

AP[®] ART HISTORY

2007 SCORING GUIDELINES

Question 9

9. Throughout history, technological developments have enabled artists and architects to express ideas in new ways. Choose and fully identify two works of art or architecture and the specific technological development that made each work possible. One of your choices must date before 1800 CE and one must date after 1800 CE. For each work, analyze how the technological development enabled the artist or architect to express ideas in new ways. (30 minutes)

Background:

This question asks students to analyze the impact of technology on ideas. The term “technology” was created in 1828 by Jacob Bigelow to describe the fusion of science and art. The symbiosis of creative and technical thought and the simultaneity of creative and technical needs is more often the catalyst for a new technology; it does not create or meet a physical need. Thus, photography was not invented either to create a market for photographic portraits or to meet one, but it enabled artists to create photographic portraits in imaginative new ways. Or, the steel-framed building did not either create or meet the need for new kinds of windows, elevators, or electric lights, but it enabled architects to think creatively about how to light large buildings in new ways.

Students have two tasks:

- (1) To fully identify two **appropriate** works of art or architecture and the specific technological development that made each possible. One work of art or architecture must date before 1800 CE and one must date after 1800 CE.
- (2) To analyze **how** each specific technological development enabled the artist or architect to express ideas in new ways.

This question asks students to analyze the ways in which technology has provided opportunities for artists and architects to think creatively in new ways. Students must establish a causal relationship between the technological development and new ways of thinking.

Better essays fully identify two **appropriate** works of art or architecture, one from before 1800 CE and one from after 1800 CE, and the technological developments that made them possible. They analyze **how** the specific technological development enabled the artist or architect to express new ideas.

Weaker essays may use less appropriate examples. The identifications might be vague, refer only to general types of art works, or not locate the works specifically in time or place. The discussions might be vague or merely descriptive and provide little or no critical analysis. Essays that simply **describe** technological developments in art or architecture will earn lower scores.

Points to remember:

- Appropriate choices are works of art or architecture that clearly demonstrate the central role of technology in their creation.
- This question requires an identification that makes it clear to the reader which specific work of art or architecture is being discussed. Sometimes the full identification may be located within the body of the essay.
- The work of art or architecture need not be a response to a new technology.

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Question 9 (continued)

Scoring Criteria

Score Scale 0–9

9–8 Fully identifies two appropriate works of art or architecture and the specific technological development that made each work possible. At least one of these works must date before 1800 CE and one must date after 1800 CE. Provides a full analysis of **how** the technological development enabled the artist or architect to express ideas in new ways. The lower score is earned when the essay contains some imbalance or has minor errors.

7–6 Fully identifies two appropriate works of art or architecture and the specific technological development that made each work possible. At least one of these works must date before 1800 CE, and one must date after 1800 CE. Provides an analysis of **how** the technological development enabled the artist or architect to express ideas in new ways but is less full than a 9/8 essay. The lower score is earned when an essay is notably unbalanced or contains errors significant enough to weaken the analysis.

5 This is the highest score an essay can earn if it deals with **one appropriate choice** fully and correctly.

OR

Identifies two appropriate works of art or architecture and the specific technological development that made each work possible. One of these works must date before 1800 CE and one must date after 1800 CE. Identification may be incomplete or faulty. Essay is mostly descriptive, and it may be unbalanced and contain errors.

4–3 Identifies two works of art or architecture and the specific technological development that made each work possible. One of these works must date before 1800 CE and one must date after 1800 CE. Identification may be incomplete or faulty, and choices may be inappropriate. Essay is descriptive, and discussion may be unbalanced or general. The lower score is earned when the essay lacks meaningful discussion or contains significant errors.

OR

Only **one appropriate** choice is identified. The discussion is weak and contains errors. The lower score is earned when the essay is wholly descriptive, lacks meaningful discussion, or contains significant errors.

2–1 Identification is incomplete and/or inappropriate. If choices are appropriate, there is minimal discussion.

OR

Only **one appropriate** choice is identified, and the discussion is incomplete and inaccurate. The lower score is earned when there is no discussion of merit.

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Question 9 (continued)

- 0** Makes an attempt, but the response is without merit because it restates the question, includes no identifiable choices, or makes only incorrect or irrelevant statements.
- This is a nonresponse, such as a blank paper, crossed-out words, or personal notes.

9A,

Directions for Question 9: You have 30 minutes to answer Question 9. Read the question and take a moment to think about what the question asks. You can receive full credit only by answering the question asked. Therefore, spend a few minutes organizing or outlining your response in the blank space provided above the question. Notes in the blank space will not be graded. Be sure to analyze each question carefully and choose appropriate examples. Identify your examples as fully as possible.

20-15
 Colosseum
 Oculus
 Colosseum
 Roman
 Pantheon

and

Carving
 FLR
 Steel
 Impressionists
 Monet
 Mosek
 Tube of paint

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It is indeed true that technological developments have enabled artists and architects to express their ideas in new ways.

A major piece of architecture that utilized new technological developments was the Pantheon in Rome. This building was completed during the reign of Augustus and was meant to be a temple to all the gods. This building used the ^{new} development of concrete to create the now world famous dome. A dome of the ~~same size~~ scale seen at the Pantheon would not have been possible otherwise. Also key architectural features such as the Oculus in the middle of the dome were ~~very~~ innovative in that they lessened the weight of the dome which stopped it collapsing and let in light to ~~show the~~ - better show the mosaics and frescos in the building. Furthermore coffers in the ceiling were recesses that also kept the weight down thus allows the monument dome to stand the test of time. Also it should be noted that the dome was supported by a drum structure called a drum that

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would continue to be used until the invention of pendives that would allow for the creation of the Hagia Sophia that was done on a rectangular base. Finally this great piece was innovative in its use of concrete which had the dome 20 ft thick near the edges and only 5 ft thick near the middle of the dome near the oculus.

~~Architecture was influenced in the nineteenth century with the development of the steel and the discovery of I beams. With western expansion in the United States came an influx of natural resources as iron. This influx in iron and steel that prompted Bessemer to develop a very efficient process of making steel by oxidizing the iron which was bubble in a technique now called the Bessemer process. This very efficient means of steel production made steel readily available to use in buildings and bridges and is most certainly the invention that led to the construction of skyscrapers by Louis Sullivan. A very famous work by Sullivan is the Field's Department Store in Chicago that used steel in it.~~

Architecture was again influenced during the nineteenth century with the development of prefabricated cast iron parts. Though famously used in the Eiffel Tower in Paris and the Bibliothéque Sainte-Genévieve, the piece of architecture that I would like to focus on is the Crystal Palace from the 1851 Great Exhibition in London. This structure was unique and unprecedented in that it used prefabricated cast iron parts. It therefore was very easy to assemble and take apart and was a dem innovator architecturally. For this reason it was used as the main exhibition hall at the 1851 world's fair in London. It is called the Crystal Palace because the strength of the cast iron allowed for the structure to be

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Question 9 is repeated for your convenience.

9A3

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Completely covered in glass like a greenhouse. This was key to its success and importance to the development of architecture. In fact the public was loved so much that it was disassembled after the fair and set up again right outside London until 1936 when it tragically burnt down. This structure used the important innovation of cast iron and it made way for the building of greenhouse like structures, and structures like the previously mentioned Eifel tower. Also it emphasized the concept of using metal in construction and indirectly, perhaps, led to the ~~use of steel~~ development and use of steel in skyscrapers that also allows the builds to be mostly covered in glass.

These are just two examples of how innovations allowed for new forms of Architecture. In ancient Rome the development of concrete allowed for the production of voussoirs in ~~concrete~~ barrel and groin vaults and aqueducts and the great dome at the Pantheon, and in modern the Modern Western world the development of prefabricated cast iron parts led to new forms of expression in architecture.

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9B,

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Pantheon - cement
coffered ceilings

Aimons Cathedral.

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Through the development and advancement of technology, memorable art has been created that would have been impossible without the technology. The creation of cement has had a profound impact on art throughout the ages. One of the first, and most noted, uses of cement, is for the Pantheon. The Pantheon was created under Hadrian, an ~~emperor~~ emperor who was a lover, advocate, and patron of the arts. The plan for the Pantheon called for a vast dome, with an oculus in the middle. Furthermore, the circular dome would be supported by a square base. ~~The only way~~ With previous materials such as marble, basalt, and limestone,

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such a dome would never be created, yet, the technology of cement and coffered ceilings allowed the great dome of the Pantheon to be created. As the dome progresses, the cement becomes lighter and lighter in order to span the wide distance. Now, this dome and coffered ceiling stands as an ~~icon~~ transient icon. Similar coffered ceilings can be seen in chapels, churches, and paintings, such as Michelangelo's, "School of Athens." The task of creating this dome has inspired ~~art~~ artists for centuries, all because of the innovative inclusion of cement.

Similar to the Pantheon, architects ~~continuously~~ continuously seek ~~monumental~~ monumental tasks. The Gothic ~~period~~ period is known for its epic quest for height. Each town wanted to have a taller cathedral than the next. The quest for height was reached at ~~Amiens~~ Amiens Cathedral in France. It is to date, the ~~most~~ tallest of the Gothic cathedrals. But, why was it such an accomplishment to build ~~such~~ a large cathedral? Previously, the technology was not available. All known materials were simply too heavy, and needed to be too thick to span such an enormous height. Also, with the Gothic aesthetic of having large amounts of stained glass windows, it was impossible

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9B₃

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to incorporate them while building the tallest cathedral. The technology that enabled the construction of Amiens Cathedral was the flying buttresses. These supports on the outside of the building alleviated ~~some~~ some of the stress on the supports in the ambulatory. ~~The~~ Less stress ~~allowed~~ and groin vaults allowed Amiens to become the tallest gothic building. This cathedral is also known for its beautiful stain glass. Stain glass would have never been included before the technology of flying buttresses. The walls would have been simply too thick. Yet the buttresses supported the thinner walls, allowing for the inclusion of large amounts of stained glass. Due to flying buttresses, Amiens cathedral was able to express a height never before witnessed. Amiens ^{now} stands as an enormous monument to the catholic ch.

The advancement of technology is important for creating new art and architecture. New materials and techniques allow for the construction of some of the most monumental and memorable pieces of architecture. Technology ²⁶ continues to be important in the creation of art to this day.

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The technological advances of the Roman cement has lead to many buildings including the Colosseum. The Roman cement, used before 1800 CE, in the production of the structure of the Colosseum. The cement added strength and stability to the architecture assisting the size and height of the finished piece of work. The Colosseum, built by many Roman civilians has the height and size ~~of~~ uncontested by any architectures of its time.

Technological advances of after 1800 CE was the invention of the acrylic paint. The acrylic paint allows artist to paint virtually anywhere and even lead artist to venture into the simplest of ~~arts~~ arts. These simple artworks consisted of ~~square~~ rectangles with black contour lines. These rectangles consist of two primary colors with each color one rectangle in an amount that the artist considered would

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create the third rectangle which is a mix of both ~~to~~ primary colors. This quite simplified artwork became possible with the invention of acrylic paint because of the acrylic paint's ability to mix easily with ~~it~~ the different colors.

The concrete from cement used by Roman ~~architects~~ architects allows the ability for them to build an ~~architecture~~ architecture that great inside such as the ~~Colosseum~~ Colosseum while still maintaining its strength and stability. With the technological advances in paints, the invention of the acrylic paint with its ability to be mixed easily led to a ~~new~~ revolutionary new kind of art, the art of expressing the mixing of art.

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2007 SCORING COMMENTARY

Question 9

Overview

This was the second 30-minute essay question. Students were asked to identify two works of art or architecture from different art-historical periods (one before 1800) that had been made possible by specific technological developments. For each work they were asked to analyze how the technological development enabled the artist or architect to express ideas in new ways. The intent was for students to choose two works of art or architecture from different periods in art history that clearly demonstrate the central role of technology in their creation, and to analyze *how* the specific technology enabled the artist or architect to express ideas in specific new ways. The key to the question was for students to make clear the causal relationship between the technology and new ways of thinking. The question did not ask them simply to describe new technologies; rather, it asked them to analyze how new technologies have been exploited by artists and architects. Students were not asked to compare images.

Sample: 9A **Score: 9**

The essay fully identifies two buildings that resulted from technological advances, one from before 1800 CE and one from after 1800 CE. The student analyzes how the Pantheon used concrete and has an oculus in the middle of the dome to reduce the load, and how the Crystal Palace had an iron and glass framework and was constructed of prefabricated parts. The analysis is complete and makes a direct causal connection between technology and the resulting buildings.

Sample: 9B **Score: 5**

This essay discusses the Pantheon and Amiens Cathedral, both of which date prior to 1800, so the highest score it could earn was a 5. The analysis of the Pantheon centers on the use of “cement” as its most significant innovation, but the analysis of Amiens fully identifies flying buttresses as the technological development that allowed this Gothic structure to achieve great height. As a result, the essay earned a 5.

Sample: 9C **Score: 3**

This essay notes the technological advance of “Roman cement” in the construction of the “Colossium” [*sic*]. The discussion is brief and contains only a minimal reference to the medium’s strength. The second example, “acrylic [*sic*] paint,” is not linked to a specific work of art or architecture, and the discussion is weak. Overall, the essay lacks meaningful analysis.