



History of Architecture: Ancient Architecture Curriculum Guide

Materials: TimeLine Scroll
History of Ancient Architecture Card Set

Prerequisite(s): Students should have good understanding of the concept of time and time notation. Ideally, students should be familiar with the BC/AD timeline presentation.

Overview:

The Ancient Architecture Cards have been designed in a "Who Am I" format which allows for use with or without the Time Line Scroll. Each card set can be self-checked. The timeline stretches from around 3600 BCE with Neolithic megaliths to the 1800 BCE with the Eiffel Tower. The history of ancient architecture is a wonderful supplemental lesson to the Fundamental Needs of Man or a stand-alone lesson.

Included with this curriculum guide is a basic overview of ancient architecture, important concepts and vocabulary. Please check out our HABA architectural construction blocks.

Please Note:

- *The information presented above is a compilation of basic information from multiple sources online. This information was summarized to provide a basic background on the theory of evolution, basic concepts, and vocabulary only.*
- *All dates used in this product are estimates and based upon multiple sources.*
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Background & Notes:

All architecture is based on one or more of three fundamental structural principles; that of the *lintel*, of the *arch* or *vault*, and of the *truss*. The principle of the **lintel** is that of resistance to transverse strains, and appears in all construction in which a cross-piece or beam rests on two or more vertical supports.

The **arch** or **vault** makes use of several pieces to span an opening between two supports. These pieces are in compression and exert lateral pressures or *thrusts* which are transmitted to the supports or abutments. The thrust must be resisted either by the massiveness of the abutments or by the opposition to it of counter-thrusts from other arches or vaults. Roman builders used the first, Gothic builders the second of these means of resistance. The **truss** is a framework so composed of several pieces of wood or metal that each shall best resist the particular strain, whether of tension or compression, to which it is subjected, the whole forming a

compound beam or arch. It is especially applicable to very wide spans, and is the most characteristic feature of modern construction.

STYLE is a quality; the “historic styles” are phases of development. *Style* is character expressive of definite conceptions, as of grandeur, gaiety, or solemnity. An *historic style* is the particular phase, the characteristic manner of design, which prevails at a given time and place. It is not the result of mere accident or caprice, but of intellectual, moral, social, religious, and even political conditions. Gothic architecture could never have been invented by the Greeks, nor could the Egyptian styles have grown up in Italy. Each style is based upon some fundamental principle springing from its surrounding civilization, which undergoes successive developments until it either reaches perfection or its possibilities are exhausted, after which a period of decline usually sets in. This is followed either by a reaction and the introduction of some radically new principle leading to the evolution of a new style, or by the final decay and extinction of the civilization and its replacement by some younger and more virile element. Thus the history of architecture appears as a connected chain of causes and effects succeeding each other without break, each style growing out of that which preceded it, or springing out of the fecundating contact of a higher with a lower civilization.

A brief historical outline by culture:

The first bridges made by humans were probably wooden logs placed across a stream. The first buildings were simple huts, tents and shelters meant to suit the basic needs of protection from the elements, built by their inhabitants. The very simplest shelters, tents, leave no traces. Because of this, what little we can say about very early construction is mostly conjecture and based on what we know about the way nomadic hunter-gatherers and herdsmen in remote areas build shelters today. The absence of metal tools placed limitations on the materials that could be worked, but it was still possible to build quite elaborate stone structures with ingenuity using dry-stone-walling techniques.

The first mud bricks, formed with the hands rather than wooden molds, belong to the late **Neolithic period** and were found in Jericho. One of the largest structures of this period was the Neolithic long house. In all cases of timber structures in these very early cultures, only the very lowest parts of the walls and post holes are unearthed in archaeological excavations, making reconstruction of the upper parts of these buildings purely conjectural.

The most remarkable Neolithic structure in Western Europe is the iconic monument known as Stonehenge, regarded by some archaeologists as displaying methods of timber construction (such as at woodhenge) translated into stone. The now ruinous remains are of post and lintel construction and include massive sandstone lintels which were located on supporting uprights by means of mortise and tenon joints; the lintels themselves being end-jointed by the use of toggle joints (tongue and groove). There is also evidence of prefabrication of the stonework; the symmetrical geometric arrays of stone clearly indicate that the builders of Stonehenge had mastered sophisticated surveying methods.

The **architecture of Mesopotamia** is the ancient architecture of the region of the Tigris–Euphrates river system (also known as Mesopotamia), encompassing several distinct

cultures and spanning a period from the 10th millennium BC, when the first permanent structures were built, to the 6th century BC. Among the Mesopotamian architectural accomplishments are the development of urban planning, the courtyard house, and ziggurats.

Ancient Egyptian architecture is the architecture of ancient Egypt, one of the most influential civilizations throughout history, which developed a vast array of diverse structures and great architectural monuments along the Nile, among the largest and most famous of which are the Great Pyramid of Giza and the Great Sphinx of Giza. Due to the scarcity of wood, the two predominant building materials used in ancient Egypt were sunbaked mud brick and stone, mainly limestone, but also sandstone and granite in considerable quantities

The architecture of **Ancient Greece** is the architecture produced by the Greek-speaking people (Hellenic people) whose culture flourished on the Greek mainland and Peloponnesus, the Aegean Islands, and in colonies in Minor and Italy for a period from about 900 BC until the 1st century AD, with the earliest remaining architectural works dating from around 600 BC.

Ancient Greek architecture is best known from its temples, many of which are found throughout the region, mostly as ruins but many substantially intact. The second important type of building that survives all over the Hellenic world is the open-air theatre, with the earliest dating from around 350 BC. Other architectural forms that are still in evidence are the processional gateway (propylon), the public square (agora) surrounded by storied colonnade (stoa), the town council building (bouleuterion), the public monument, the monumental tomb (mausoleum) and the stadium. The formal vocabulary of Ancient Greek architecture, in particular the division of architectural style into three defined orders: the Doric Order, the Ionic Order and the Corinthian Order, was to have profound effect on Western architecture of later periods.

Ancient Roman architecture adopted certain aspects of Ancient Greek architecture, creating a new architectural style. The Romans were indebted to their Etruscan neighbors and forefathers who supplied them with a wealth of knowledge essential for future architectural solutions, such as hydraulics in the construction of arches. Later they absorbed Greek and Phoenician influence, apparent in many aspects closely related to architecture; for example, this can be seen in the introduction and use of the Triclinium in Roman villas as a place and manner of dining. Roman architecture flourished throughout the Empire during the Pax Romana.

The Roman use of the arch and their improvements in the use of concrete and bricks facilitated the building of the many aqueducts throughout the empire, such as the Aqueduct of Segovia and the eleven aqueducts in Rome itself, such as Aqua Claudia and Anio Novus. The same concepts produced numerous bridges, some of which are still in daily use, for example at Mérida in Spain, and the Pont Julian and the bridge at Vaison-la-Romaine, both in Provence, France.

The dome permitted construction of vaulted ceilings without crossbeams and provided large covered public space such as public baths and basilicas. The Romans based much of

their architecture on the dome, such as Hadrian's Pantheon in the city of Rome, the Baths of Diocletian and the Baths of Caracalla.

Byzantine architecture is the architecture of the Byzantine or Later Roman Empire. This terminology is used by modern historians to designate the medieval Roman Empire as it evolved as a distinct artistic and cultural entity centered on the new capital of Constantinople rather than the city of Rome and environs. The empire endured for more than a millennium, dramatically influencing Medieval architecture throughout Europe and the Near East, and becoming the primary progenitor of the Renaissance and Ottoman architectural traditions that followed its collapse. Buildings increased in geometric complexity, brick and plaster were used in addition to stone in the decoration of important public structures, classical orders were used more freely, mosaics replaced carved decoration, complex domes rested upon massive piers, and windows filtered light through thin sheets of alabaster to softly illuminate interiors. Most of the surviving structures are sacred in nature, with secular buildings mostly known only through contemporaneous descriptions.

Islamic architecture encompasses a wide range of both secular and religious styles from the foundation of Islam to the present day, influencing the design and construction of buildings and structures in Islamic culture. The principal Islamic architectural types are: the Mosque, the Tomb, the Palace and the Fort. From these four types, the vocabulary of Islamic architecture is derived and used for buildings of less importance such as public baths, fountains and domestic architecture.

The **architecture of Africa**, like other aspects of the culture of Africa, is exceptionally diverse. Many ethno-linguistic groups throughout the history of Africa have had their own architectural traditions. In some cases, broader styles can be identified, such as the Sahelian architecture of an area of West Africa. One common theme in much traditional African architecture is the use of fractal scaling: small parts of the structure tend to look similar to larger parts, such as a circular village made of circular houses African architecture uses a wide range of materials. One finds structures in thatch, stick/wood, mud, mud brick, rammed earth, and stone

Iranian architecture or **Persian architecture** is the architecture of contemporary Iran and the Iranian Cultural Continent. It has a continuous history from at least 5000 BCE to the present, with characteristic examples distributed over a vast area from Turkey and Iraq to Northern India and Tajikistan, and from the Caucasus to Zanzibar. Persian buildings vary from peasant huts to tea houses and garden pavilions to "some of the most majestic structures the world has ever seen".

Indian Architecture encompasses a wide variety of geographically and historically spread structures, and was transformed by the history of the Indian subcontinent. The result is an evolving range of architectural production that, although it is difficult to identify a single representative style, nonetheless retains a certain amount of continuity across history. The diversity of Indian culture is represented in its architecture. It is a blend of ancient and

varied native traditions, with building types, forms and technologies from West and Central Asia, as well as Europe. Architectural styles range from Hindu temple architecture to Islamic architecture to western classical architecture to modern and post-modern architecture.

Chinese architecture refers to a style of architecture that has taken shape in East Asia over many centuries. The structural principles of Chinese architecture have remained largely unchanged, the main changes being only the decorative details. Since the Tang Dynasty, Chinese architecture has had a major influence on the architectural styles of Korea, Vietnam, and Japan. An important feature in Chinese architecture is its emphasis on articulation and bilateral symmetry, which signifies balance. Bilateral symmetry and the articulation of buildings are found everywhere in Chinese architecture, from palace complexes to humble farmhouses.

Japanese architecture has traditionally been typified by wooden structures, elevated slightly off the ground, with tiled or thatched roofs. Sliding doors (*fusuma*) were used in place of walls, allowing the internal configuration of a space to be customized to different occasions. People usually sat on cushions or otherwise on the floor, traditionally; chairs and high tables were not widely used until the 19th century.

Mesoamerican architecture is the set of architectural traditions produced by pre-Columbian cultures and civilizations of Mesoamerica, traditions which are best known in the form of public, ceremonial and urban monumental buildings and structures. The distinctive features of Mesoamerican architecture encompass a number of different regional and historical styles, which however are significantly interrelated. These styles developed throughout the different phases of Mesoamerican history as a result of the intensive cultural exchange between the different cultures of the Mesoamerican culture area through thousands of years. Mesoamerican architecture is mostly noted for its pyramids which are the largest such structures

Incan architecture is the most significant pre-Columbian architecture in South America. The Incas inherited an architectural legacy from Tiwanaku, founded in the 2nd century BCE in present day Bolivia. The capital of the Inca empire, Cuzco, still contains many fine examples of Inca architecture, although many walls of Inca masonry have been incorporated into Spanish Colonial structures. The famous royal estate of Machu Picchu is a surviving example of Inca architecture. Other significant sites include Sacsayhuaman and Ollantaytambo. The Incas also developed an extensive road system spanning most of the western length of the continent.

Medieval architecture mainly served for defense. Castles and fortified walls provide the most notable remaining non-religious examples of medieval architecture. Windows gained a cross-shape for more than decorative purposes: they provided a perfect fit for

a crossbowman to safely shoot at invaders from inside. Crenellation walls (battlements) provided shelters for archers on the roofs to hide behind when not shooting.

Romanesque, prevalent in medieval Europe during the 11th and 12th centuries, was the first pan-European style since Roman Imperial Architecture and examples are found in every part of the continent. The term was not contemporary with the art it describes, but rather, is an invention of modern scholarship based on its similarity to Roman Architecture in forms and materials. Romanesque is characterized by a use of round or slightly pointed arches, barrel vaults, and cruciform piers supporting vaults.

The various elements of **Gothic architecture** emerged in a number of 11th and 12th century building projects, particularly in the Île de France area, but were first combined to form what we would now recognize as a distinctively Gothic style at the 12th century abbey church of Saint-Denis in Saint-Denis, near Paris. Verticality is emphasized in Gothic architecture, which features almost skeletal stone structures with great expanses of glass; pared-down wall surfaces supported by external flying, pointed arches using the ogive shape, ribbed stone vaults, clustered columns, pinnacles and sharply pointed spires. Windows contain beautiful stained glass, showing stories from the Bible and from lives of saints. Such advances in design allowed cathedrals to rise taller than ever, and it became something of an inter-regional contest to build a church as high as possible.

Renaissance architecture is the architecture of the period between the early 15th and early 17th centuries in different regions of Europe, demonstrating a conscious revival and development of certain elements of ancient Greek and Roman thought and material culture. Stylistically, Renaissance architecture followed Gothic architecture and was succeeded by Baroque architecture. Developed first in Florence, with Filippo Brunelleschi as one of its innovators, the Renaissance style quickly spread to other Italian cities. The style was carried to France, Germany, England, Russia and other parts of Europe at different dates and with varying degrees of impact.

Renaissance style places emphasis on symmetry, proportion, geometry and the regularity of parts as they are demonstrated in the architecture of classical antiquity and in particular ancient Roman architecture, of which many examples remained. Orderly arrangements of columns, pilasters and lintels, as well as the use of semicircular arches, hemispherical domes, niches and aedicules replaced the more complex proportional systems and irregular profiles of medieval buildings.

Presentation: Building a TimeLine

1. Begin with an overview on the history of architecture. This can include an overview on the Fundamental Needs of Man: Shelter. Online resources are available.
2. Provide overview of important concepts. Important concepts are italicized on the information cards.

3. Scale the timeline for use with the Ancient Architecture card set. We recommend the following scale: (a Black Line Master is available to use for scale cards)

4 tick marks = 500 years

Make sure to indicate appropriate scale category (CE/BCE)

4. After the TimeLine Scroll has been scaled, read the story (back of card or you can use your own story) and have students match the card with the correct description card and date card. Place the card down on the approximate tick mark on the TimeLine.
5. After completing, gather cards, roll up the scroll and return to the shelf.

Presentation 2: Matching Format

1. Have students choose a Who Am I Card, read it, and place with the correct Ancient Architecture Card.
3. After completing all the Architecture cards, gather cards, roll up the scroll, and return to the shelf.

Supplemental Activities:

1. Have student research and report on a famous historical structure or architectural style.
2. Have student construct an important architectural concept (i.e., arch, dome) or a historical structure.