

Which one do you choose? Why?



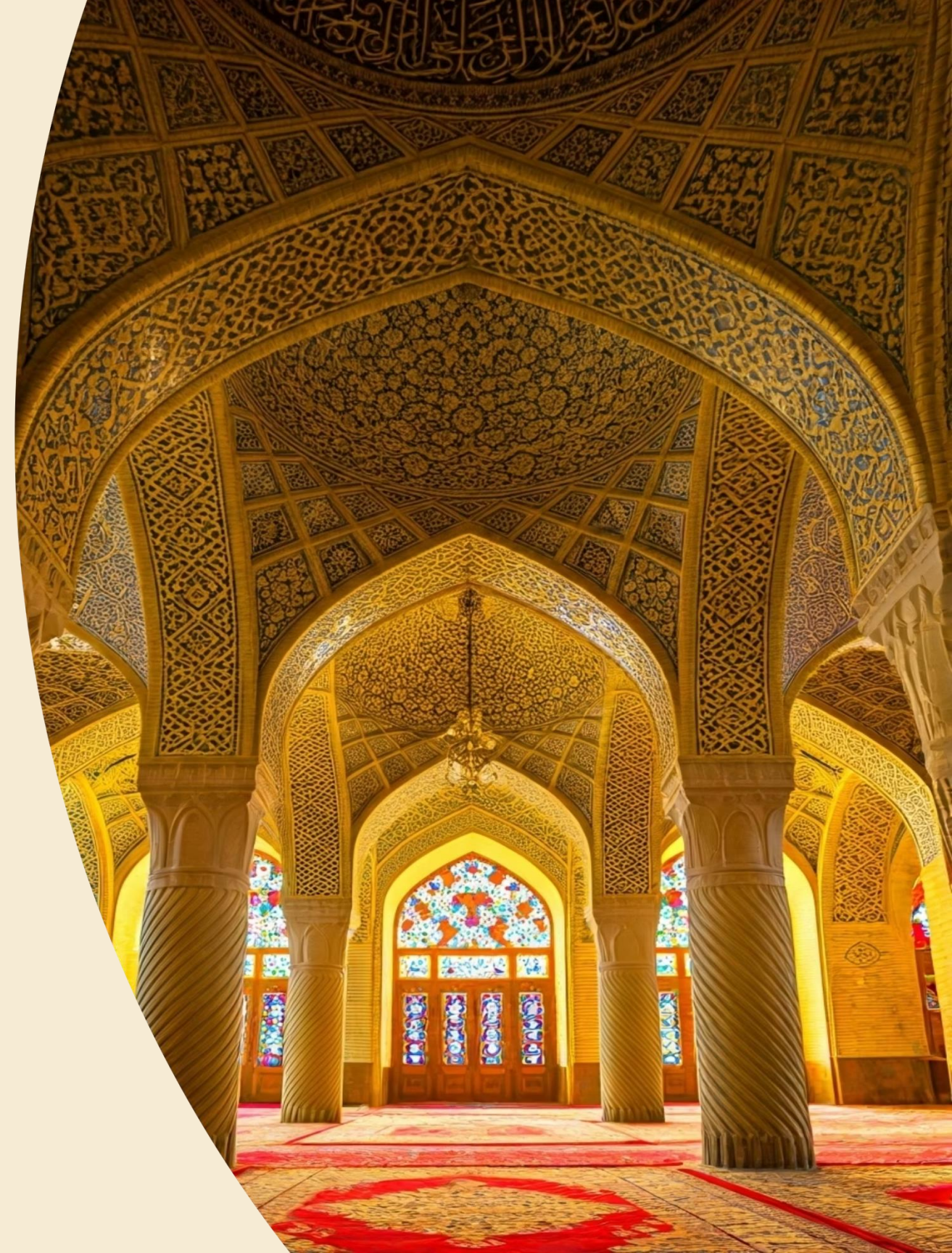




Architecture

A Journey for Young Minds

Welcome, aspiring architects and curious learners! In this summer English class, We'll discover what architecture truly means, who the creative minds behind our buildings are, and how different structures shape our world. Get ready to learn new words, explore fascinating designs, and even create your own architectural wonders!



What is Architecture?

Architecture is more than just putting bricks and mortar together; it's the art and science of designing and constructing buildings and other physical structures. It's about shaping the spaces where we live, work, learn, and play. Think about the feeling a beautiful building gives you – that's the power of architecture! It considers not only how a building looks, but also how it functions, how it interacts with its environment, and how it makes people feel. From ancient pyramids to modern skyscrapers, architecture tells the story of human civilization.

Who is an Architect?

An **architect** is a professional who plans, designs, and oversees the construction of buildings. They are the dreamers who turn abstract ideas into tangible realities. Architects need to be creative, detail-oriented, and skilled in both art and science. They work closely with *engineers, construction workers, and clients* to ensure that buildings are safe, functional, and aesthetically pleasing.

Architectural Terms



Facade

The facade is often the most important part of a building's design. In Iranian architecture, We mostly use tilework, geometric patterns, and calligraphy, reflecting deep cultural and religious significance.



Column & Pillar

Columns and pillars are vertical supports. While similar, columns are often more decorative and round, while pillars can be of any shape. In ancient Persian palaces like Persepolis, massive, fluted columns supported grand halls, showcasing the empire's power and advanced engineering.



Arch

An arch is a curved structure that spans an opening and supports weight. Arches are fundamental to Iranian architecture, often seen in bazaars, bridges, and especially mosques, where pointed and multi-foiled arches create breathtaking visual effects and structural stability.



Dome

A dome is a rounded vault forming the roof of a building. Iranian domes, particularly those on mosques and mausoleums, are renowned for their stunning blue and turquoise tilework, symbolizing the heavens and often incorporating intricate star patterns.



Floor Plan

A floor plan is a diagram showing the layout of a building from above, like a map. It helps architects design how rooms connect and how people will move through the space. Traditional Iranian houses often feature a central courtyard (hayat) around which rooms are arranged, offering privacy and a cool microclimate.



Window Frame

The window frame is the structure that holds the glass of a window. In Iranian architecture, window frames often feature intricate wooden latticework (panjere) or stained glass (oroussi), not just for beauty but also to filter light, create patterns on interior walls, and provide privacy.



Foundation

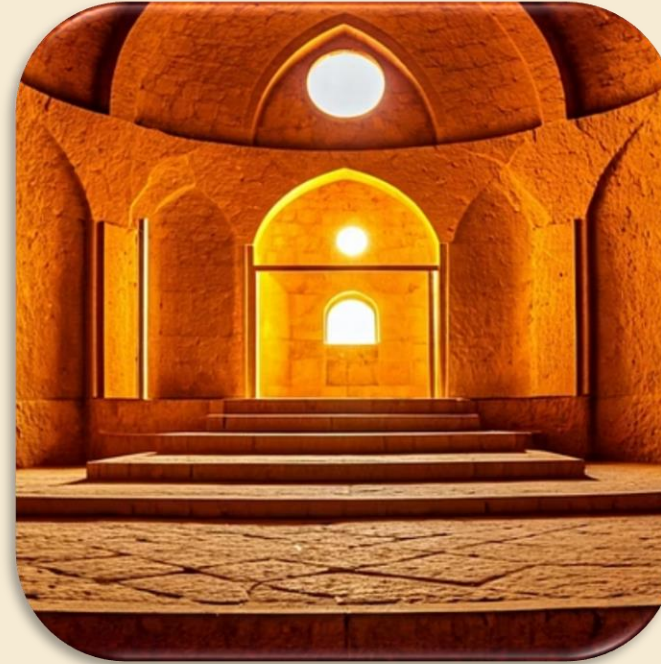
The foundation is the lowest part of a building, usually below ground, that supports the entire structure. It's like the roots of a tree – essential for stability! A strong foundation ensures a building can withstand earthquakes and the test of time, a critical consideration in many regions.



Staircase

A staircase is a set of stairs allowing passage between different levels of a building. Staircases can be simple or grand, spiral or straight. In historic Iranian mansions, staircases might be adorned with plasterwork, mirrors, or paintings, turning a functional element into an artistic centerpiece.

Exploring Different Types of Buildings



Mosque: A place of worship for Muslims, often characterized by domes, minarets, and intricate calligraphy. Iranian mosques like the Shah Mosque in Isfahan are masterpieces of Islamic architecture. **Church:** A place of worship for Christians, varying widely in style from ancient cathedrals to modern structures. **Temple:** A building dedicated to religious worship in various faiths, such as Zoroastrian temples in Iran, which often housed sacred fires. **Apartment:** A self-contained housing unit that occupies only part of a building.

- Tower: A tall, slender structure, often part of a larger building or standing alone, like the historical Milad Tower in Tehran, used for telecommunications and observation.
- Skyscraper: An extremely tall, multi-story building, usually found in large cities, representing modern engineering prowess.
- Bridge: A structure built to span a physical obstacle, like water or a valley, connecting two areas. The Khaju Bridge in Isfahan, Iran, is a beautiful example, serving as both a bridge and a dam.
- Hospital: A healthcare institution providing patient treatment with specialized medical and nursing staff and medical equipment.
- Stadium: A large outdoor or indoor venue with tiers of seats for spectators, used for sports, concerts, or other events.
- Tomb/Mausoleum: A building containing a tomb or tombs, often built to honor important historical figures. The Tomb of Hafez in Shiraz, Iran, is a famous example, attracting poets and visitors from around the world.



Exploring Global & Local Architecture

Architecture is a universal language, but it also speaks with unique local accents. Let's broaden our horizons and then explore our own surroundings.



School Architecture Walk

Now, let's become architectural detectives! We will take a walk around our school, inside and out. Your mission is to identify real-life examples of the architectural elements we've discussed:

- Can you spot a facade?
- Where are the **columns** or **pillars**?
- Are there any **arches** or small **domes**?
- Look at the **window frames** and **staircases**.

We'll practice labeling these elements in English, connecting our classroom learning to the physical world around us.

Walking around school to identify real examples and labeling them

façade

window frame

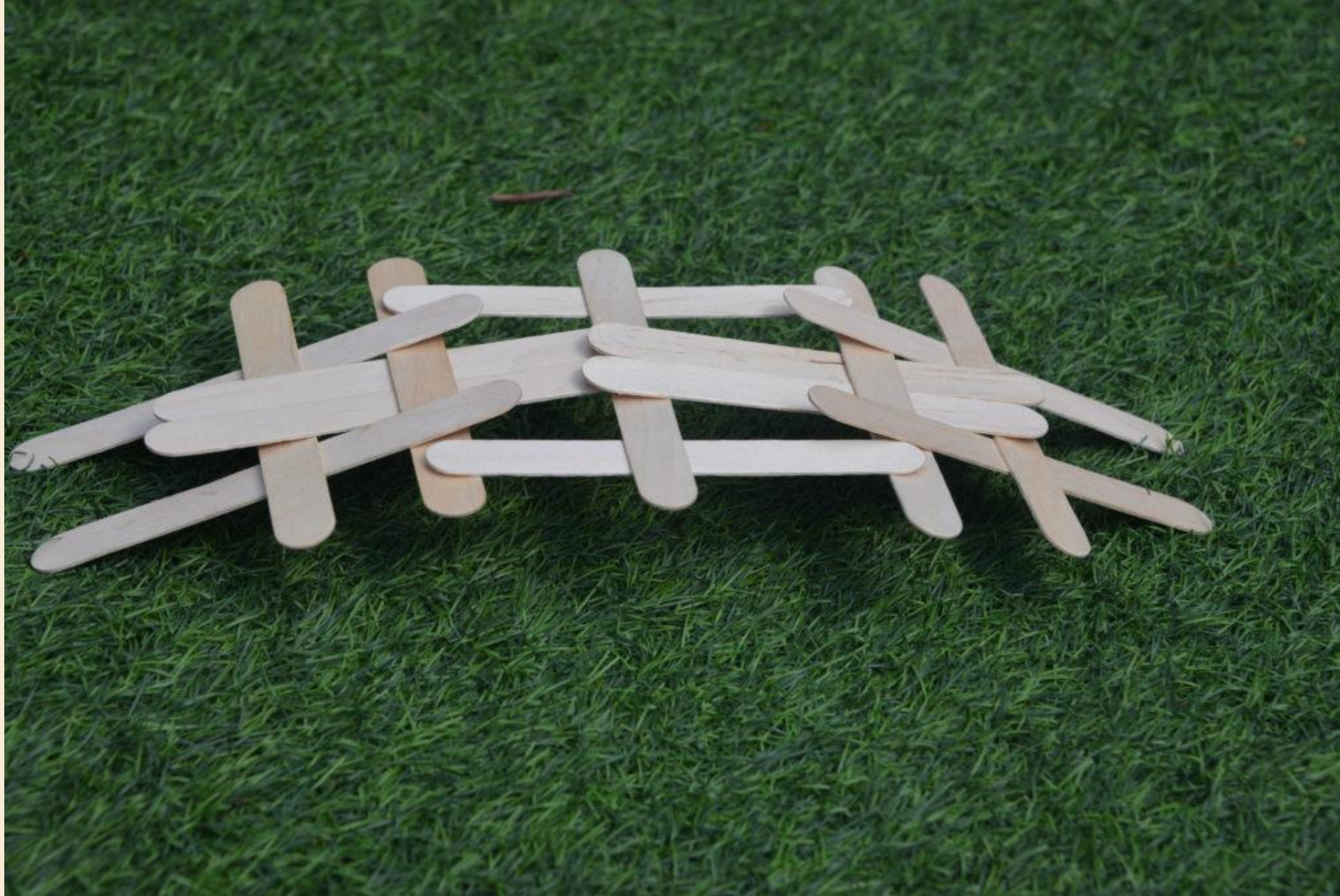
Column / pillar

staircase

arch

Project

Leonardo Da Vinci Bridge



Civil_eng_97

جسر دافنشي
da vinci bridge



Group Challenge: The Tallest Tower

Now it's time to put our newfound knowledge to the test! In this exciting group challenge, you'll become real-life architects and engineers.

1

Materials at Hand

Your team will receive a set of common materials: paper, spaghetti sticks, tape, etc. Think about their strengths and weaknesses!

2

Design & Build

Work together to design and build the Leonardo Da Vinci Bridge. How will you make it stable? How will you maximize its height? Consider using the architectural terms we've learned, like "foundation" and "columns."

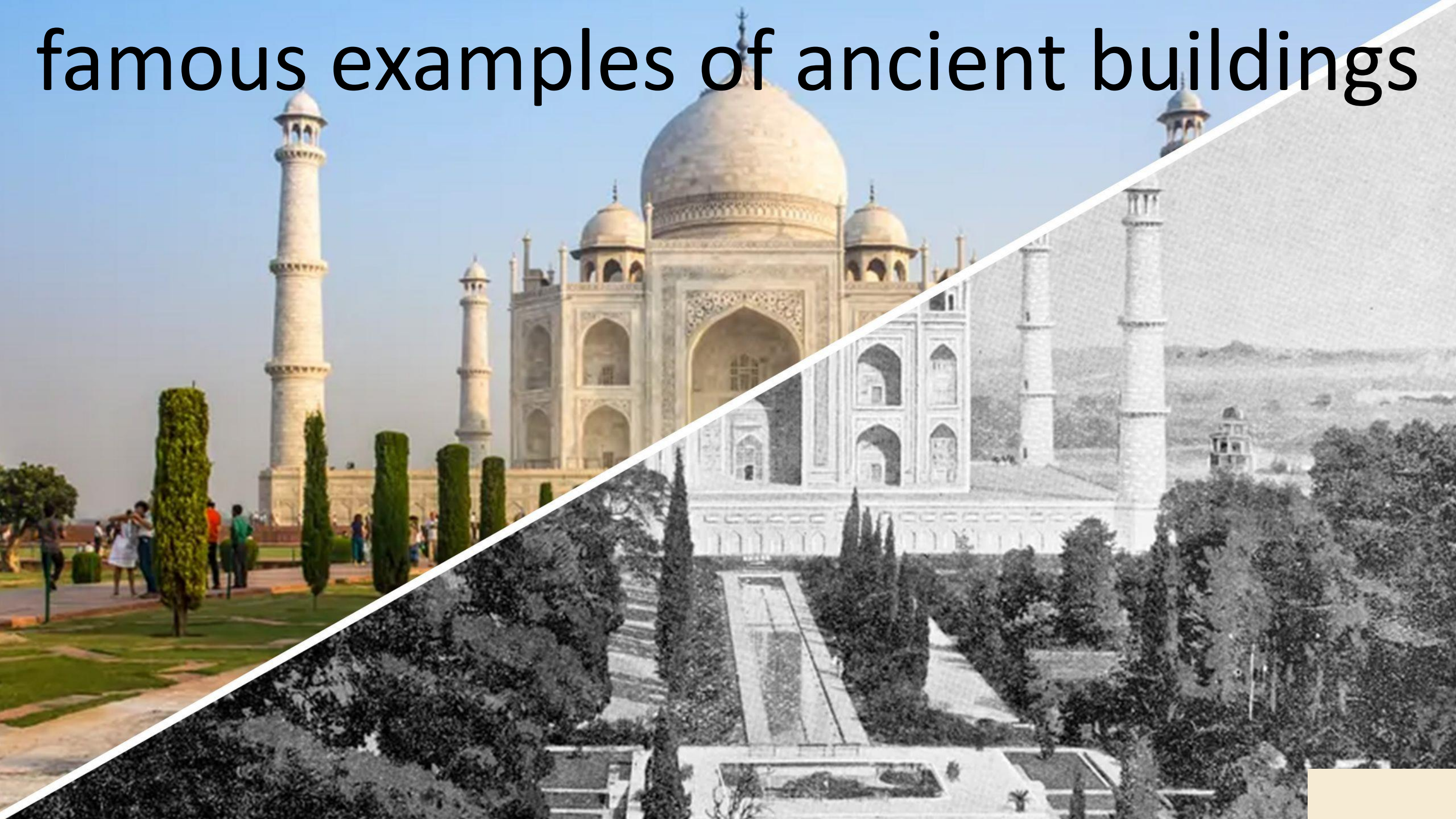
3

Test & Refine

After building, we'll test the stability of each bridge. You might even get a chance to refine your design if time permits. Collaboration and creative problem-solving are key!

This challenge is not just about building; it's about teamwork, innovation, and applying architectural principles in a fun, hands-on way!

famous examples of ancient buildings



The Roman Aqueducts- Italy



Al-Kazneh- Petra, Jordan



The Megalithic Temples of Malta



Leshan Giant Buddha- China



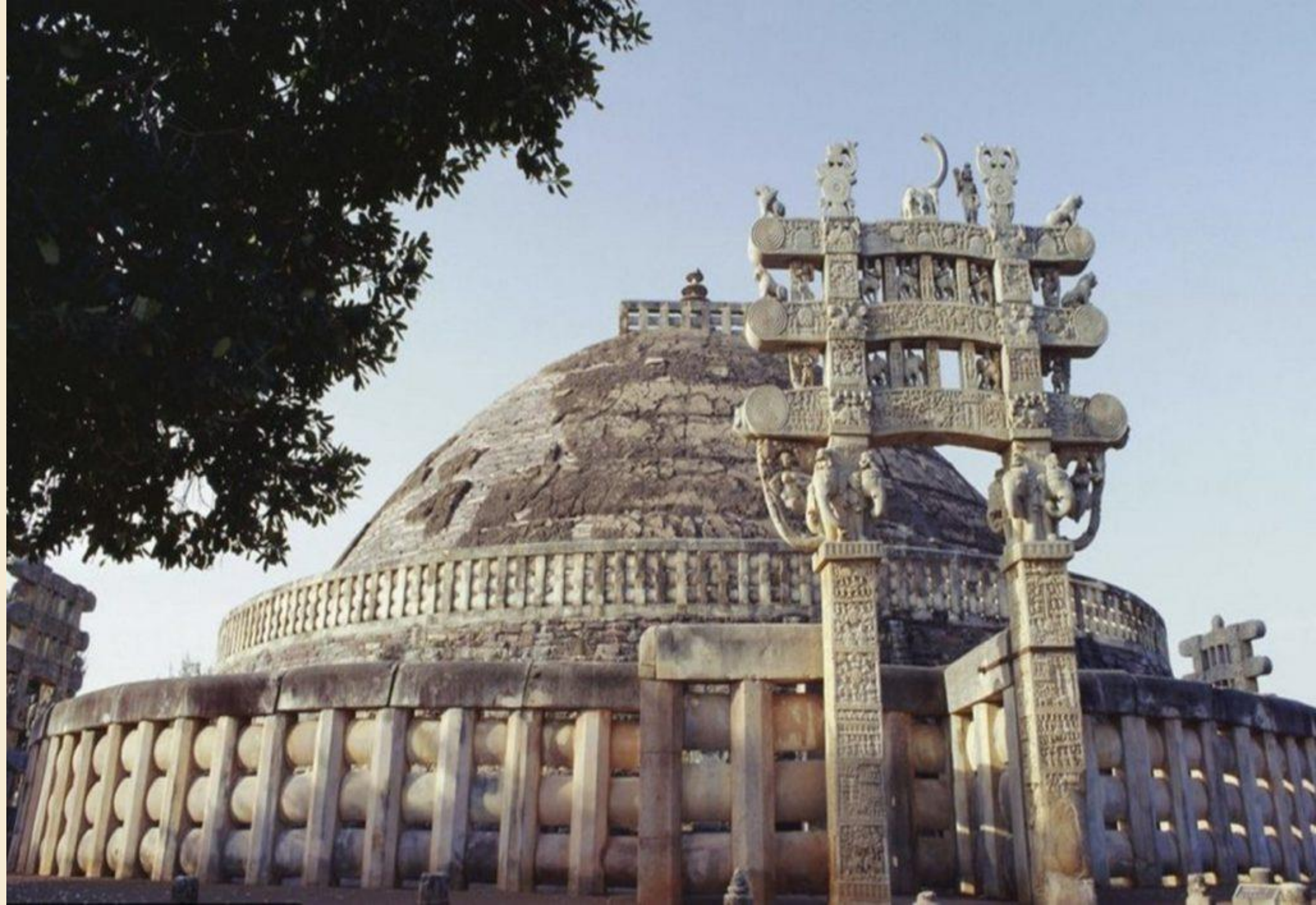
The Parthenon- Greece



Borobudur – Indonesia



Sanchi Stupa



Ellora Caves



Rani ki Vav



Konark Sun Temple

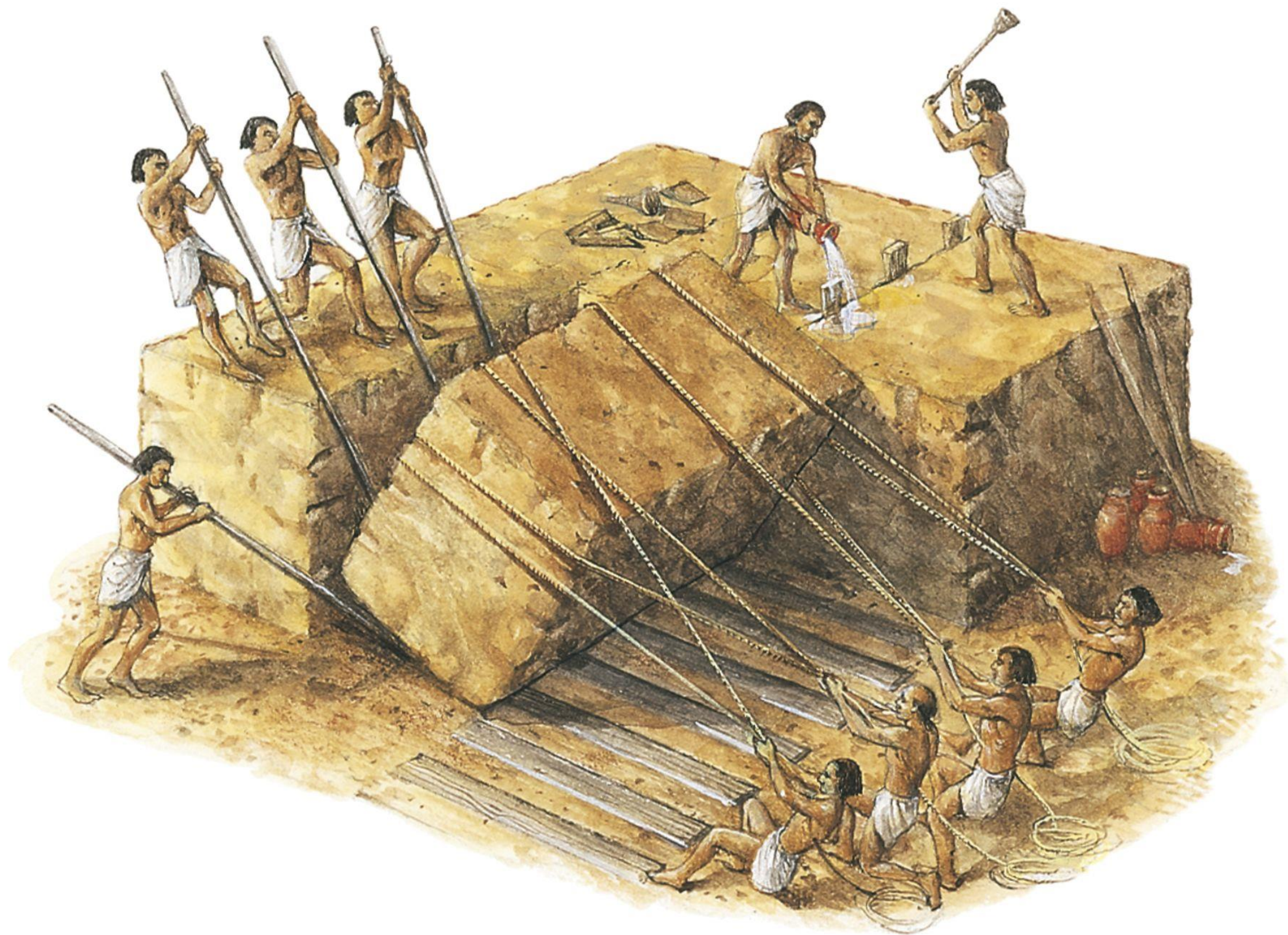


Let's play
GAME

<https://wordwall.net/resource/94916003>

how ancient buildings were built without machines?









famous examples of modern buildings

Burj Khalifa, Dubai



Dancing House, Prague



Heydar Aliyev Cultural Center, Baku



Sydney Opera House, Australia



Louis Vuitton Art Foundation, Paris



Marina Bay Sands, Singapore



Jean-Marie Tjibaou Cultural Center, Nouméa



Tianjin Binhai Library, China



Sagrada Família, Barcelona



Guggenheim Museum, Bilbao



Let's play
GAME

<https://wordwall.net/resource/94931622>



Old vs. New

Which attracts more tourists?



Architecture and Construction

Parts of the building





facade

the front of a building, particularly one that is large and has an elegant appearance





garage

a building, usually next or attached to a house,
in which cars or other vehicles are kept





storage room

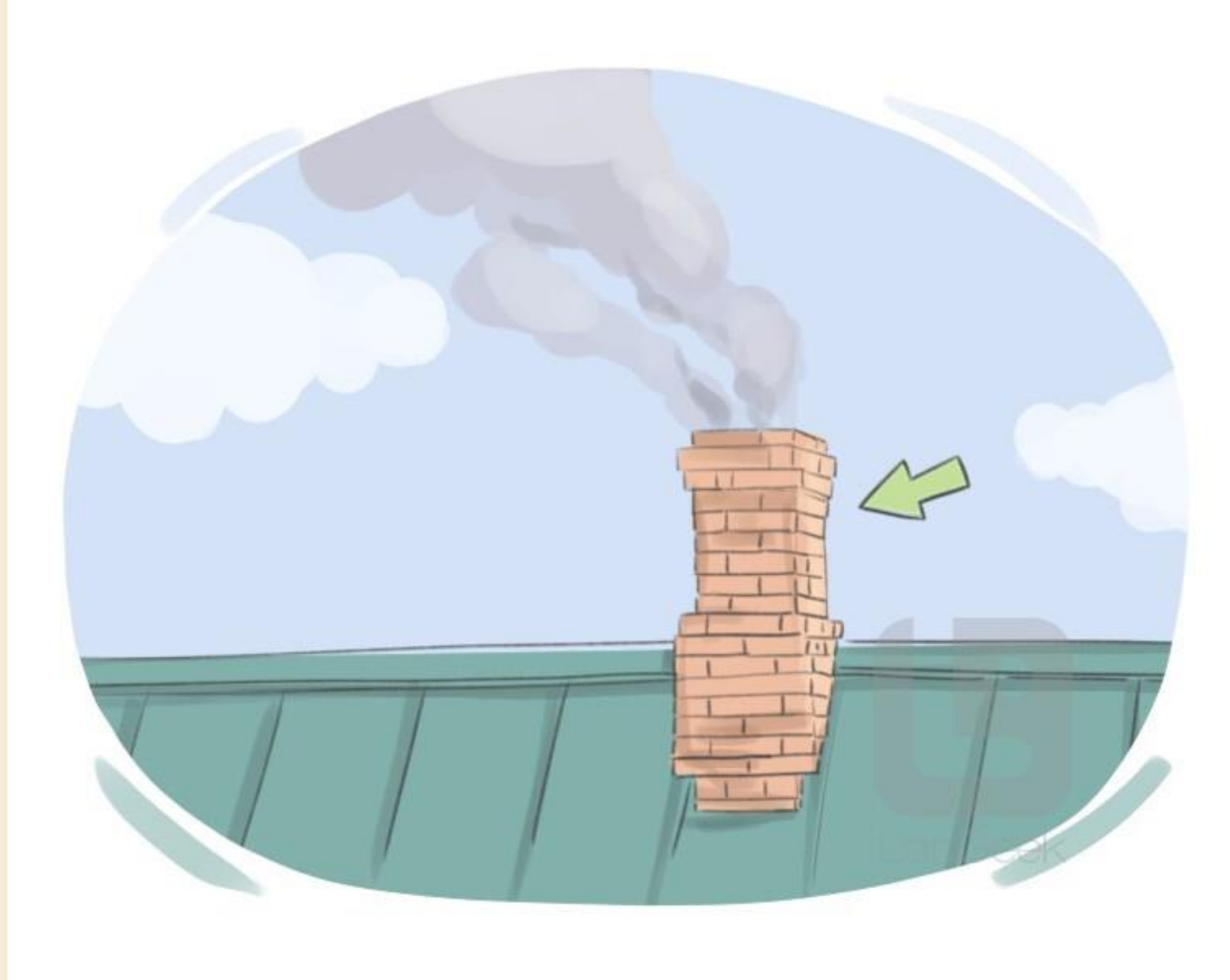
a designated space within a building used for storing various items or belongings in an organized manner, typically equipped with shelves, cabinets, or other storage solutions

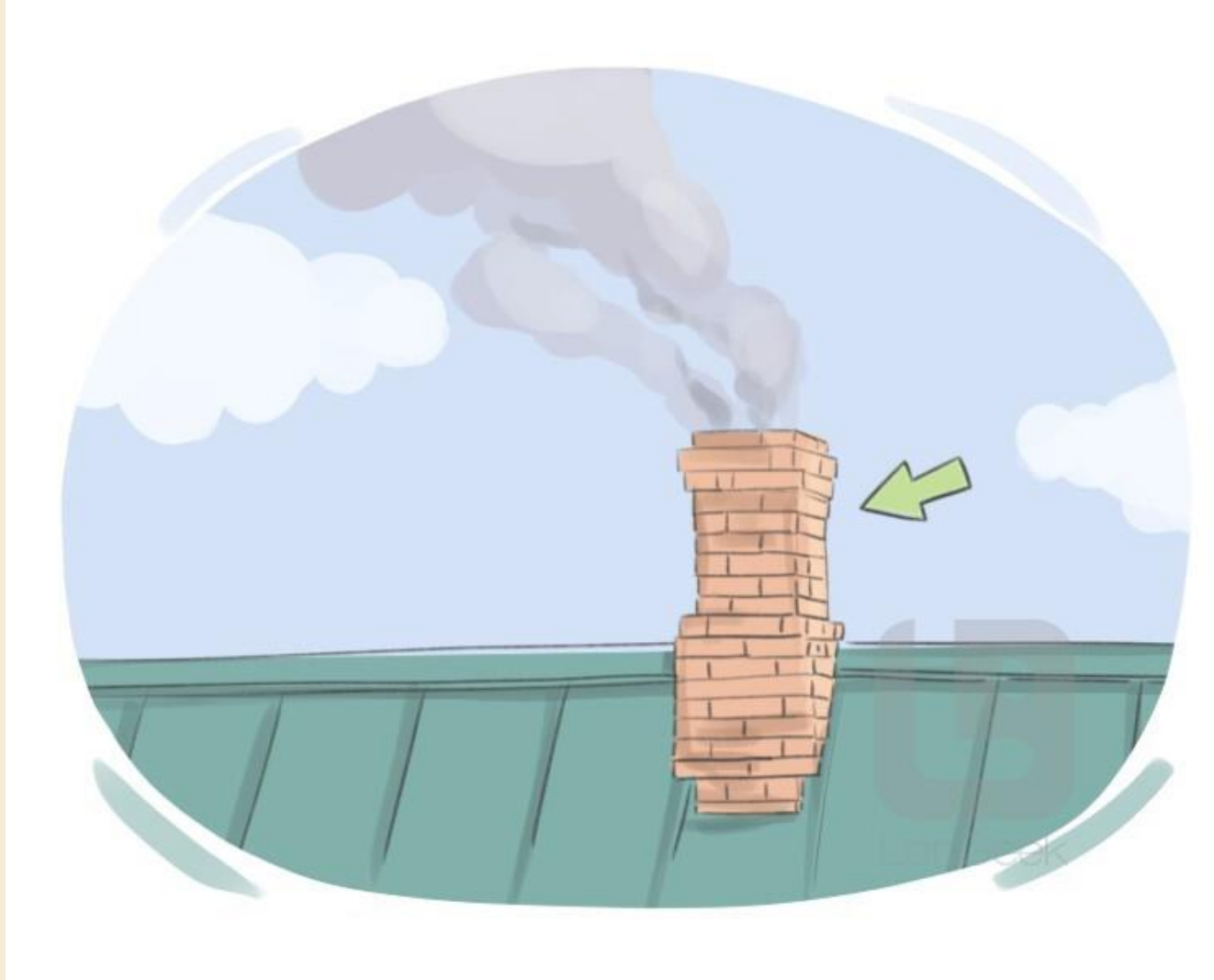




roof

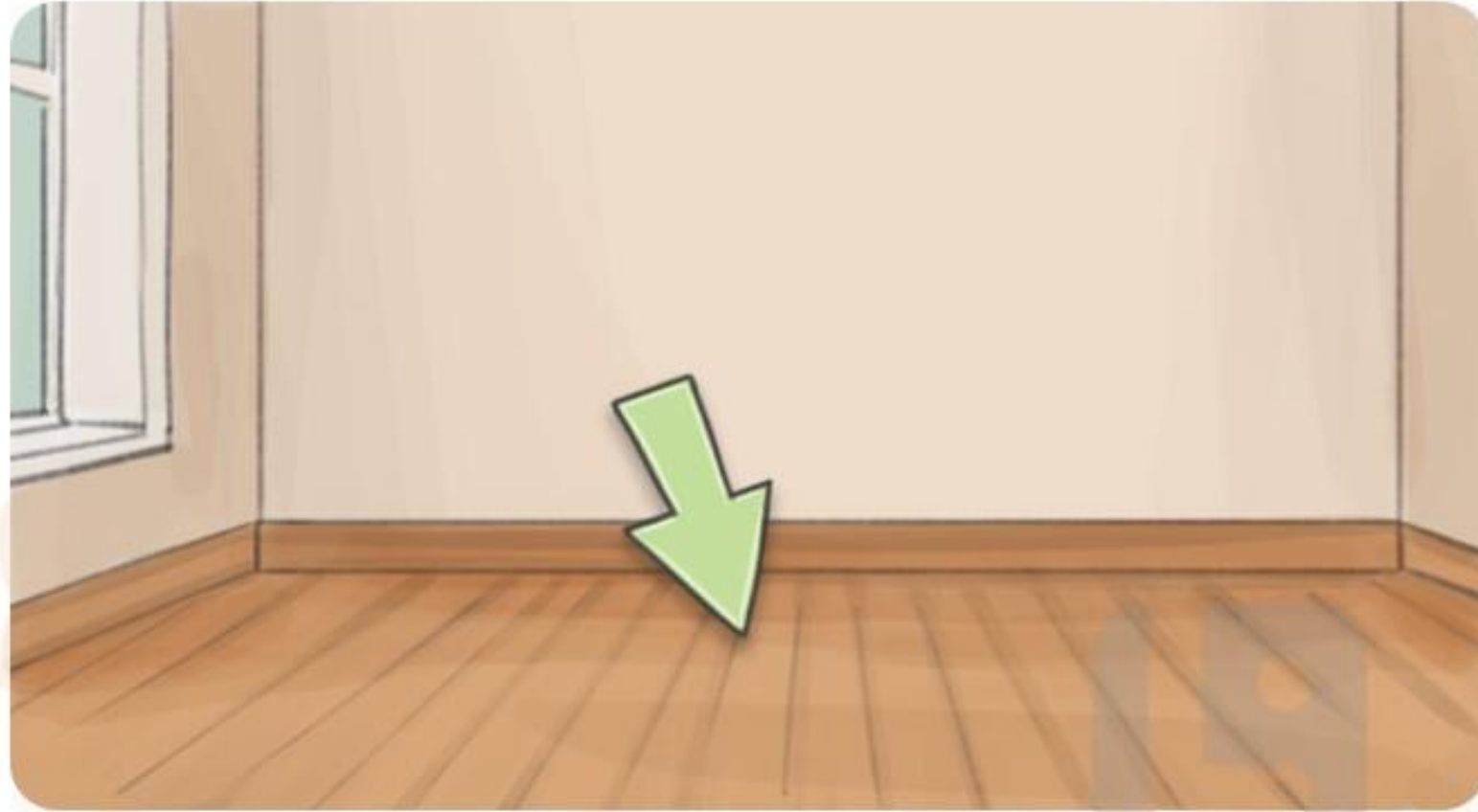
the structure that creates the outer top part of a vehicle, building, etc.



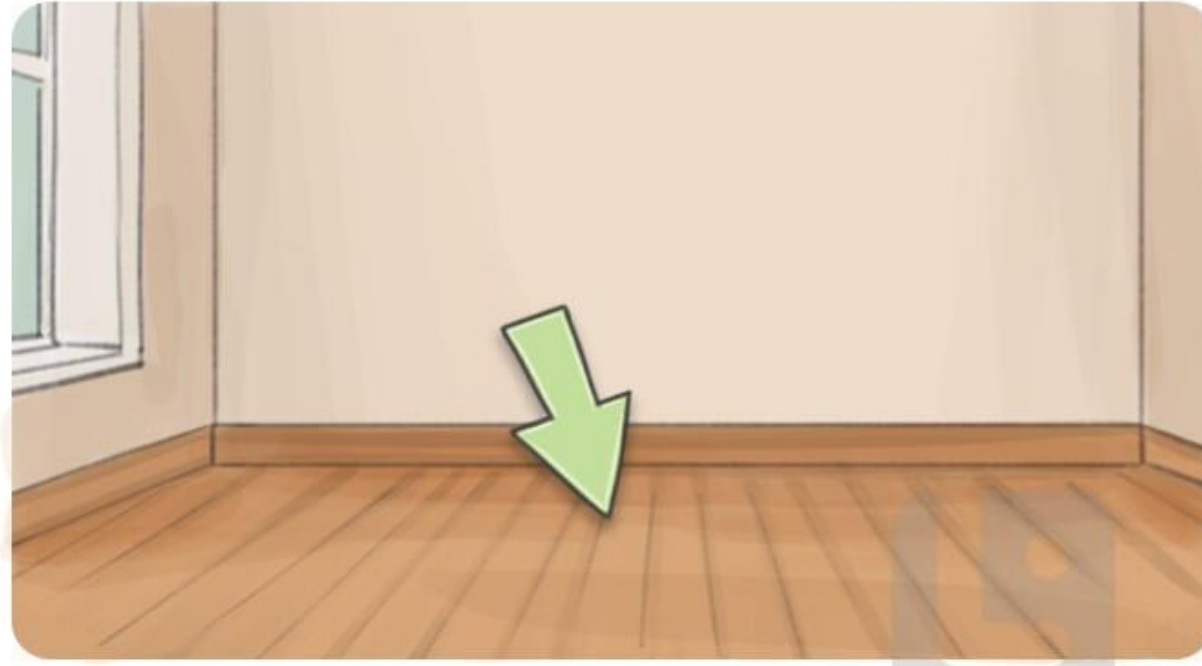


chimney

a channel or passage that lets the smoke from a fire pass through and get out from the roof of a building



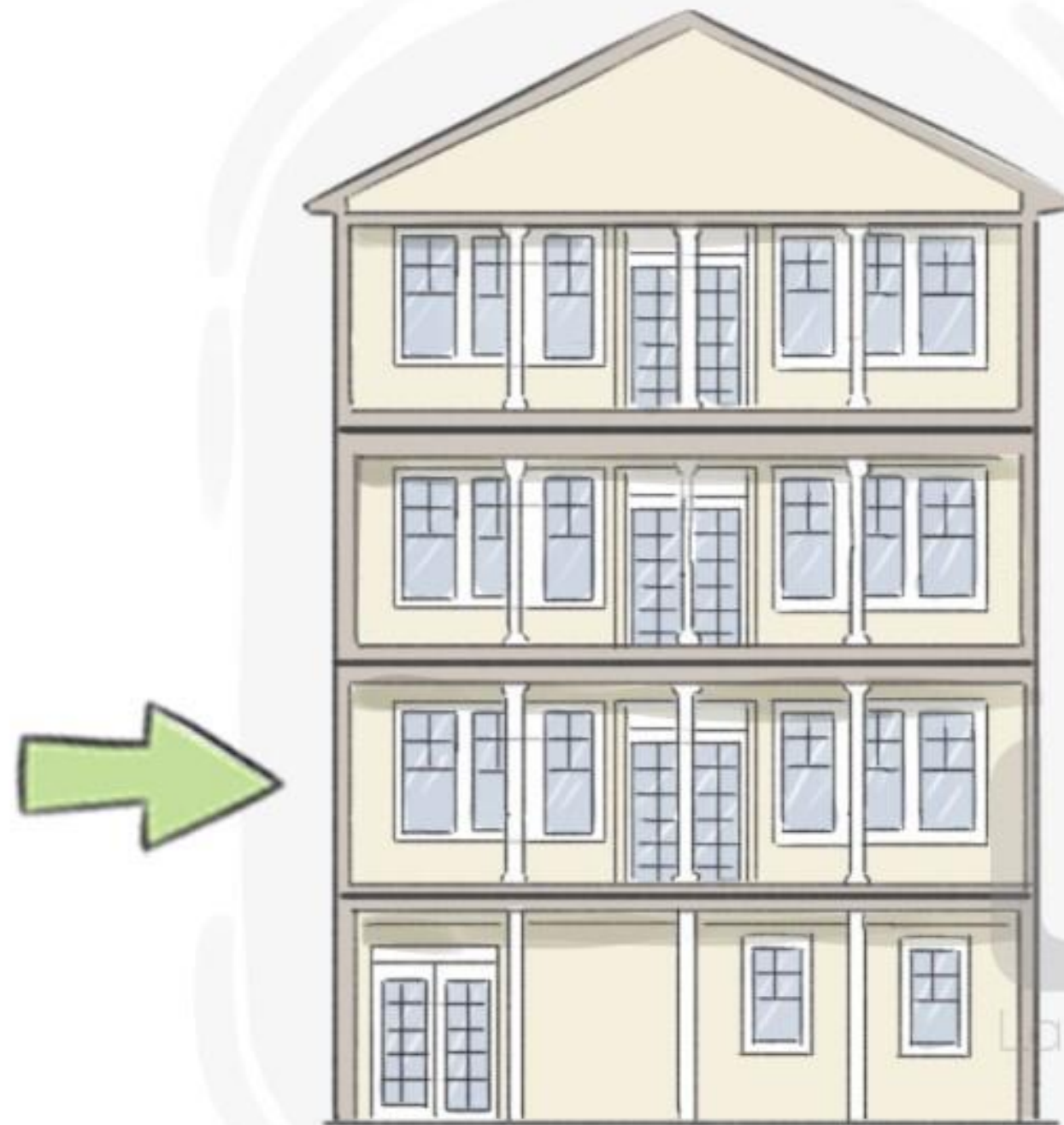
LanGeek



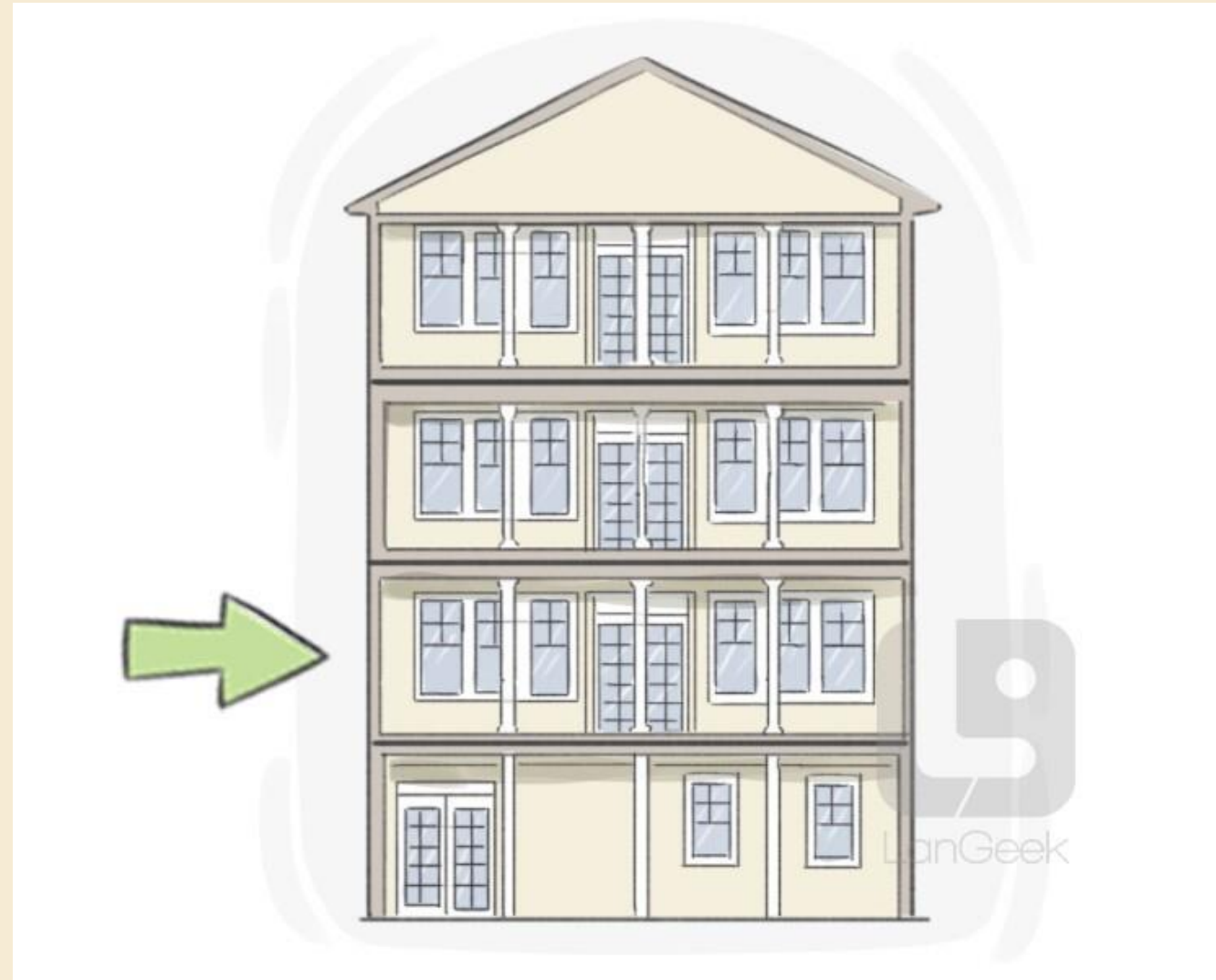
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floor

the bottom of a room that we walk on



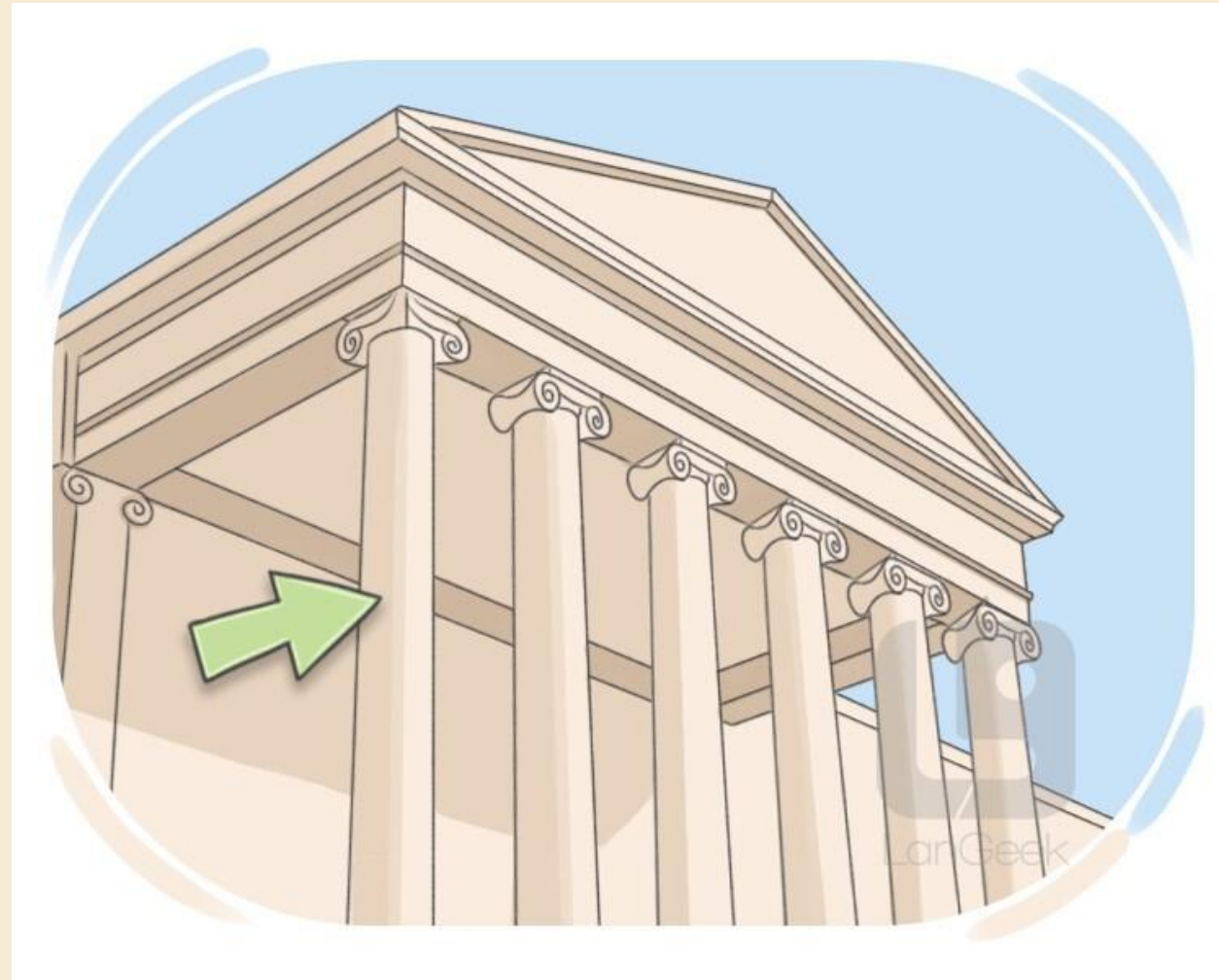
LeanGeek



level

one of the many floors that are in a building





column

a vertical structural element, often made of stone,
that supports the weight of the building above it





lobby

the area just inside the entrance of a public building such as a hotel, etc.





trash chute

a vertical or inclined passage in a building that allows for the convenient disposal of waste materials by dropping them into a designated collection area or dumpster

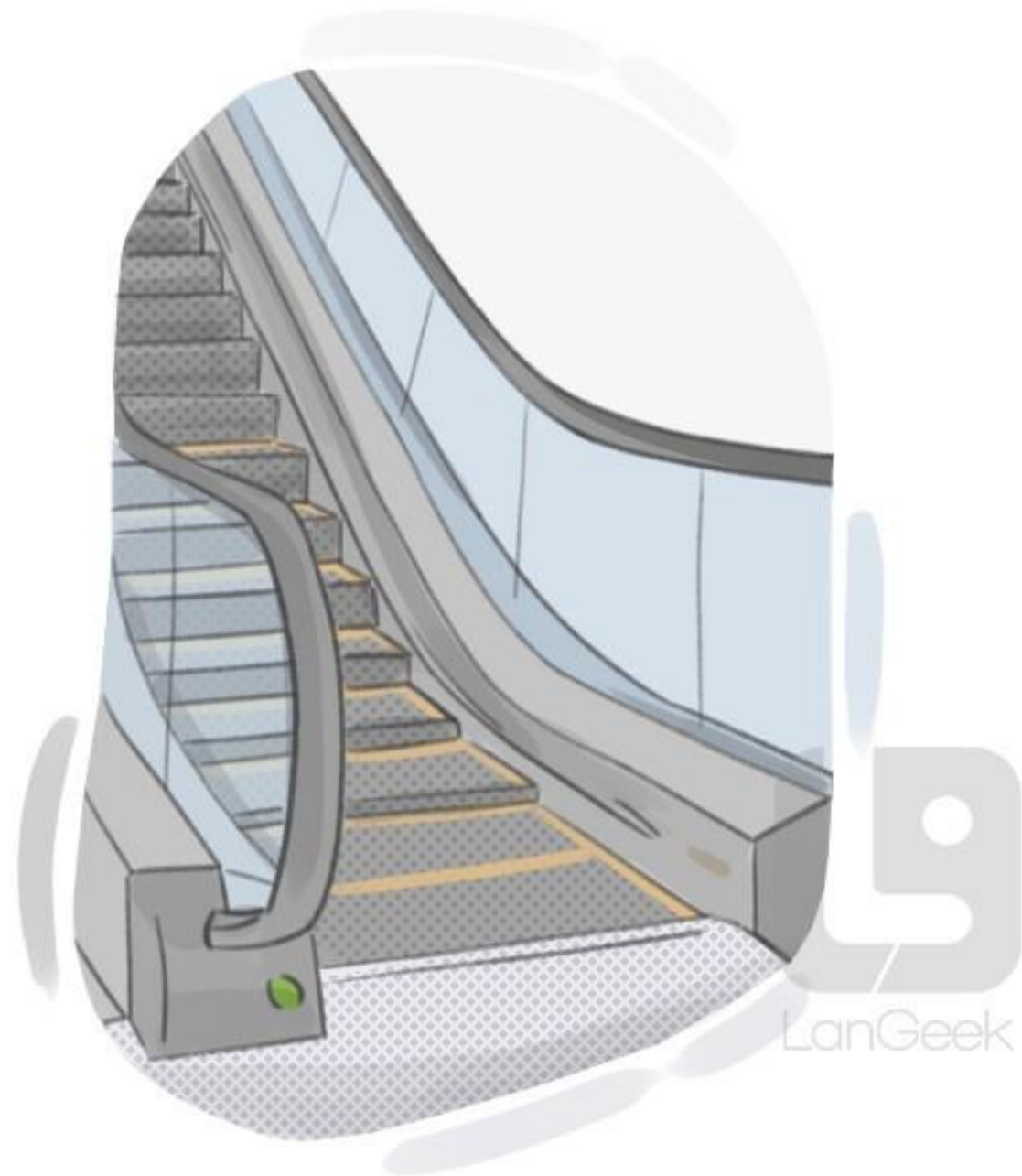


LanGeek



elevator

a box-like device that moves up and down and is used to get to the different levels of a building





escalator

a staircase that moves and takes people up or down different levels easily, often found in large buildings like airports, department stores, etc.



LanGeek



hearth

a fireplace built into a wall where fires can be lit

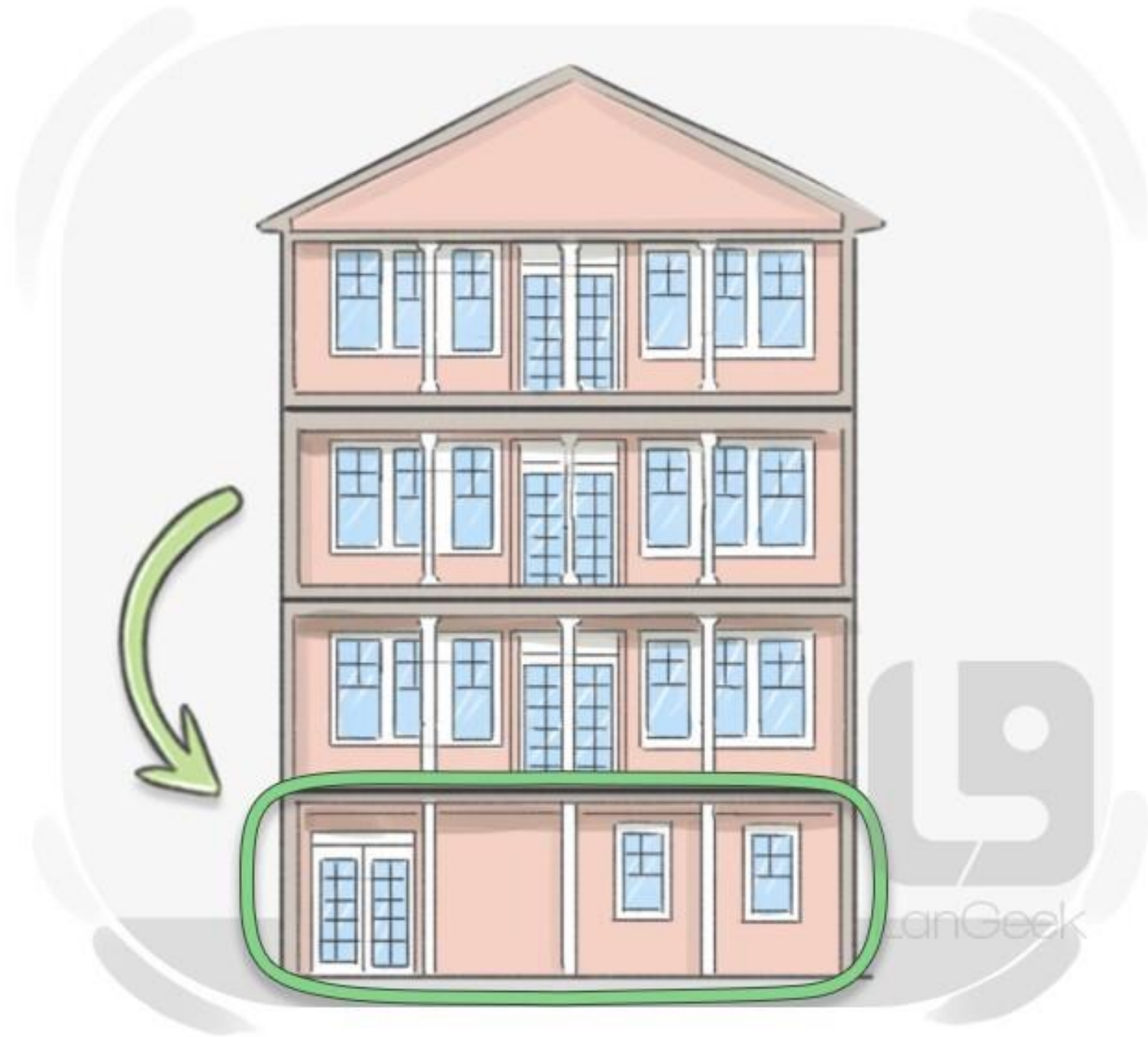


LanGeek



the upstairs

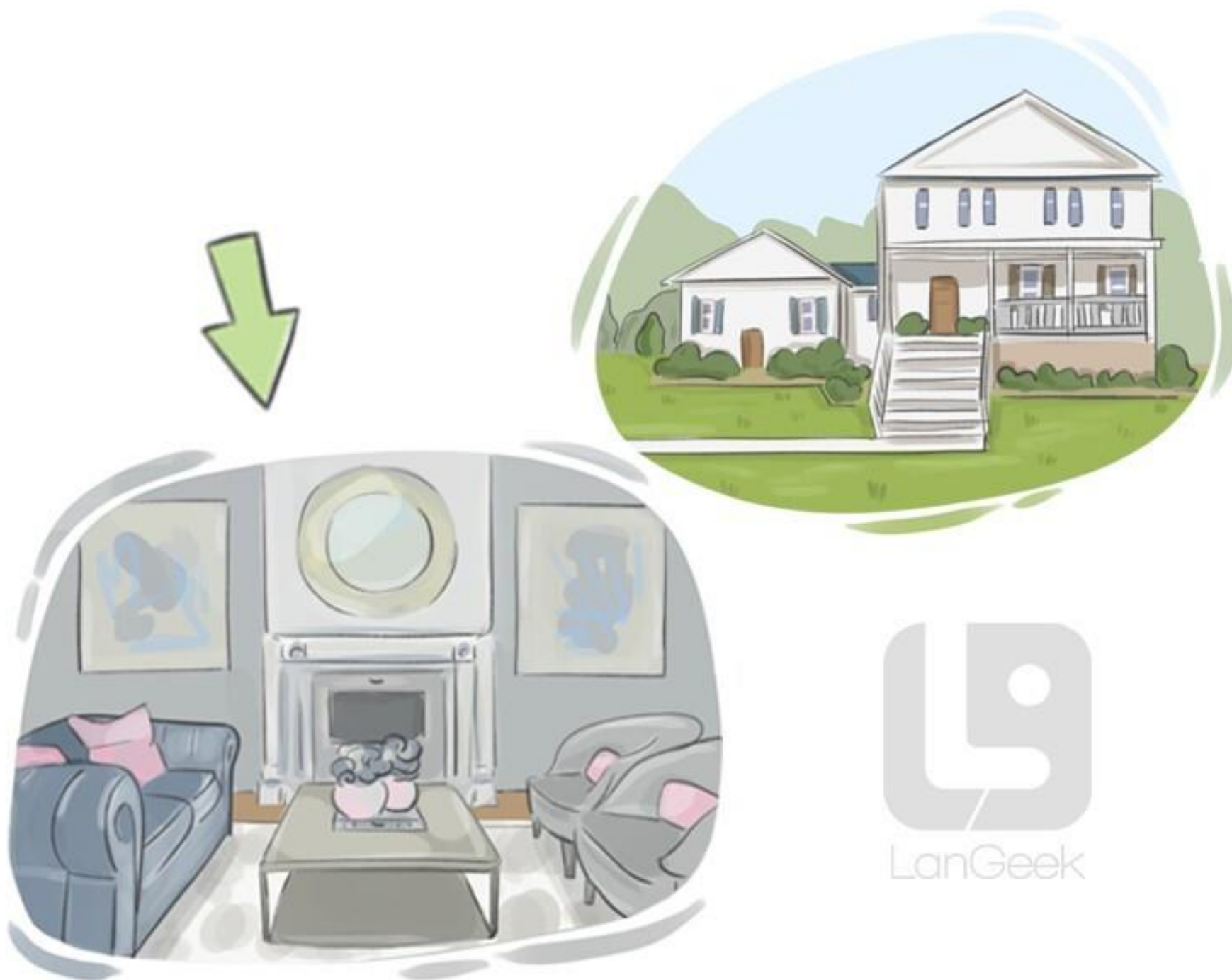
an upper floor of a house, apartment, or any other building

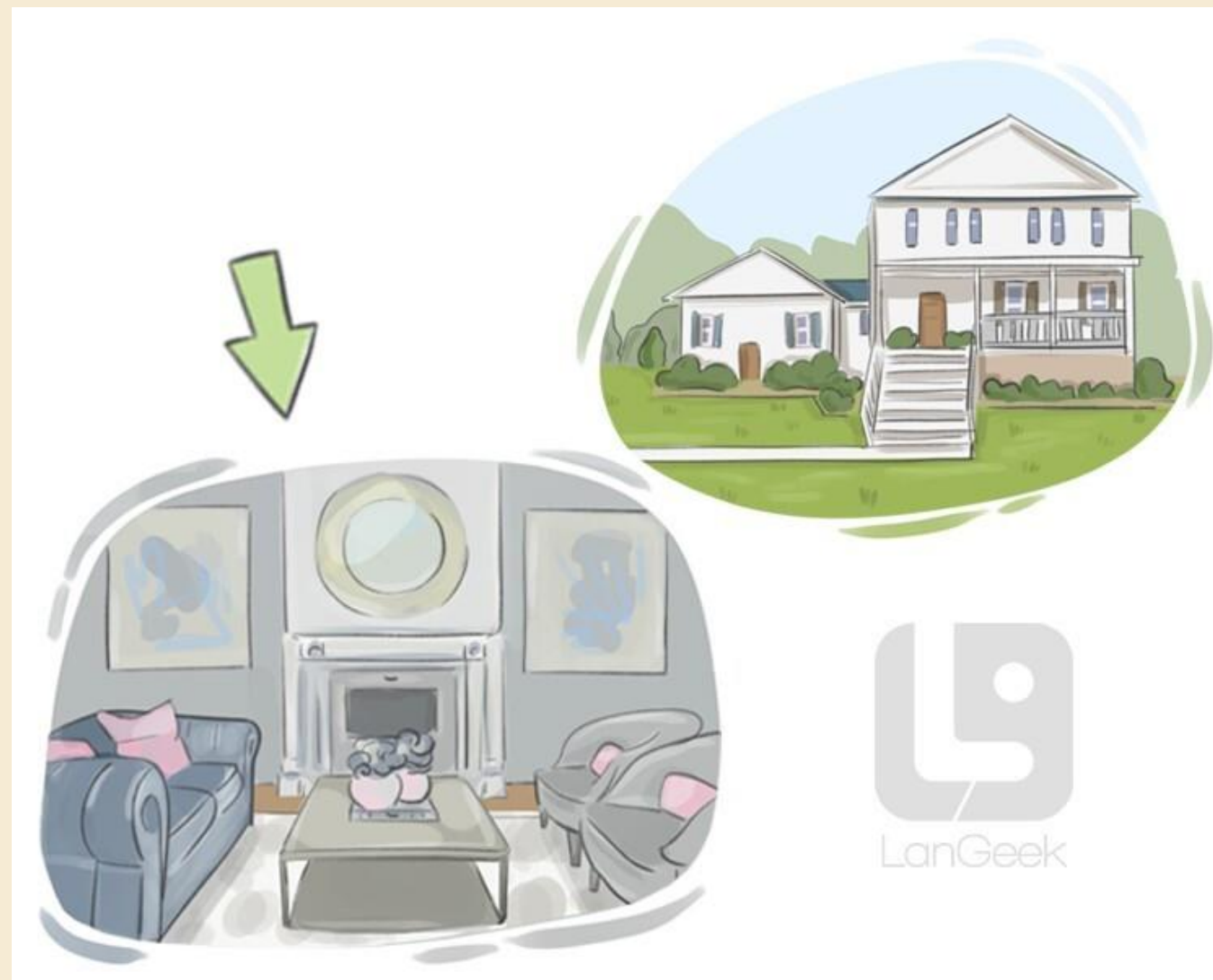




the downstairs

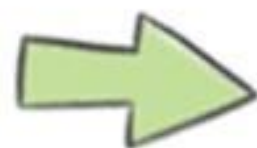
a floor that is located on a lower level of a building, particularly at the ground level

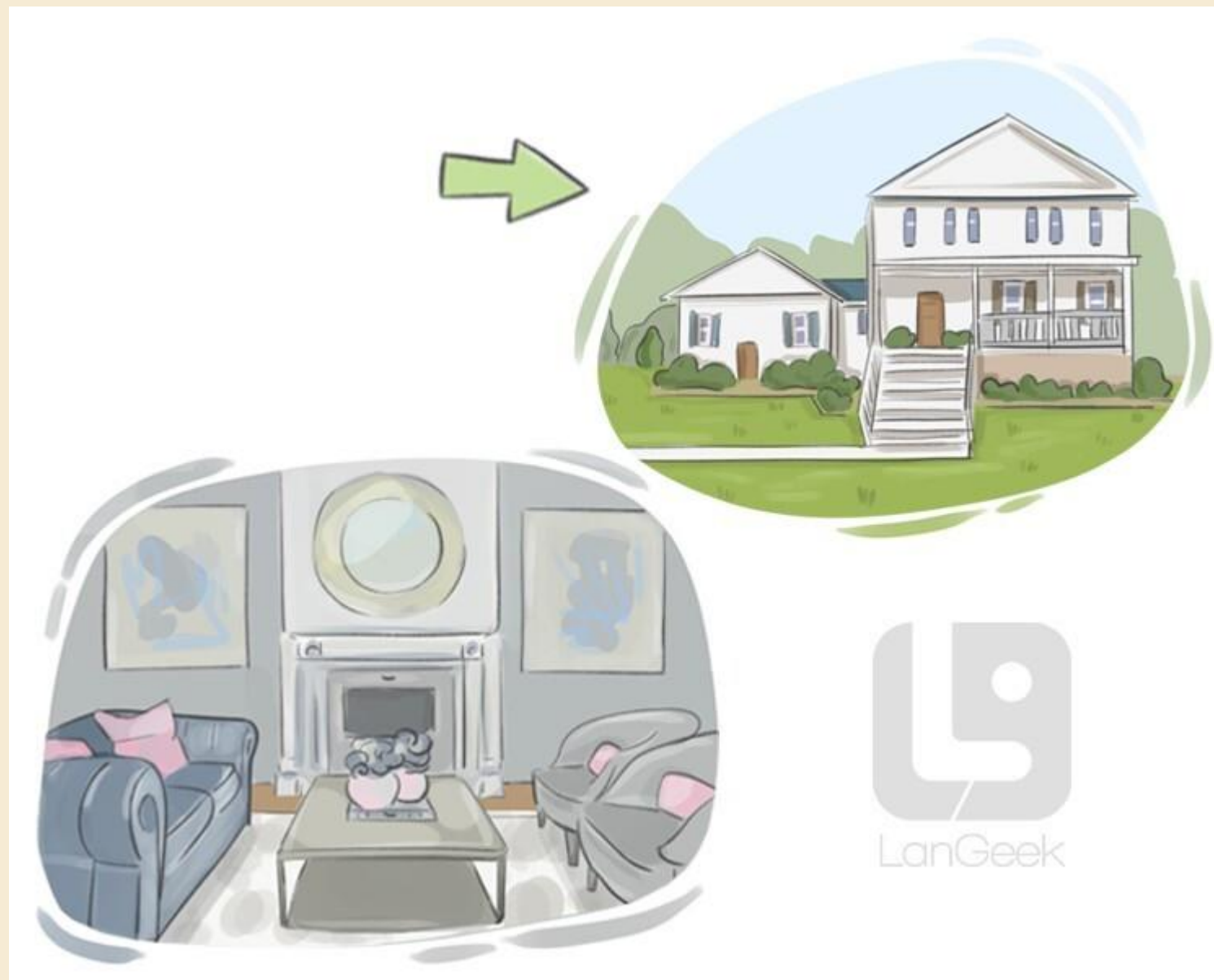




interior

the internal part of a building, car, etc.





exterior

the outer surface or outermost layer of an object, building, etc.

Architecture and Construction

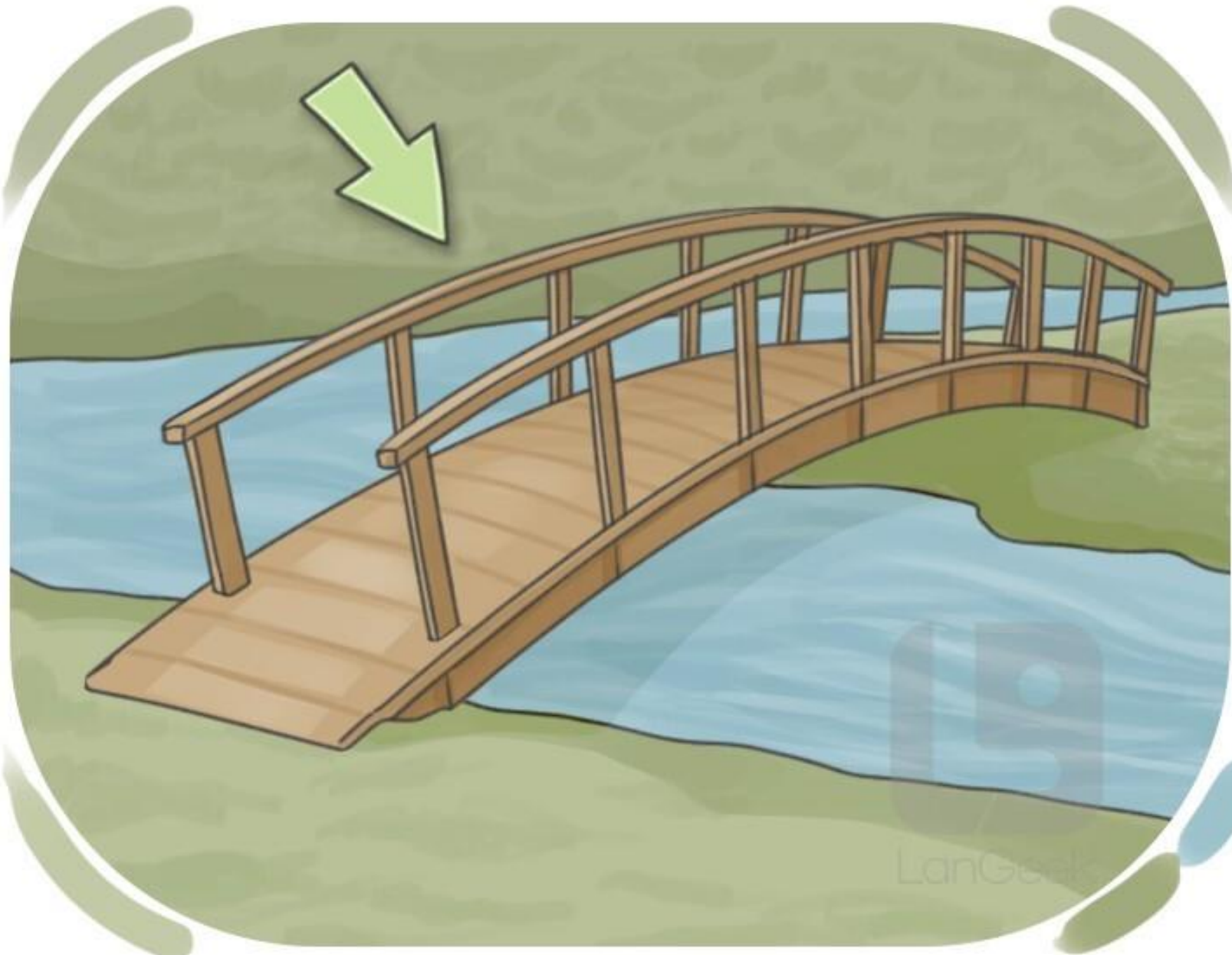
Types of structure

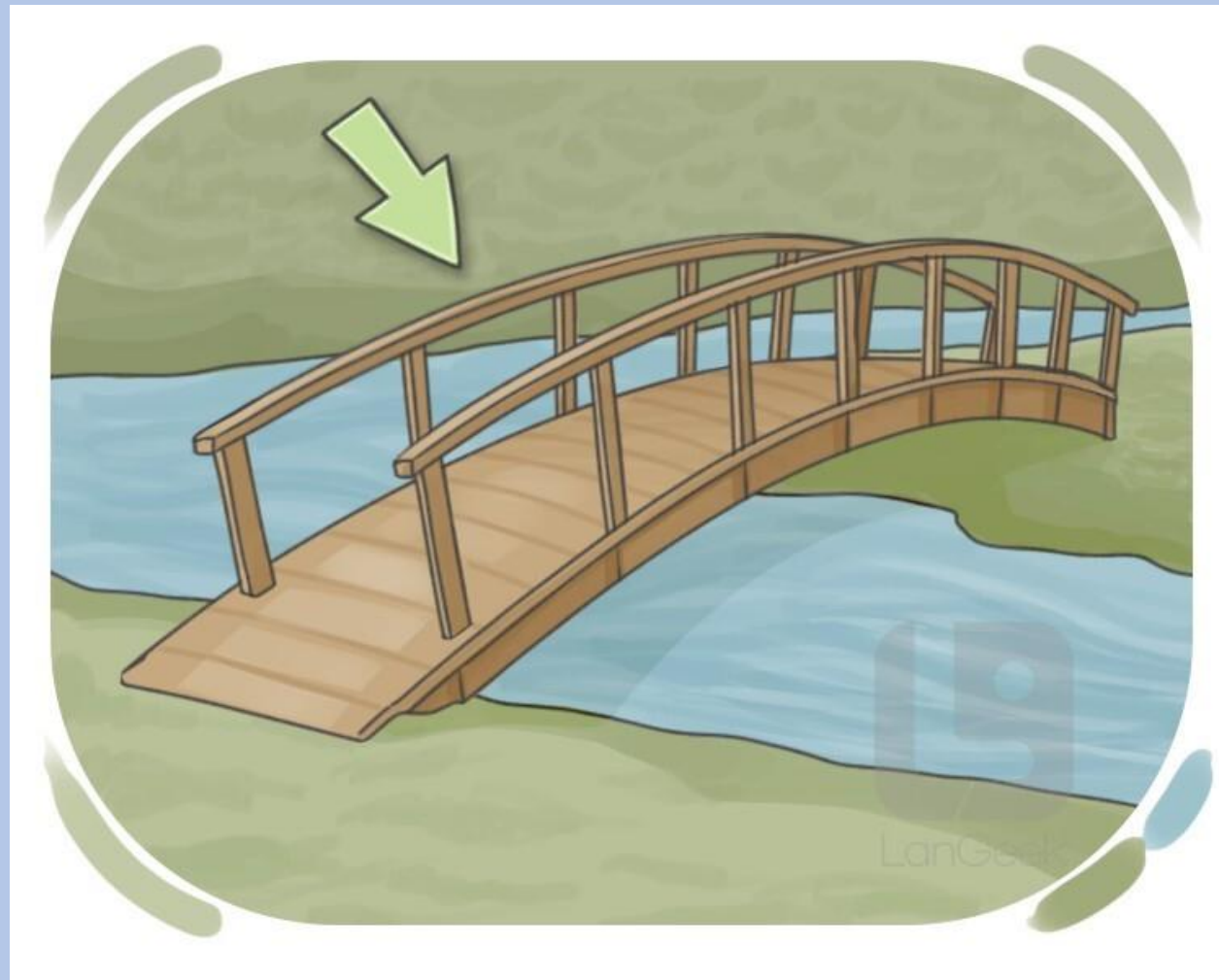




skyscraper

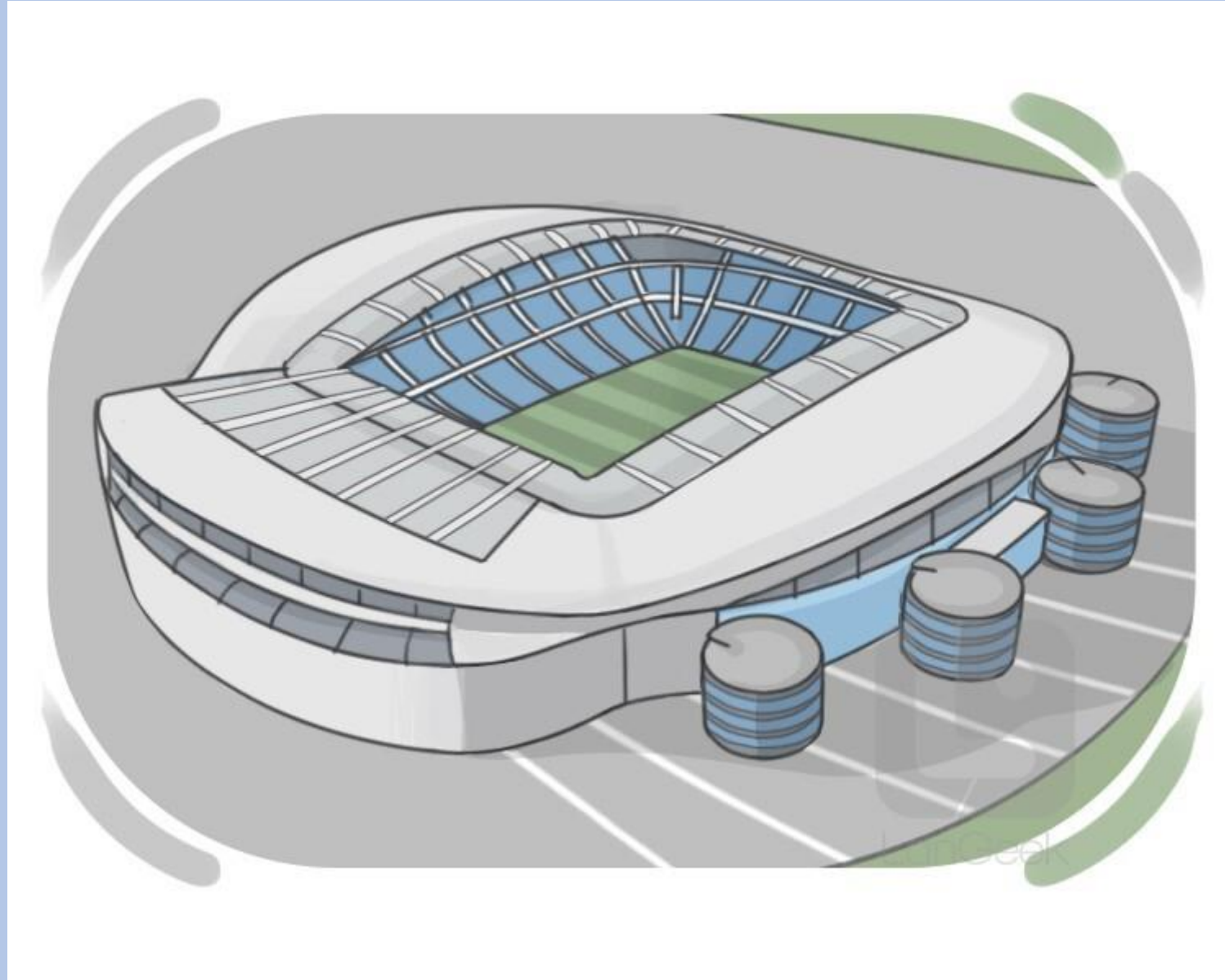
a modern building that is very tall, often built in a city

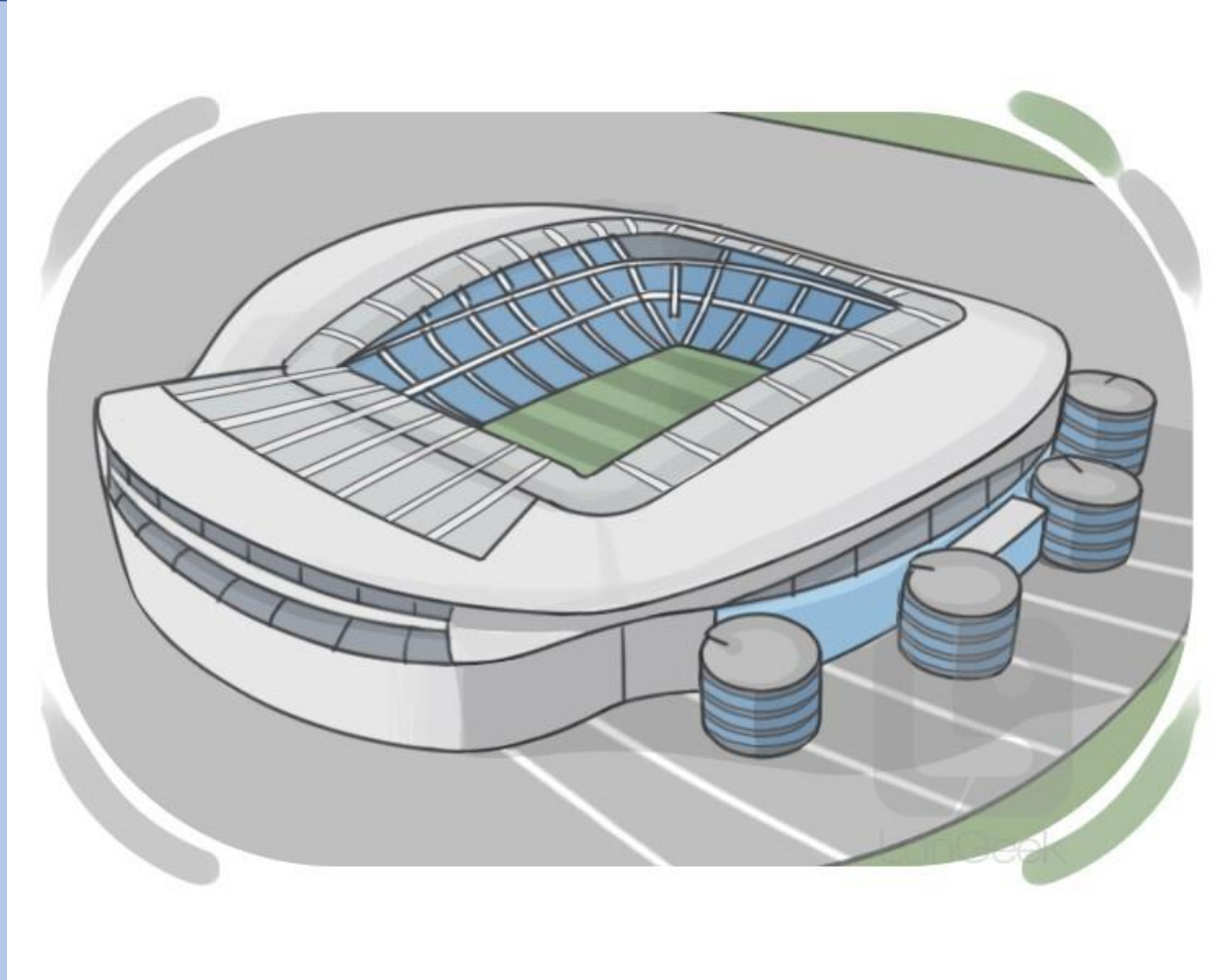




bridge

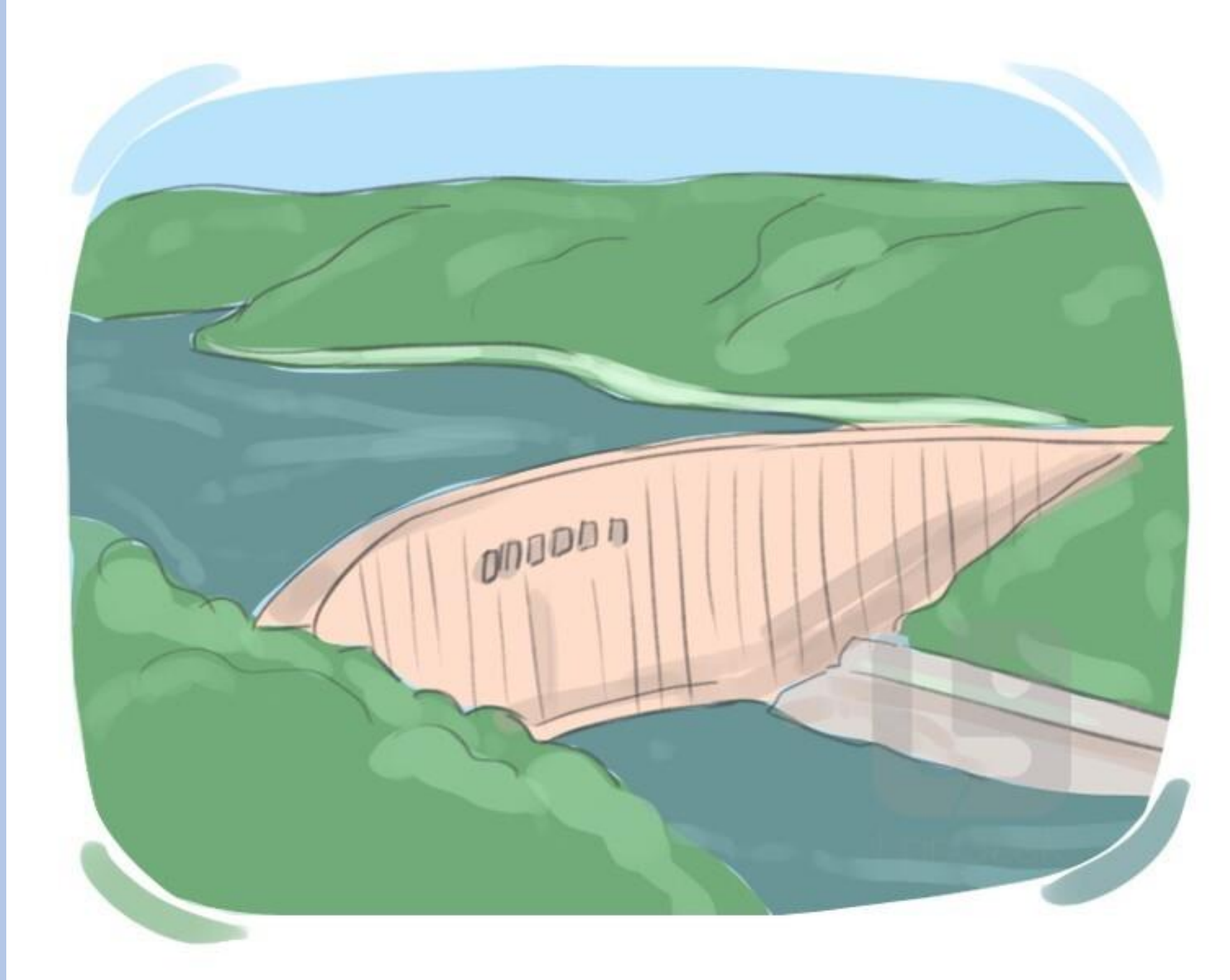
a structure built over a river, road, etc. that enables people or vehicles to go from one side to the other

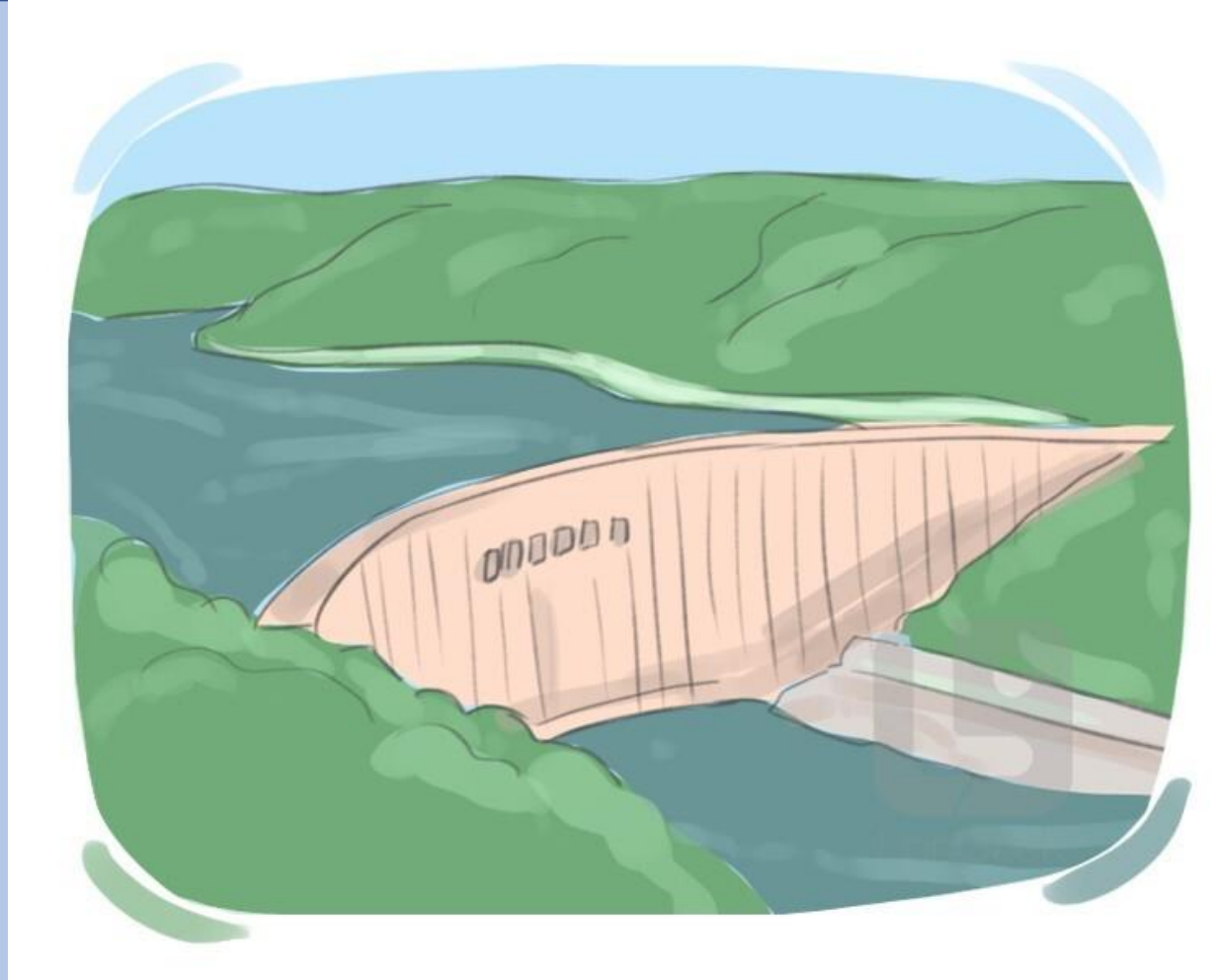




stadium

a very large, often roofless, structure where sports events, etc.
are held for an audience





dam

a huge wall built to keep water from entering an area or to contain and use it as a power source to produce electricity





church

a building where Christians go to worship and practice their religion





windmill

a large, tall building with long blades, called sails, that uses wind power to make flour out of grain or pump water





aquarium

a building in which sea creatures, such as fish, sharks, etc., are kept and displayed for the public





greenhouse

a glass structure used for growing plants in and protecting them from cold weather





tomb

an overground or underground grave that is
large in size and is often made of stone





temple

a building used for worshiping one or several gods, used by some religious communities, especially Buddhists and Hindus

Construction Materials





limestone

a hard gray or white rock that contains calcium and is used for making cement or as a building material





iron

a metallic chemical element with a silvery-gray appearance, widely used for making tools, steel, buildings, and various industrial products





drywall

a building material that is consisted of a layer of plaster between two sheets of thick paper, used for covering walls and ceilings





brick

a block of baked clay, mostly used to build houses, walls, etc.





concrete

a hard material used for building structures, made by mixing cement, water, sand, and small stones

GAME

Design Your Dream House

You must design a house with a limited budget (**100 \$**).

Provide them with choices:

Location: City center (expensive but convenient) 30\$ vs. countryside (cheaper but remote) 10\$.

Design: Modern 25\$ vs. Traditional 10\$

Materials: Eco-friendly (costly but sustainable) 25\$ vs. traditional (cheaper) 10\$.

Style: Modern minimalist 30\$ vs. rustic charm (Nature and Nostalgia) 10\$

Extra features: Rooftop garden, solar panels, home theater, swimming pool—but each adds to the cost (+15\$).

