

Architecture Tutorial

by Barbara B. Walden, Historic Site Coordinator, [Kirtland Temple](#)

Across the globe, buildings are a part of our everyday existence. Buildings house unlimited potential. Each day we discover education, business, religion, medicine, history, friends and family inside collections of brick, mortar, and stone. Seldom do we think about where these buildings and towns come from, the significance of the location, why they possess a particular style, and most importantly, how they impact our lives today? Architecture reveals the story of why a parlor in the late 19th century was an essential part of the house, yet seldom ever used, or why most Midwest towns are laid out in a grid pattern. What did the seating arrangement of a simple New England meetinghouse, or the cruciform floor plan of an elaborate Catholic cathedral say about the religious tradition and culture of its worshipping inhabitants?

Architectural historians have an incredible ability to capture the life and story of these buildings. As historian Mark Gelernter explains, “Our buildings and towns also express our values and aspirations, and provide one of the primary means by which we visualize ourselves and our society.” (*A History of American Architecture: Buildings in their Cultural and Technological Context*. University Press of New England, 1999) Gelernter’s point is made visibly clear as one walks through the historic districts of Ohio. Arriving in Ohio with their New England roots, early natives of the Western Reserve brought with them building plans for homes and community squares that were familiar. While the architecture found in the historic districts of Cincinnati, Cleveland, Toledo, and Dayton reveal the diverse immigrant groups relocating as regional industry increased. Just as the early people of Connecticut created town squares in the Western Reserve, late nineteenth and twentieth century Italians, Germans, and Poles created neighborhoods and houses of worship that reflected their cultural backgrounds.

Changes in architectural styles are not only impacted by the social identity of the owners, it was and continues to be shaped by the economic and/or occupational group that inhabits each building. As changes are made within the social and economic classes, the physical buildings change as well, adapting to either the new inhabitants, or the changing lifestyle of the original owners. Physical

changes appear in new architectural styles introduced from outside the community, such as added porches, steeper pitched roofs, and the introduction of manufactured iron stoves.

Nineteenth century homes and meetinghouses in Ohio reveal the origins and changing needs of the local community. Like today, change is in the nature of architecture, vernacular buildings and landscapes are continually adapting to the daily lives of the people coming in contact with the architecture.

Popular Architectural Styles

The following is a brief list of architectural styles with broad dates and familiar features. Keep in mind that you will find historic structures that do not fit neatly into a specific architectural category. It was common for a builder, especially in Ohio to mix features from several architectural styles into one building. This will be a stimulating challenge to the student in determining the overall style of the building.

Georgian (1700-1776)

Elaborate entrances, decorative railings along the portico and roof lining, Palladian central window, keystone lintels, lighter in appearance and less formal than the Federal style.

Federal (1780-1820)

Ornaments include urns, rosettes, corn husks, and garlands. Narrow columns. Oval, octagonal and circular room shapes. Exterior appears square or rectangular, made of brick or frame, topped with a low hipped roof. Elliptical fan windows over entrance doors, slender windows along the door sides.

Greek Revival (1820-1850)

Heavy cornice, gabled portico, generally one or two stories. Ionic and Doric columns, symmetrical facades, flat corner pilasters, Grecian fretwork and ornamental motifs.

Gothic Revival (1830-1870)

Pointed arches, battlements lining the tower tops, steep gabled roofs, leaded stain glass, tracery, bay and oriel windows. Finials often appear at the center of the arches. Pointed dormers.

Italianate (1840-1880)

Low roof, bracketed cornice, overhanging eaves. Tall round headed windows with hood moldings, cupola, arcaded porches and balastraded balconies. Several business districts included cast-iron storefronts.

Richardsonian Romanesque (1870-1890)

Uniquely American style. Rough exterior walls and heavy stone construction. Deep door openings, grouped windows, short carved columns, massive stone arches around entrance doors, short circular towers with conical roofs, eyebrow dormers.

Queen Anne (1870-1900)

Contrasting materials of brick, stone, clapboard, and stucco. Patterned siding & often decorative shingles on second floor, jigsaw ornament, conical towers, and projecting bays. Gabled or hipped roofs, large chimneys, open verandas and balconies. Leaded and stained glass.

Arts and Crafts (1895-1920)

Low-pitched gable roof, projecting eaves, shingle covered sides, exposed joints, rounded beam ends. Emphasis on hand crafted materials. Open porches, large windows. Leaded glass designs, burned brick, exposed stone.

Bungalow (1895-1935)

Asymmetrical façade with a long, low-pitched roof and both gable and shallow dormers. Cobblestone chimney and foundation, stained walls, shingle or tiled roofs, exposed rafters and wide projecting eaves. Exterior walls often stuccoed.

Art Deco (1925-1940)

Ornamentation includes geometrical designs, zigzags, chevrons, and floral motifs. Elements of cubism and Native American art. Concrete, smooth stone, and metal exterior materials in various colors and textures. Rounded corner windows, and projected sunshades.

Researching Architecture

The beauty of researching and learning architecture is that we are daily surrounded by the topic of study. A deed search will help one learn not only more about local architecture, but it may enlighten homeowners to the physical story of their own house. Consult the History WORKS tutorial on [deed searches](#) to learn more information about researching property deeds.

A second helpful resource is mapping the floor plan of the building you are researching. Asking yourself detailed questions such as “How thick are the walls?” “How large are the rooms?” As you measure the exterior and interior walls, look for physical evidence of any major changes. Basements and attics are good places to investigate for original timbers and major alterations to the original structure. Once you have a complete floor plan, compare the buildings plan to other plans of the time period. You will have a clearer understanding of what time period your specific building falls under after you’ve completed a deed search.

Physical evidence is often the preferable evidence. Take exterior pictures of the building, noting the structures in detail and entirety. The decorative work may reveal the changes in architectural styles adding to the story and timeline of your building. Compare the images to the architectural guidebooks listed in the reference section of this tutorial. As you compare architectural features look around the neighborhood for structures with similar features. Note matching buildings for reference in your map research.

Investigate the history of your structure using the photograph and map collections at your local historical society, library, and/or museum. A staff member at these institutions should be able to assist you in your search. Historic maps will give you insight into the changing environment of the neighborhood in which the building is located. Pay special attention to the surrounding structures found in the historic maps. Perhaps a few of the structures are still standing. Check for prior research conducted on the surrounding buildings. This research may enhance your knowledge of the historic neighborhood.

Continue to check local museums and historical societies for photographs. Historic images reveal both major and minor exterior changes made to the physical building. In some cases, oral history interviews may have been conducted that mention the building you are researching. Remember to always compare your resources to attain a clearer understanding of the social and architectural changes of the building.

Interpreting Architecture

Several excellent guides are available that help students and teachers alike identify the building styles found in typical Ohio neighborhoods.

- ▶ [A Field Guide to American Houses](#) by Virginia and Lee McAlester (New York, NY, Alfred A. Knopf, Inc., 1984). An excellent field manual for recognizing and understanding the changing styles, forms, and decorative details of American houses from the seventeenth century to the present. Each chapter is devoted to a specific architectural style with an emphasis on detailed descriptions and drawings of distinct elements within the style.
- ▶ [A History of American Architecture: Buildings in Their Cultural and Technological Context](#) by Mark Gelernter (University Press of New England, Hanover, NH, 1999). A classic textbook for architecture students.

Three handbooks for quick reference during fieldwork:

- ▶ [America's Architectural Roots: Ethnic Groups that Built America](#) Dell Upton, Editor, National Trust For Historic Preservation (Preservation Press, New York, NY 1986).
- ▶ [What Style is it? A Guide to American Architecture](#) John C. Poppeliers, S. Allen Chambers, Jr., Nancy B. Schwartz (Preservation Press, New York, NY, 1983).
- ▶ [Clues to American Architecture](#) by Marilyn W. Klein and David P. Fogle (Starhill Press, Montgomery, AL, 1985).

Useful Web Resources

- ▶ [American Institute of Architects](#)
- ▶ [Learning by Design](#), American Architectural Foundation

Local Resources

- ▶ Always contact your local museums and historical societies for information about local architecture. These institutions are full of creative ideas and opportunities for both teachers and students. Links for local museums, historical societies and libraries in Ohio can be found in the "[Historical Resources](#)" section of this web site.
- ▶ Contact you local library for books about local history and folklore. Your local library may also have maps detailing the locations of many historic neighborhoods.

Relevance in the Classroom

The importance and meaning of architecture is essential in and outside of the classroom. Understanding the design of our community buildings incorporates several disciplines. Architecture can be an essential teaching tool in learning local history, math, sociology, religion, art, and science. Math is incorporated through the use of carpenter manuals in discovering the structural importance of Georgian quoins, or the geometric elements involved in constructing a vaulted ceiling or meetinghouse balcony. Science is integrated through the identification and classification of architectural styles, or examining the environmental impacts on historic structures. For example, experiments may be conducted to investigate the following questions: Does the highway traffic impact the longevity of the local historic landmark? How much of an impact will a 30% increase in visitor traffic have on the structural stability of a historic site, including simple wear and tear on the original floorboards and stairs? What is the effect of high humidity and temperature levels on the various elements of the historic structure (i.e. wood, plaster, wallpaper, etc.)?

Finally, examining architecture is in essence examining the evolving identity of the community. Buildings have the ability to overcome the social obstacles of their inhabitants. As a community evolves, its buildings change according to the new inhabitants. Students may discover their local theatre was originally constructed as a Masonic Lodge, later used as a town hall, hosted decades of changing institutes of education, church meetings, school theatre performances, and eventually becoming a place of entertainment. By researching nineteenth century newspapers and journals, students in Kirtland, Ohio, discovered the Kirtland Temple was not only the first Mormon temple, but was used in later years by the Western Reserve Teachers Seminary, hosted a Christmas Ball for the Grand Army of the Republic, and was considered as a possible roller rink in the 1880's. This research not only educates students to the evolving identity of their neighborhood, it illuminates and uplifts the historic life of the community making it relevant to our lives today.

Exercises

Counting, Colors & Shapes

Primary students use architecture in teaching shapes, numbers, and colors. By counting the dormer windows of a Federal style building, doors to the local chapel, or steps leading to the local courthouse. A trip to a local historic home may be useful in teaching colors. Homeowners of the 19th century celebrated the use of vibrant colors in the home. Students may name the colors they find in each room, or match the colors to a sample card. Finally, shapes found in examples of Greek Revival, Gothic Revival, Federal and Queen Anne architectural styles are filled with various shapes such as squares, triangles, etc., stretching into more complex shapes as trefoils, ovals, octagons, etc.

Local History

After a brief introduction to the architectural style of the community, assign the students an architectural scavenger hunt of their own neighborhood and/or the local historic district. Each student should be assigned at least five architectural styles (Georgian, Greek Revival, Italianate, etc.), and twenty architectural details. As students to draw or photograph each feature, identify the styles, and organize their work into a notebook.

Field trip: guided tour of historic local buildings. Assign groups of students an architectural style, or each individual student an architectural element (Italianate brackets, Tudor arch, Mansard roof, cupola, etc.) to discover while on tour.

Have students research local styles by interviewing present owners to find the date of completion, original owners, architectural style, preservation issues, etc. This gives the students the opportunity to discover the local stories and/or folklore, as well as connect/compare the social, economic, and physical changes of the community. Have the students present their findings to the class.

After studying the history of Ohio's most common architectural styles, ask the students to gather images (from magazines, personal drawings, photographs, web print outs, etc.) that they think best represents each of the styles. Student could create small foam core exhibits for classroom displays. Susan McDanel of Centerville High School, Centerville, Iowa, had success teaching architectural elements in the form of bingo. The students' images were copied and glued in place on individual bingo cards and the class participated in a game of bingo while the instructor called the names of the architectural styles.

Ask each student to choose a historic building in his or her community. Students will analyze the style, use, function, and preservation needs of the building. Individual reports will be presented to the class in an exhibit. Exhibits can decorate the classroom, or possibly a local historic society as a temporary exhibit. Class discussion can evolve around a variety of topics including preservation concerns of local historic sites, historic preservation vs. modernization of old buildings, urban renewal, etc.