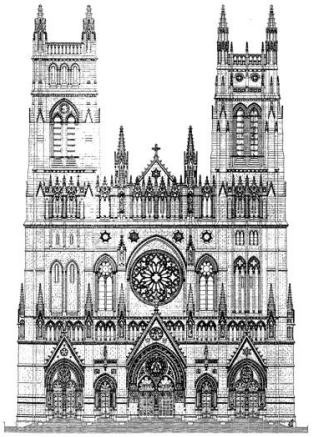
Architecture:
Visiting The Cathedral of St. John the Divine

The Cathedral Church of **Saint John the Divine**



Program Objectives

Walking into the Cathedral Church of Saint John the Divine is like stepping into the Middle Ages. During their visit to the Cathedral, students will experience first-hand what goes into building a cathedral. This program focuses on the architectural elements of the cathedral by giving students an opportunity to:

❖ Explore the Cathedral's structure and how it stands up;

❖ Investigate how cultures influence architecture and how architecture influences cultures;

❖ Compare the Gothic and Romanesque architecture of St. John the Divine to the architecture of medieval cathedrals;

❖ Look closely at the architecture of the Cathedral and learn from observing the built environment.

What is architecture?

Architecture is the science and profession of designing and constructing buildings. According to the Roman writer Vitruvius, architecture can be divided into three principles:

1) strength and stability,
2) utility and function,
3) appearance and beauty.

In the Middle Ages, architects modified the designs of existing churches and cathedrals to place their unique marks on the buildings and to better adapt the buildings to the needs of the people using them. Architects, patrons, and cities competed to make their cathedrals taller, more beautiful, and more practical than other cathedrals.

The Cathedral of St. John the Divine plays an important role as the center of the Episcopal diocese of New York. It is also a place for the arts, education, community services, and tourism. Even though the Cathedral is approximately 120 years old, it is built in the tradition of the great medieval cathedrals — all stone-on-stone construction. The size and structure of the Cathedral reflect the many ways the Cathedral is used and ensures that the cathedral will continue being used for many more years.

Curriculum Connections

❖ Take your students on a walk through their school building to observe the different aspects of architecture. Have students take notes of their observations: What is keeping the building standing? In what ways are the building and various rooms used? What building materials do they see? What does the building look like? Discuss their observations and relate them to the three principles of architecture.

❖ Discuss with your students how medieval cathedrals reflect the three principles of architecture by looking at pictures and floor plans of cathedrals. Strength: columns, arches, vaulting, buttresses. Utility: aisles, ambulatory, chapels, crypt. Beauty: portals, capitals, gargoyles, stained glass windows.

What is Romanesque architecture?

In the 11th century, architects turned to the forms of Roman imperial architecture to reflect the growing strength of the medieval church. Rounded arches and mighty columns recalled the glories of Rome but also allowed for stronger and more permanent structures. Stone vaulting helped prevent fires, which were a threat to the wooden roofs of earlier churches.

Romanesque cathedrals were built to accommodate large numbers of pilgrims, who traveled from all over Europe to visit relics and shrines of saints. The side aisles and ambulatory provided a path for the pilgrims to follow to the chapels without disturbing the services at the main altar. Pilgrims would write accounts of their journeys that were circulated widely and are a great source of informa- tion for modern scholars.

Just like builders in the Middle Ages, modern architects use Roman forms in buildings, such as columns, arches, and barrel vaults. The Cathedral of St. John the Divine's east end is built in the Romanesque style; like Romanesque cathedrals, it presents a powerful and sturdy appearance.

Curriculum Connections

❖ Columns had an important decorative, as well as structural function. In Greek and Roman buildings, columns were topped with Doric, Ionic, or Corinthian capitals; In the Romanesque period, the capitals told stories in stone. Have your students look at pictures of Romanesque capitals and design and create their own capital that tells a story.

❖ Have students imagine that they are pilgrims visiting a Romanesque cathedral and write a journal entry about their experiences and impressions.

❖ Have students go on an architecture hunt of the neighborhood and find and sketch buildings that have Roman elements. Afterwards, discuss with students what Roman characteristics these buildings have and how Roman architecture has been adapted and changed.

What is Gothic architecture?

In the 12th century Europe, as cities strove to have the tallest and most beautiful cathedral, rounded arches were replaced by pointed arches, thick Romanesque walls with flying buttresses, and simple columns with clusters of piers. Gothic architecture spread and was adapted throughout Europe with regional differences in style.

The innovation of flying buttresses meant that the walls of a cathedral no longer needed to support all the weight of the building. This opened up the possibility for large windows filled with beautiful stained glass. The Abbey Church of St. Denis, started in 1137 in Cluny, France, is often considered the first Gothic church.

The nave of the Cathedral of Saint John the Divine is built in the Gothic style. It reflects all the complexity and grandeur of Gothic architecture in the Middle Ages. Because of the traditional stone-on-stone construction, the builders of St. John the Divine had to construct carefully so that the arches and buttresses would be able to support the height and weight of the nave.

Curriculum Connections

❖ Gothic cathedrals required the efforts of many people working together. Have your students read *Cathedral: the Story of Its Construction* by David Macaulay to learn about how a Gothic cathedral would be built from the foundation to the tallest spire.

❖ Stained glass windows in Gothic churches had two very important uses: they provided a rich and beautiful light for the interior and told stories that visitors could "read." With your students, explore examples of medieval stained glass windows, read the stories in them, and design a modern stained glass window.

Who builds cathedrals?

A medieval cathedral often took hundreds of years to build. Architects, stonemasons, stone carvers, carpenters, metalsmiths, and glaziers worked together through many generations to complete these stone and glass monuments. Every master craftsman had apprentices who learned the craft to become masters themselves.

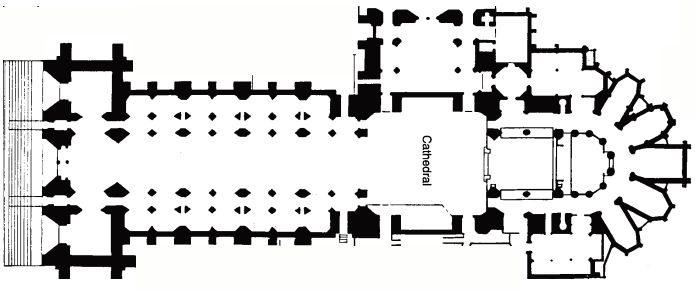
One of the ways that we know how Cathedrals were built is through surviving contracts between workers and citizens or bishops. As the Gothic era progressed, builders and guilds of builders became more powerful and more influential. Their stature in the world reflected the importance and growing prevalence of cathedrals.

The Cathedral of St. John the Divine was designed by two sets of architects: the firm Heins and LaFarge designed the Romanesque apse and Ralph Adams Cram designed the Gothic nave. It took the efforts of many workers from all parts of the world to build St. John the Divine. The stone carvers who worked on St. John the Divine were trained through traditional apprenticeships — even up to 1997.

Curriculum Connections

❖ Take your students to a modern construction site to see who the workers are and what their jobs are. Have students interview the workers and compare their work to the work done by medieval builders and craftsmen.

❖ Ask students to divide into two teams, the builders and the bishop. After assuming these roles, ask them to draw up a contract between these two sides, either in the present time or in the Middle Ages, considering things such as fees, working hours, injuries, and lodging, from both perspectives.



Read on!

Craats, Rennay. *Construction: Style, Structures, and Building.* (Raintree Publishing, 2003) Introduces the science of building construction, including a look at materials, blueprints, and design, and focuses on different types of structures that exist throughout the world.

Macauley, David. *Cathedral: The Story of its Construction.* (New York: Houghton Mifflin Company, 1973) Thoroughly chronicles the construction of a fictional cathedral in medieval France. A must for any study! Companion video of the same title. (Dorset Video: Unicorn Projects, Inc., 1985, 60 min.)

Macdonald, Fiona. *A Medieval Cathedral.* (New York: Peter Bedrick Books, 1991) Depicts the construction of a medieval cathedral by focusing each page on a specific topic: quarrying stone, building the walls, bell towers and spires, priests and people, etc. Nice cutaway illustrations.

Neuschwander, Cindy. *Sir Cumference and the First Round Table.* (Charlesbridge Publishing, 1997). A great math adventure filled with puns and jokes, as well as a clever medieval setting. It is a close look at shapes and their different uses.

Wilson, Forrest. *What It Feels Like To Be A Building.* (Washington DC: The Preservation Press, 1989). A great book to introduce the basic physics of structures. Using the shapes of human bodies, the author shows how a building is squashed, pulled, pushed, and bent to look the way it does.