 'Until' is used to indicate the time something will continue to happen, like "until 5 PM." 'By' is used to show the deadline or when something must be completed, like "Please submit the blueprint by Friday."

4. Confusing 'On' and 'About' After 'Depend'

Mistake: Saying, “It depends about the materials” instead of “It depends on the materials.”

Correction: Always use ‘on’ after the verb ‘depend,’ as in “It depends on the materials,” or “It depends on the design.”

5. Mixing Up ‘In’ and ‘On’ with Transportation

Mistake: Saying, “I’m on the construction truck” instead of “I’m in the construction truck.”

Correction: Use ‘in’ for smaller vehicles like cars or trucks (“in the construction truck”) and ‘on’ for larger modes of transportation like buses, trains, and planes (“on the bus”).

6. Confusing ‘With’ and ‘By’

Mistake: Saying, “The building was designed with Frank Gehry” instead of “The building was designed by Frank Gehry.”

Correction: Use ‘by’ when you’re talking about the agent or doer of an action (“designed by Frank Gehry”), and ‘with’ when you’re referring to the tool or instrument used (“designed with advanced software”).

7. Incorrect Use of ‘To’ After ‘Explain’

Mistake: Saying, “Can you explain me the design concept?” instead of “Can you explain the design concept to me?”

Correction: The verb ‘explain’ needs to be followed by the object first and then the person it’s explained to: “Explain the design concept to me.”

8. Prepositions and ‘Ask’

Use ‘ask’ with ‘for’ to ask somebody to give something.

Use ‘ask’ without ‘for’ to ask somebody to say something.

Mistake: He asked a coffee. (‘Coffee’ is not a person)

Correct: He asked for a coffee. (He wanted a coffee)

9. Prepositions and ‘Prevent’

Prevent cannot be followed by ‘to’. It should be followed by ‘from’ and a verb ‘-ing’ form.

Mistake: He was prevented to come.

Correct: He was prevented from coming.

Correct: The loud noise prevented me from sleeping.

10. Go + 'to' or 'for'

I am going to the office. (direction)

I am going **for a walk** near the construction site. (fixed expression)

Likes

• (be) interested in	• can't get enough of	• (be) dying for / die for	• (be) fond of
• (be) crazy/mad about	• (be) keen on	• (be) into	

DISLIKES

• to lose interest in	• (be) sick of	• (be) not that into	• (be) tired of
• (be) not a big fan of	• (be) not much of		

NEITHER LIKE NOR DISLIKE

• to have mixed feelings about	• to not really care about
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EXERCISE 4 - Decide which word is missing from each collocation.

- Most architects like modern design, but ____ my opinion, it's too minimalist.
(of / from / in / with)

2. Are you travelling to Paris ____ business or ____ holiday? (for / on / to / in)
3. Have you read the article ____ Architectural Digest ____ the new skyscraper design? (on - on / to - on / in - on / from - on)
4. What's that book ____? (about / to / from / of)
5. I stayed ____ the Ritz Hotel _____ my stay in New York. (in - to / to - while / at - while / at - during)
6. I looked this term ____ in the dictionary, but I still don't understand it. (from / on / up / answer over)
7. We need some steel beams. We're almost completely ____ them. (out / out of / over / through)
8. Luckily, I made it to the job site ____ time to meet the contractor. (in / for / at / to)
9. My office is ____ the top floor of the building ____ the left. (in - on / at - in / in - at / at - on)
10. The site doesn't open _____ 8 a.m. for new contractors. (for / until / still / just)
11. Are you ____ or ____ the new green building code? (pro - con / for - against / proto - contra / with - against)
12. Were you ____ time for the design meeting? Or were you late? (to / on / at / of)
13. Throw the blueprint ____ the architect, please. (next / beneath / to / against)
14. I got ____ the office late last night after the site inspection. (to / at / (no preposition) / in)
15. Please talk ____ the senior architect and don't shout ____ me! (to - to / at - to / to - at / with - to)
16. You can start the project ____ drawing up the plans. (with / to / by / from)
17. The building was constructed ____ Italy ____ December 15, 1954. (in - in / in - to / in - on / to - in)
18. The construction started ____ Germany ____ April. (in - to / on - in / in - in / in - at)
19. Be careful! You're going to set the blueprints ____ fire! (to / on / in / with)
- 20.** I need to learn these architectural terms ____ heart ____ tomorrow's presentation. (by - on / by - to / from - by / by - by)

UNIT TWO

Reading comprehension

Spatial Equity in Urban Infrastructures: Public Restrooms Addressing Women's Needs



Red Brick Public Toilet on Liuba Old Street.

The design of public bathrooms and changing facilities has historically catered to a generalized notion of user needs, often oversimplifying the complexities of gender-specific requirements and falling short of supporting the unique needs of women. These needs extend beyond biological differences—such as the necessity for more stall privacy and differences in height and body posture—to include cultural factors that influence restroom use and expectations over time.

For instance, women's contemporary clothing often lacks adequate pocket space, resulting in the need to carry a handbag, even for simple essentials like phones and wallets. Despite efforts in recent architectural designs to address these disparities, the layered nuances of biological, cultural, and gender identity factors present a multifaceted challenge that defies a one-size-fits-all solution.

Contemporary projects have shown an increased awareness of spatial equity, paying careful attention to how female restrooms can be designed to offer accessibility and convenience on par with male restrooms. Some approaches

focus on complete neutrality through unisex bathrooms with gender-neutral stalls, erasing distinctions. Others emphasize spatial equity (equal floor area) or fixture equity (equal numbers of fixtures), striving for visible and quantifiable fairness in urban infrastructure. Meanwhile, some designs maintain a gender-specific approach, with increased stall availability for one gender over the other. As we explore and reflect on current bathroom designs that seek to promote equality, we shall also consider how best to achieve meaningful, practical spatial-gender equality in public facilities within urban environments as both users and designers.

Rethinking Unisex Bathrooms: Are Homogeneous Designs Ignoring Essential User Needs?

A significant design shift in recent years has been the rise of unisex bathrooms, intended to promote equality by standardizing facilities for all genders. While this approach appears equitable on the surface, it often overlooks the biological and cultural differences in how different genders use bathrooms. By homogenizing bathroom spaces and fixture counts in the name of equality, are designers simply sidestepping the nuanced challenges of spatial equity? Achieving genuine user equity in diverse populations requires more than uniformity.

Unisex bathrooms may offer streamlined facilities, but this standardization rarely accounts for specific needs, particularly those of women, such as hygiene requirements, adequate changing space, and the additional time required for restroom use. While intended to create equality, the shift to unisex stalls can fail to provide practical and thoughtful support for all users. Moreover, it can inadvertently create awkwardness, especially in indirect interactions between genders as they exit the stalls. The lack of privacy may also make it more difficult for individuals to fix their clothing or appearance, creating a less comfortable or secure environment compared to traditional gender-specific bathrooms.

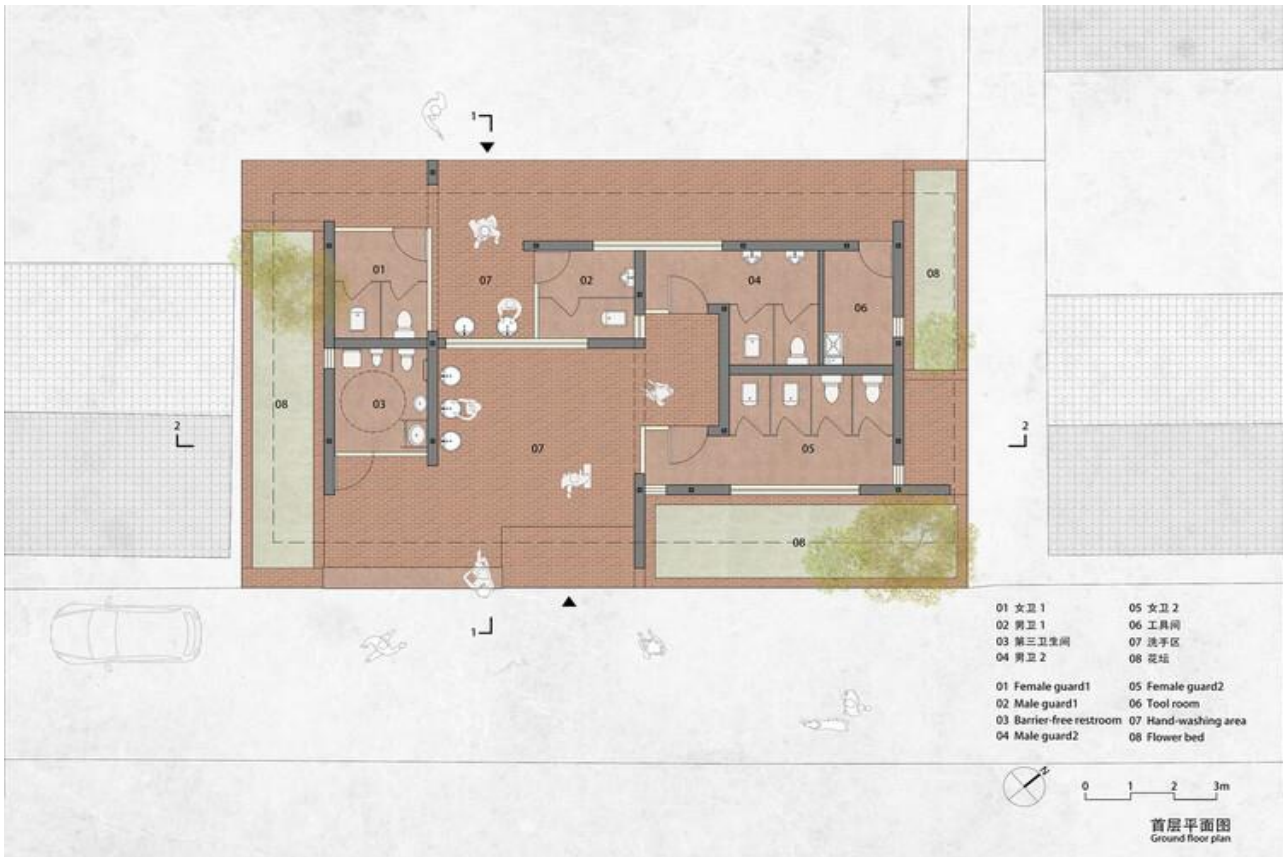
Spatial vs. Fixture Equity in Restrooms: Addressing Different Metrics for Women's Bathroom Accessibility

When public restrooms are not designed as unisex, the concept of equality often centers on either spatial or fixture equity—two quantifiable metrics for assessing

equal access to public facilities. Spatial equity provides an equal amount of floor area for different genders, while fixture equity ensures an equal number of stalls or fixtures for each.

Spatial equity is often considered the most financially balanced approach, particularly in high-cost urban areas where every square foot has economic value. From a financial standpoint, providing equal floor area for male and female restrooms can be viewed as a fair allocation of resources. However, spatial equity does not always equate to other equality metrics, such as fixture equity. For example, men's restrooms often incorporate urinals, which require less floor space than enclosed stalls. As a result, a bathroom with equal floor area but mixed fixtures may have more overall fixtures in the men's restroom, potentially creating an imbalance in fixture availability.

In response, some designs prioritize fixture equity by matching the fixture counts between male and female restrooms, even if the floor area differs. This approach compensates for the smaller footprint of urinals by adding more enclosed stalls in women's restrooms, balancing the number of fixtures available. However, fixture equity may still raise questions, particularly regarding the functionality of different fixtures. While urinals serve specific purposes, they may not meet the same range of needs as enclosed stalls, raising further questions about whether fixture parity alone is sufficient for true restroom equality.



Red Brick Public Toilet on Liuba Old Street - Floorplan. Image © Shulin Architectural Design

Public Toilets / Piotr Musialowski + Lukasz Przybylowicz



Mt Tung-Yen Public Toilet. Image © Te-Fan Wang

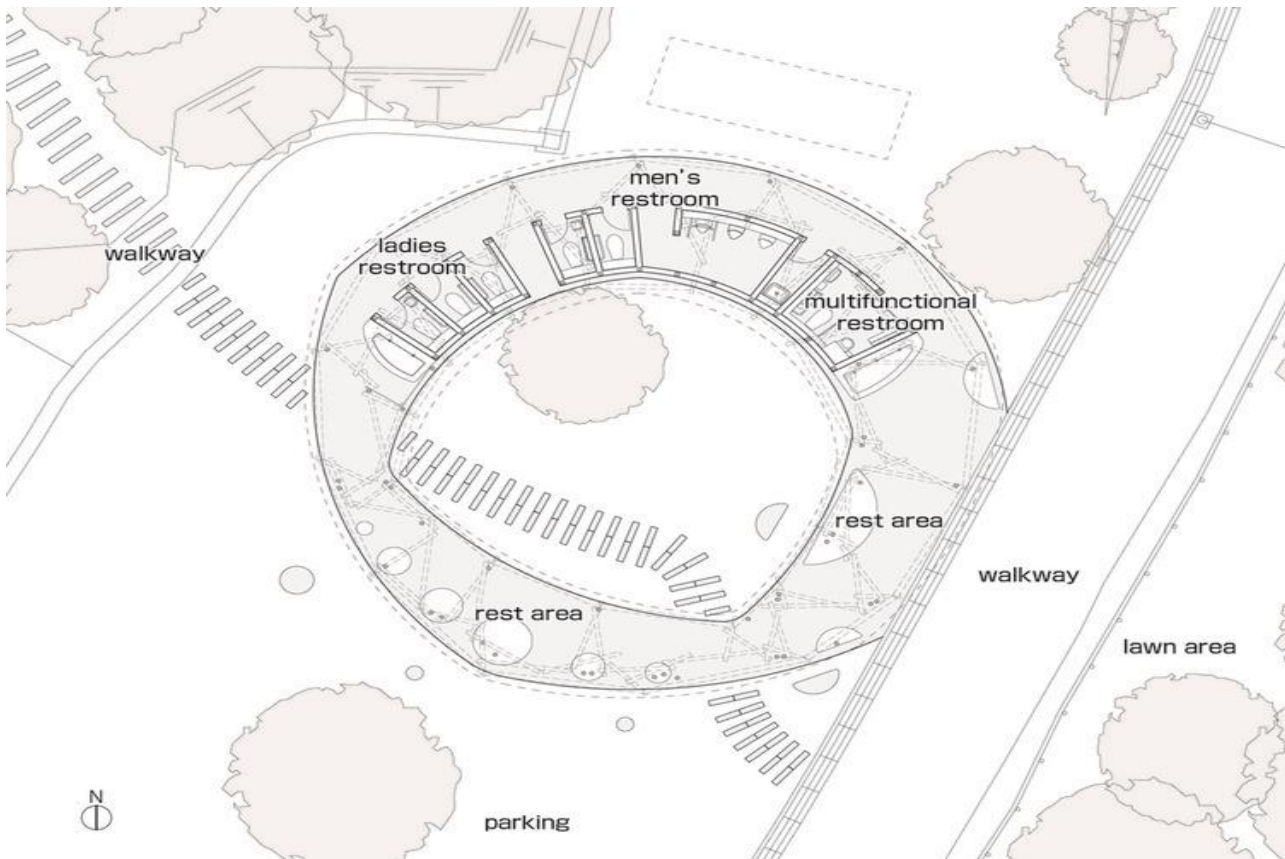
From Oversight to Insight: Tailoring Restroom Ratios for Gender Inclusivity in Urban Infrastructure

Specific bathroom designs continue to prioritize one gender, sometimes due to oversight in addressing equitable needs, though more frequently, this is influenced by specific demographic or operational considerations. In some cases, owners or designers may intentionally adjust restroom ratios to reflect user patterns; for example, a female-majority shopping area might benefit from a higher ratio of women's facilities to better meet actual demand rather than adhering to a uniform restroom distribution. Similarly, areas with predominately male visitors or employees may inform a more male-oriented restroom layout.

In one recent example, a renovation of the Hunan Street Public Service Station by Steamarch, the designers recognized that the existing infrastructure didn't fully address contemporary expectations for gender balance. The design revision incorporated changes in both spatial arrangements and fixture counts. These adjustments, along with reorienting elements like entryways and landscape features, created a more balanced distribution of floor area and facilities between male and female users, addressing the needs of both genders more equitably. As urban infrastructure evolves and renovates, architects are increasingly mindful of adapting public amenities to reflect these shifts, even while "true" restroom gender equity remains challenging to define.

Hunan Street Public Service Station. Image © XiaoXiao





Circle of Forest and People Public Restroom - Floorplan. Image © Yamashita Sekkei

Hunan Street Public Service Station / Steamarch

The Hidden Impact of Time in Achieving Gender Equity in Public Restrooms

In addressing equality in urban infrastructures, the underlying motivation appears rooted in achieving easily quantifiable equality, justifying design decisions. However, creating genuine gender equity in restroom design involves more than simple metrics; other factors, such as time spent in facilities, are often overlooked. Studies show that women typically require more time in restrooms—averaging 1 minute 30 seconds compared to men's 1 minute. In a five-stall restroom, this difference means that in 15 minutes, approximately 50 women could use the restroom compared to 75 men, creating a notable disparity. How can we design better to address the often imbalanced waiting times for public bathrooms, frequently with a significantly longer queue for female stalls? While no single approach may fully address all aspects of restroom equity, regularly assessing fixture count, spatial allocation, and user convenience is crucial in evolving restroom design to more inclusively meet diverse needs.

EXERCISE 1 – Fill in the Blanks

Use the correct term from the list:

spatial equity, unisex bathrooms, fixture equity, waiting times, oversight, accessibility, gender-neutral, privacy, cultural factors, user patterns, restroom ratios

1. One of the main issues with _____ is that they don't always account for the different needs of men and women.
2. The design of public restrooms should consider both _____ (equal floor space) and _____ (equal fixtures like stalls and urinals).
3. One way to address _____ for women is to ensure more available stalls and consider their longer time in the restroom.
4. Many bathroom design failures are due to _____, where the needs of one gender are neglected.
5. In urban design, _____ refers to how easily all users, including those with disabilities, can access public restrooms.
6. Restrooms that are designed for all genders and are free of specific male or female labels are referred to as _____.
7. In restroom design, _____ can include considerations such as the height of fixtures and the need for more privacy for women.
8. The unique needs of different genders, including habits, preferences, and expectations, are influenced by _____.
9. To achieve better restroom design, _____ is often adjusted based on the number of male and female users in a specific area.
10. Designers often face challenges when balancing _____—such as in shopping areas with a larger number of female visitors—by providing more women's restrooms to meet actual demand.
11. Ensuring _____ in bathroom design involves thinking about both physical space and the availability of fixtures.
12. The design of male restrooms often includes _____ (such as urinals), which use less floor space compared to enclosed stalls, which can cause a _____ when trying to balance the total number of fixtures.

EXERCISE 2 – Say whether the following statements about the text are True or False.

1. Unisex bathrooms are designed to meet the specific needs of both genders equally.
2. Women's restrooms often require more stall privacy due to biological differences.
3. Spatial equity refers to providing equal floor space for male and female restrooms.
4. Men's restrooms always have more fixtures than women's restrooms because they only have urinals.
5. Unisex bathrooms take into account all the cultural factors that influence how different genders use restrooms.
6. Some designs prioritize fixture equity by ensuring an equal number of stalls in male and female restrooms.
7. The Hunan Street Public Service Station renovation aimed to give more space to male users than female users.
8. Studies show that women typically spend less time in restrooms compared to men.
9. One approach to addressing restroom equity is to ensure the number of fixtures is the same in both male and female restrooms.
10. Achieving gender equity in restrooms can be challenging and requires regular reassessment.

Plumbing and Sanitation

In construction, the **BOQ (Bill of Quantities)** lists all the materials and labor needed for the project. When building structures, **falsework** is used as temporary support until the building is stable. Sometimes, a **performance gap** occurs, which means the work does not meet the expected quality or standards. **Scope creep** refers to when the project starts to include extra work beyond what was initially planned. Materials like **shiplap**, a type of wooden board, are often used for walls or exterior surfaces. During construction, workers manage **soil stockpiles**, which are piles of earth kept for later use. Techniques like **underpinning** are used to strengthen foundations. **VDC** (Virtual Design and Construction) helps in designing and planning buildings with advanced technology. Builders must also consider **zoning laws**, which set the rules for what can be built in certain areas to ensure safety and legality.

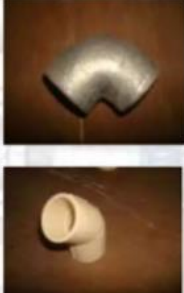
To ensure the proper functioning of the building's plumbing system, careful attention must also be given to the installation of **pipe fittings, traps, and fixtures**, which are essential components for water flow and waste management.

PIPE FITTINGS

Fittings are used in pipe and plumbing systems to connect straight pipe or tubing sections, to adapt to different sizes or shapes, to branch or re-direct the piping system and if necessary to provide a jointing method if 2 dissimilar piping materials are used in one system. Fittings for pipe and tubing are more often made from the same base material as the pipe or tubing connected. The commonly used fittings are elbow, tee, reducer, cap, union, etc.*

*raccordi a gomito, a T, riduttore, tappo, giunto


ELBOW



A pipe fitting installed between two lengths of pipe or tube allowing a change of direction, usually 90° or 45°.

SIZES – 15, 20, 25, 32, 40, 50 mm etc..
MRP – varies from Rs. 15 to Rs. 300


TEE



A Tee is used to either combine or split fluid flow.


SIZES – 15, 20, 25, 32, 40, 50 mm etc..
MRP – varies from Rs. 20 to Rs. 350

UNION




A union is similar to a coupling, except it is designed to allow quick and convenient disconnection of pipes for maintenance or fixture replacement.

REDUCER



Reducers are used to join 2 different pipe sizes together.


CAP OR PLUG



A type of pipe fitting which is liquid or gas tight, and is used to cover the end of a pipe. A cap has a similar function to a plug.

PIPE FITTINGS


STEP OVER BEND



Step over bend is used to cross over an existing pipeline


SIZES – 15,20,25 mm .
MRP – varies from Rs. 54to Rs. 170

HEXAGONAL TRANS



Hexagonal transmission is half made up of cpvc and half of brass.


END PLUG



An end plug closes off the end of the pipe. It is similar to a cap but it fits inside the fitting it is mated to.

SIZE – 15mm
MRP –Rs. 8


SOCKET



A socket is a pipe attachment detail in which a pipe is inserted into a recessed area of valve or fitting..

SIZES – 15,20,25,32,40,50 mm
MRP – varies from Rs. 10to Rs. 170

TANK NIPPLE



Tank nipple is defined as a short stub of pipe which has external male pipe threads at each end, for connecting two other fittings.

SIZES – 15,20,25,32,40,50 mm
MRP – varies from Rs. 50to Rs. 300

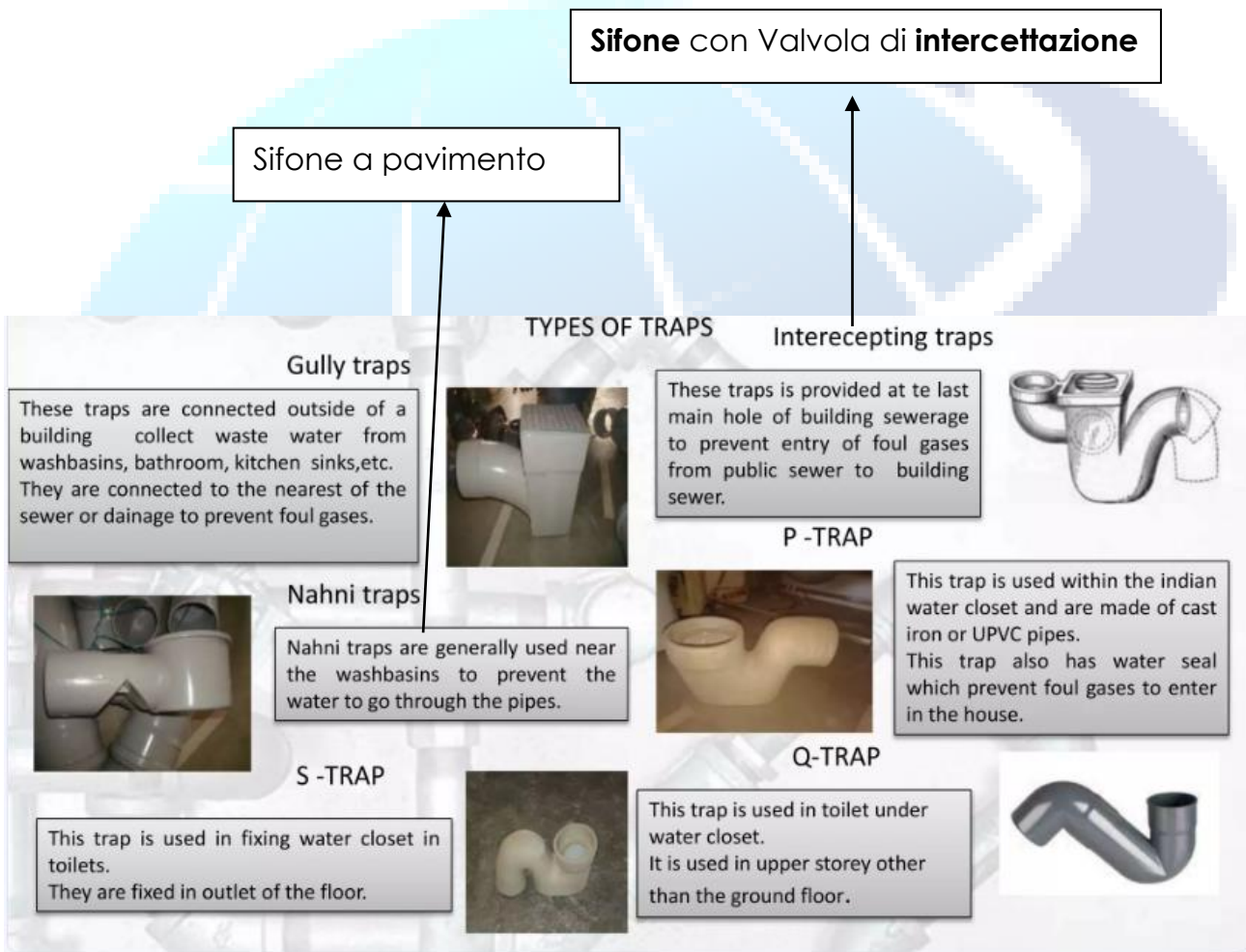
- **Step over band** = raccordo sovrapposto
- **Socket** – **Raccordo a manicotto** (or simply "manicotto" in some contexts)
- **Tank nipple** – **Raccordo per serbatoio**
- **End plug** – **Tappo di chiusura**
- **Hexagonal trans** – **Raccordo esagonale** (referring to a hexagonal-shaped)

fitting, though "trans" could refer to the connection type, like "transizione")

TRAPS (sifoni)

Traps are generally defined as fittings at the end of soil pipes and waste pipe.

They are located below or within a plumbing fixtures which retains small amount of water. They are used to remove foul (dirty)gases.



FIXTURES

There are different types of fixtures available such as washbasins, taps, etc.



WC with
Q Trap



Wall Hung WC



Taps



Wash Basin



WC with S Trap



EXERCISE 1 – Choose the correct Italian term for each English word. Write the letter of the correct answer next to each number.

1. **BOQ (Bill of Quantities)**

- a. Elenco materiali b. Piano delle Risorse c. Conta delle fatture

2. **Falsework**

- a. Parete a scomparsa b. Struttura provvisoria c. Supporto permanente

3. **Performance gap**

- a. Intervallo operativo b. Spazio ricreativo c. Lacuna qualitativa

4. **Scope creep**

- a. Spaventosa ambiziosità del progetto
b. Riduzione del budget
c. Slittamento dell'ambito del progetto

5. **Shiplap**

- a. Legno compensato b. Pannello in legno a giunti sovrapposti
c. Rivestimento plastico

6. Soil stockpiles

- a. Magazzino a terra b. Accumulo di terra c. Terra stabilizzata

7. Underpinning

- a. Puntellatura b. Rinforzo dei muri portanti
- c. Sostegno resistente all'acqua

8. Zoning laws

- a. Regole catastali
- b. Regolamenti condominiali
- c. Normative urbanistiche

9. Traps

- a. Giunti di chiusura
- b. Sifoni
- c. Griglie di protezione

10. Elbow

- a. Flessibile b. raccordo a gomito c. raccordo di transizione

UNIT THREE

Listening Comprehension

HONG KONG ARCHITECTURE | MIDDLE MAN HONG KONG - EPISODE 6 - PARKS & TOILETS

<https://www.youtube.com/watch?v=82sk2cCn4vE>



GLOSSARY

Term	Explanation/Context in Architecture	Example
Stem	Refers to the origin or cause of a design, concept, or architectural style.	The design of modern parks and public toilets stems from the need to balance urban development with public health.
Concerns	Issues or challenges that need to be addressed in architecture.	Environmental concerns are driving the shift toward sustainable building practices in urban design.
Privately owned and operated as a business	Refers to buildings or spaces controlled by private entities for profit.	In the past, some public toilets in Hong Kong were privately owned and operated as a business , catering to the need for sanitation.
Water closets	Early term for toilets, often used in architectural history.	In the 19th century, water closets were rare, only available in very wealthy households in Hong Kong.
Very wealthy households	High-end homes that often had private facilities, such as indoor plumbing.	Very wealthy households in colonial Hong Kong were the first to incorporate water closets into their homes.

Chamber pots	A container used before the invention of indoor plumbing, often kept in bedrooms.	Before water closets, many families used chamber pots for nighttime use in their homes.
By hand	A method of performing tasks manually, often used when automation is unavailable.	The removal of waste from chamber pots was done by hand in the past, particularly in working-class neighborhoods.
The only resort	Refers to the only available option or solution in a given situation.	For working-class men, the only resort for sanitation needs was the public toilet.
Manure	Animal waste used as fertilizer in agricultural processes.	In the 19th century, manure was sold as a fertilizer for mulberry trees in Hong Kong's silk-producing regions.
Mulberry trees	Trees that are grown to produce leaves for silkworms in the silk industry.	The waste from public toilets in Hong Kong was used to fertilize mulberry trees , aiding the silk industry.
Eager to capitalize	A phrase that describes a person or entity that seeks to take advantage of a business opportunity.	Entrepreneurs were eager to capitalize on the growing need for sanitation by building and operating public toilets.
The government levied an annual tax	Refers to the government imposing a yearly tax on specific businesses or activities.	The government levied an annual tax on the public toilets in Hong Kong, which were used to fund sanitation efforts.
Bathhouse	A public facility for bathing, often located near public toilets.	In 1904, the first government-owned bathhouse and public toilet were built in Hong Kong, serving as a model for future facilities.
To argue	To present a case or viewpoint about a specific issue.	Architects argue that integrating public toilets into park designs is key to blending urban spaces with functional structures.

Concealment/to conceal the unpleasant	The act of hiding or masking something unsightly, often an important element in architectural design.	The design of public toilets in Hong Kong relied on concealment to hide the unpleasant aspects of sanitation from public view.
Fancy building	A term used to describe elaborate, expensive, or sophisticated architectural structures.	Public toilets are often simple structures, contrasting with fancy buildings found in the central urban districts.
Zoom in	To focus on a specific detail, often used in architectural photography or analysis.	Zoom in to see the detailed design of a park's public toilet, which contrasts with the surrounding urban architecture.
Crisscrossing	Describes the movement of elements, such as pipes or wires, that intersect in various directions within the structure.	The building's internal systems, crisscrossing through the walls, represent the complexity of modern urban infrastructure.

EXERCISE 1 – Choose the correct statement a,b,c or d.

1. What is the main topic of the video?
 - a) The history and evolution of public toilets in Hong Kong
 - b) The architectural design of high-rise buildings in Hong Kong
 - c) The role of parks in Hong Kong's development
 - d) The impact of European architecture on Hong Kong

2. How were public toilets in Hong Kong operated in the 1880s?
 - a) They were government-owned and free to use
 - b) They were only available for government employees
 - c) They were built by wealthy households for public use
 - d) They were privately owned and operated as a business

3. What was the primary use for human waste in Hong Kong during the late 19th century?
 - a) To create energy for public services
 - b) To fertilize mulberry trees for silk production
 - c) To dispose of waste safely

d) To sell it as a commodity to the public

4. Why were public toilets initially built close to dwellings and shops?

a) To make them accessible to wealthy individuals

b) To hide them from public view

c) To ensure a continuous flow of customers

d) To promote tourism in Hong Kong

5. What happened after the plague outbreak in 1894?

a) Public toilets were built in parks

b) The government began constructing public toilets on their own land

c) The government prohibited the construction of new commercial public toilets

d) The public was allowed to use toilets for free

6. What did the first government-owned public toilet in 1904 include?

a) A large water treatment system

b) A bathhouse and a public park

c) A museum dedicated to public health

d) A commercial restaurant and lounge

7. What was the goal of the public toilet design competition in 1992?

a) To create a toilet that would be functional but aesthetically pleasing

b) To design the most modern and expensive public toilets

c) To build a high-tech toilet that could be controlled by smartphones

d) To eliminate public toilets entirely from Hong Kong

8. What was one of the key criteria for the winning design of the public toilets in the competition?

a) It needed to be difficult to maintain

b) It should be affordable to build and maintain

- c) It needed to be the largest toilet facility in the city
- d) It should be built out of expensive materials

9. How do parks and public toilets work together in Hong Kong's urban design?

- a) Parks are used to showcase modern toilet designs.
- b) Parks and toilets are designed to be separate entities in urban areas.
- c) Public toilets are located away from parks to maintain privacy.
- d) Parks are strategically located near toilets to hide them from view.

10. What is the relationship between modern architecture and plumbing systems in the video?

- a) Plumbing systems are often visible and highlighted in modern architecture.
- b) Plumbing systems are concealed within the architecture to maintain aesthetics.
- c) Modern architecture ignores plumbing systems altogether.
- d) Architecture is focused primarily on designing plumbing systems.

REIMAGINING PUBLIC TOILETS: TRANSFORMING TOILETS INTO COMMUNITY HUBS

<https://www.youtube.com/watch?v=iglKwJUfcPQ>



EXERCISE 1 – Watch the video and answer the following questions.

1. What is special about the "With Toilet" design?

2. How does So Fujimoto's design help people meet each other?

3. How does the toilet design help children or older people?

4. What else can the "With Toilet" be used for?

5. Why is it important for designers and people to work together?

UNIT FOUR

Use of English

Playing with the prepositions

EXERCISE 1 – Word association

Each of the words and phrases on the left can be associated with one of the prepositional phrases on the right. Match them up correctly.

Phrase	Matching Expression
1) We're late	a) In arrears
2) Very fashionable	b) Behind the times
3) I can't pay	c) Behind bars
4) Illegal	d) By degrees
5) Simultaneous	e) At daybreak
6) Old-fashioned	f) Behind schedule
7) Very early	g) At the same time
8) A prisoner	h) Against the law
9) Gradually	i) In vogue
10) industrial dispute	j) on the agenda
11) Everyone wants it!	k) at a moment's notice
12) a board meeting	l) on the air
13) What a rush!	m) in demand
14) radio broadcast	n) on strike

EXERCISE 2 - TIME EXPRESSIONS

The underlined expressions can be replaced by a time expression based on the word given in CAPITAL LETTERS. Supply the missing prepositions.

Example: We'll start using sustainable materials in future.

ON

Answer: We'll start using sustainable materials from **NOW ON**.

1. Most of her designs are no longer fashionable.

DATE

Most of her designs are _____.

2. You really make last-minute changes sometimes.

TIMES

You really make last-minute changes _____.

3. I hope to review this blueprint with you all again soon. **LONG**
I hope to review this blueprint with you all _____.
4. Now and then we like to study historical architecture for inspiration. **TIME**
_____ we like to study historical architecture for inspiration.
5. We'll be in the city for the site visit, but only briefly. **LONG**
We'll be in the city for the site visit for a _____.
6. Nobody wanted to approve his building proposal, so finally he had to revise it. **END**
_____ he had to revise it.
7. Please complete the rest of the project draft right away. **DELAY**
Please complete the rest of the project draft _____.
8. I hope to meet next month to discuss the project. Until then, best of luck with your _____ new _____ design. **MEANTIME**
_____, best of luck with your new design.
9. Please be very quiet. There is a client meeting going on. **PROGRESS**
There is a client meeting _____.

EXERCISE 3 – 'ON TIME' or 'IN TIME'

Choose the best alternative to complete each of the following sentences.

1. We arrived just **(in time/on time)** to see the presentation of the new urban project. The speaker had not yet begun his speech.
2. I was **(at the point/on the point of)** leaving the office when the project manager called.
3. Do you remember that scene **(at the end/in the end)** when the architects have a terrific argument over the design changes?
4. He may seem tough and demanding, but **(by heart/at heart)** he's dedicated to sustainable design.
5. You know you can always rely on your team **(at the time of/in time of)** urgent deadlines.

6. The architect gave the interns the sketches and told them to **(divide it between/divide it among)** themselves.
7. I recognize the clients both **(by sight/on sight)**, but I don't remember their names.
8. Who's that standing **(at the front of/in front of)** the project model in the photo?
9. The proposal was accepted **(on principle/in principle)**, but the firm asked for further details before finalizing the budget.
10. **(In case of/In the case of)** unexpected delays, please notify the project supervisor.
11. **(In view of/With a view to)** the fact that only a few stakeholders agreed to the revised design, further consultation is needed.

EXERCISE 4 - The following sentences each contain a prepositional phrase that could easily be confused with others, e.g., on time, in time, at a time, at times. In each case only fits the sentence.

1. I didn't trust the post, so I delivered the parcel _____ hand.
a. By b. to c. on d. out of
2. We've had such a busy day! At least ten people phoned. Oh, _____ the way, there's a message here for you from your brother.
a. On b. in c. by d. over
3. His name is Sebastian, but we call him Seb _____ short.
a. In b. for c. as d. by
4. I have some important information for you, but I don't want to give it _____ the phone. Do you think we could meet somewhere?
a. By b. through c. on d. over
5. Do you agree? _____ point, but I don't think you are completely right.
a. To the point b. For a c. Up to a d. On the
6. Have you seen this morning's paper? There's a big picture of you _____ the front!
a. At b. on c. in d. by

7. The general manager is away _____ business this week.
a. For b. on c. in d. about
8. There is nothing illegal about my business dealings. Everything is strictly _____ board.
a. On b. above c. by the d. over



ANSWER KEYS

UNIT ONE

EXERCISE 1

- | | |
|------------|--------|
| 1. with | 8. at |
| 2. on | 9. for |
| 3. between | 10. on |
| 4. at | 11. in |
| 5. for | 12. in |
| 6. about | 13. at |
| 7. to | |

EXERCISE 2

- | | |
|---------|---------|
| 1. to | 6. on |
| 2. in | 7. on |
| 3. with | 8. in |
| 4. in | 9. from |
| 5. Over | 10. to |

EXERCISE 3

1. on
2. to
3. on
4. with
5. on
6. with
7. much

EXERCISE 4

- | | | |
|----------------|-------------------|--------------|
| 1. in | 8. in | 15. to - at |
| 2. for - on | 9. on - on | 16. by |
| 3. in - on | 10. until | 17. in - on |
| 4. about | 11. for - against | 18. in - in |
| 5. at - during | 12. on | 19. on |
| 6. : up | 13. to | 20. by - for |
| 7. out of | 14. at | |
| 21. | | |

UNIT TWO

EXERCISE 1:

1. unisex bathrooms
2. spatial equity, fixture equity
3. waiting times
4. oversight
5. accessibility
6. gender-neutral
7. privacy
8. cultural factors
9. restroom ratios
10. user patterns
11. fixture equity
12. urinals, spatial equity

EXERCISE 2:

1. False
2. True
3. True
4. False
5. False
6. True
7. False
8. False
9. True
10. True

EXERCISE 3:

1. a
2. b
3. c
4. c
5. b
6. b
7. a
8. c
9. b
10. b

UNIT THREE

EXERCISE 1:

1. a)
2. d)
3. b
4. c)
5. c)
6. b)
7. a)
8. b
9. d)
10. b)

VIDEOSCRIPT

The only small-scale structure consistently found throughout the city is the public toilet, free from the pressures of the residential high-rise that exhibit different shapes, colors, and details—an opportunity for pure architectural expression to satisfy public demand. Toilets are found in a variety of contexts. I share a particular relationship with the park. The origin of the public toilet in Hong Kong did not solely stem from public health concerns. In the 1880s, they were, in fact, privately owned and operated as a business. Water closets were only used in European or very wealthy households. Ordinary households used chamber pots that required daily removal by hand. Public toilets were the only resort for working-class men. The trade of human waste and its use as fertilizer has existed in China since the Song Dynasty, and in late 19th-century Hong Kong, it was primarily transported and sold as manure for mulberry trees in the silk-producing regions near Guangzhou.

Businessmen eager to capitalize on the trade built public toilets on their own land. Close proximity to dwellings and shops ensured a constant flow of users. In its location on private land and fewer complaints from neighbors, the government levied an annual tax of 60 cents per seat and thus was able to profit from the trade and deal with public sanitation while paying nothing out of public funds. Following an outbreak of the plague, the government prohibited all future construction of commercial public toilets. In 1904, the first government-owned public toilet and bathhouse was built on Pound Length, together with Lake Garden, the city's first public park.

What better buffer would wish to control the toilet and the park if the surrounding context was the first step in camouflaging the public toilet in the city? The next step would be architecture. Fast forward to 1992, a competition was held by the Urban Council to design a public toilet that would be aesthetically attractive, easy to maintain, cost-effective, and suited to both urban and park conditions. Two initial sites were proposed: The Peak and Victoria Park, after which the design would be implemented in future toilets throughout the city. The entries showed a diversity of form, color, and material that contrasts with the uniformity of high-rise architecture being produced in the city.

One could argue that modern architecture is born with the plumbing system. The primitive hut is transformed as soon as the water closet is incorporated as these systems of flow become more complex. However, architecture begins to take on the task of concealment, as Mark Quigley articulates in his lecture, "Architecture in the Age of Radio." This is an image of a relatively ordinary building. This is not a fancy building; this is just the HVAC system, plumbing, electricity, air, water, etc. If you zoom in, you can see it just keeps sort of going, and every now and then, it sort of turns a corner and enters the river. Water, gas, electricity, and information flow inside the walls, the floors, and the ceilings of almost every building, criss-crossing basements and running across rooftops. There's a complex interconnected system made of tubes that support every space, from the largest waste pipe down to the thinnest wire. The public toilet demonstrates architecture's ability not only to serve basic functions but to alter public perception with the aid of the park. Together,

they conceal the unpleasant, making the seemingly incompatible duo the perfect match.

EXERCISE 1: Sample answers

1. The "With Toilet" is a toilet that is also used for things like exhibitions or pop-up stores, not just for going to the bathroom.
2. The design has places to wash hands at different heights, so everyone can use it and talk to each other while doing it.
3. The handwashing stations are at different heights, so children and older people can easily use them.
4. Besides being a toilet, it can be used for exhibitions, stores, or as a waiting area.
5. It's important because working together makes sure the design works well for everyone.

VIDEOSCRIPT

Welcome back to Itadakimasu Japan's special section Tokyo toilet tour, your ultimate spot for Tokyo's Unique Eats and hidden gems. In toilet tour part three, we bring you designs focused on the community. We hope you'll make a point of visiting when you're in Tokyo.

Let's take a look. Miles Pennington, in collaboration with DLX Design Lab, presents an innovative concept called "With Toilet." This design redefines public toilets, transforming them from basic facilities into vibrant community hubs by integrating a versatile secondary space. The design allows for various uses such as exhibition areas, popup stores, information centers, or cozy waiting areas. This approach places the toilet at the heart of community life, offering a new perspective on public spaces.

Professor Miles Pennington, a prominent figure in design-led innovation, currently leads the DLX Design Lab at the University of Tokyo. The lab is an international innovation hub that fosters collaboration between designers, researchers, industry, and the public. Its mission is to bridge the gap between academia and society, pushing the boundaries of design and innovation.

In the heart of urban landscapes, architect So Fujimoto is redefining the concept of public spaces with his innovative design vessels and fountains. This concept transforms the mundane public toilet into an urban oasis, a city spring that invites not just those in need of its primary function but a diverse array of users to a communal handwashing area. The design is inclusive, with a central concave shape that incorporates handwashing stations at various heights, making it

accessible for children, the elderly, and even wheelchair users. The curved design, reminiscent of a vessel, along with five forets set at different heights, fosters small community interaction, turning a simple act of hygiene into a social experience.

Su Fujimoto is a renowned architect who founded So Fujimoto Architects in 2000. He has received international acclaim for his innovative designs that merge functionality with community-oriented concepts. Some of his notable projects include the House of Music, Shiroya Hotel, Labra Blanc, and the Serpentine Gallery Pavilion.

In our channel, we'll continue to showcase Shibuya public restrooms. The timing might be random, so we apologize for that, but please don't forget to subscribe and give us a thumbs up. See you next time.

40 mini



UNIT FOUR

EXERCISE 1:

1. 1-f, 2-i, 3-a, 4-h, 5-g, 6-b, 7-e, 8-c, 9-d, 10-n, 11-m, 12-j, 13-k, 14-l

EXERCISE 2:

1. *out of* **DATE**.
2. *at* **TIMES**.
3. *before* **LONG**.
4. *From time to* **TIME**
5. *short* **TIME**.
6. *In the* **END**
7. *without* **DELAY**.
8. *In the* **MEANTIME**
9. *in* **PROGRESS**.

EXERCISE 3:

in time, 2) on the point of, 3) at the end, 4) at heart, 5) in time of, 6) divide it among, 7) by sight, 8) in front of, 9) in principle, 10) In case of, 11) In view of.

EXERCISE 4:

a. By, 2) a. On, 3) b. for, 4) c. on, 5) b. For a, 6) b. on, 7) b. on, 8) b. above.

FINAL TEST

DOMANDE PER CREAZIONE QUIZ SEMINARIO ON DEMAND

Inserire 12 domande relative al seminario e indicare la risposta corretta

	Domanda	Vero	Falso
1	BOQ: a <i>bill of quantities</i> is a document prepared by estimation or cost consultants.	X	
2	Building engineers are mainly the experts in construction, technology, design, assessment, and maintenance.	X	
3	The falsework is a permanent structure constructed to support and hold the span during construction or repairs.		X
4	A performance gap is when the expected work progress does not meet with the result on site.	X	
5	A scope creep is often the result of internal good communication and agreements taking place between the parties.		X
6	Shiplap is a type of inexpensive wooden board or panels.	X	
7	Soil stockpiles are created when bulldozers excavate the soil on site and stack them in piles.	X	
8	Thin-shell structures are heavy concrete elements, typically used on roofs.		X
9	Underpinning is the act of strengthening a new structural foundation.		X
10	VDC means Virtual Design & Construction.	X	
11	Zoning laws are set by the government.	X	
12	Zoning keeps a residential district only residential and a commercial district commercial.	X	



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