

## **The Artistry of Triumphal Arches**

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### **Introduction**

*Necessity is the mother of invention.*

So the story goes, at the 1904 St. Louis World's Fair, there were several food vendors with waffles for sale but business was not good. The ice cream vendors were "in the weeds," selling ice cream faster than they could keep up with their stock of dishes to serve the ice cream. A nearby waffle vendor, Ernest A. Hamwi, rolled a hot waffle into a cone shape and shared his invention with his ice cream selling neighbor, and thus, the ice cream cone is born!

Human existence predicated creating tools to make life at first, sustainable, and now, easier. As much that has been developed in our lifetime, we have so much to thank the earliest civilizations for their amazing ingenuities. Ancient times were filled with great scientific discoveries and great works of art. In the Delaware Teachers Institute seminar titled 'Ancient Inventions,' led by University of Delaware Provost Dr. Domenico Grasso, I was introduced to so many mind-blowing technological creations. Inventions of all kinds surround us and most go relatively unnoticed in our daily lives. From pencils to light bulbs to bridges, the majority of society takes everyday inventions for granted. One of the most intriguing inventions and innovations to me is the arch and its use in civil engineering and architecture. The arch stands out the most to me mainly because this invention is a relatively simple looking architectural element. To me, the arch is undervalued yet it's strength and versatility is exceptional and should be explored. After researching the arch, I began discovering the various ways it was used in architecture and recognized the significance of the triumphal arch in art history. A triumphal arch is a freestanding monumental arch commemorating a great victory in battle, originally associated with the Romans.<sup>1</sup>

This unit reinforces concepts the second grade students learn in their Science class about bridges. Their lessons include an introduction to forces of tension and compression and how they function in bridge designs. In the Second Grade Science Kit on Civil Engineering Designing Bridges the students read a story that explains the different types of bridges, including an arch bridge. Through hands on exploration the students build three bridge types and test their strength using different weights. Through this unit, The Artistry of Triumphal Arches, I hope to not duplicate what is presented in the Designing Bridges but like an arch - support, reinforce and enhance with visual art. Triumphal arches combine the marvel of civil engineering and the beauty of art while welcoming

visitors to a city or commemorating a military victory or a triumph. I will introduce Ancient Roman culture and an overview of the different ways arches were utilized. We will look at the purpose, diagrams and details of triumphal arches. As our culminating project, students will honor their own accomplishments and make a monument for themselves. Kids are special and should be celebrated as such! Monuments can be a building, pillar, stone, or statue honoring a person or event.<sup>2</sup> Our monuments will be a three-dimensional model of a triumphal arch, and dedicated to themselves much like the Roman emperors did.

I enjoy collaborating with other disciplines in my school to foster deeper understanding in my content area of visual art and other areas- English Language Arts, Math, Social Studies and Science. Integrating Art & Science is not a new concept. The list of scientists who drew are endless - Leonardo da Vinci, Galileo Galilei, Sir Isaac Newton, Samuel F. B. Morse, John James Audubon, Charles Darwin, Thomas Alva Edison, Friedrich August Kekulé, Nicola Tesla, Charles Sanders Peirce, William James, James Dewey Watson, Francis Crick, Albert Einstein, to name a few.

One of the current trends in education is the emphasis schools have on STEAM education, Science, Technology, Engineering, Art, and Math. As it is used in STEAM, I intend students to use the Engineering Design Process to create their artwork. The Engineering Design Process consists of five steps that form a circle so that it never ends – Ask > Imagine > Plan > Design > Improve. I wonder, how can we separate the artist, architect, engineer and civil engineer? An architect designs buildings and advises in their construction. An engineer uses his or her creativity and understanding of materials, tools, mathematics and science to design objects, systems and processes that solve problems. While the branch of engineering concerned with the design and construction of public structures, such as bridges, buildings, roads, and water systems is called civil engineering. In my art classroom, I believe it is a valuable opportunity when my students explore a study of three-dimensional forms versus two-dimensional shapes while playing with manipulatives like wooden blocks and interlocking cubes. This unit fits in Delaware's newly adopted National Core Art Standards (NCAS). The NCAS are broken into four anchors – Creating, Presenting, Responding and Connecting. This unit also aligns with the Common Core Standards in Reading, Writing and Listening and the Next Generation Science Standards.

The funny part of my unit on arches is how I felt drawn to this aspect of the general topic of ancient inventions for personal reasons. My paternal grandfather's and father's first name is Archibald, and subsequently my nephew was named Archer. My husband asked for my hand in marriage in front of the Landscape Arch in Arches National Park in Utah. Coincidentally, on our bookshelf at home, is a pair of bookends modeled after the Washington Square Arch in New York City. When trying to decide how to narrow my unit, everywhere I looked there were arches, so instead of fighting it, I embraced it!

## **Rationale**

The 2016-17 school year marks my twelfth year as an elementary art educator in the Colonial School District. I am honored to work in a district and at a school where Visual Art is valued and supported.

At Harry O. Eisenberg Elementary all students in Kindergarten through fifth grade participate in Art class for a weekly 45-minute class period. Our current administration is supportive of staff, students and parents and is working hard for our school to be successful by building a sense of community and strong educational mindset. Eisenberg is a Title 1 School, where we receive federal funding due to the number of students who are struggling to meet the state standards for reading and math. With the new National Core Arts Standards recently adopted in Delaware and the new national Every Student Succeeds Act becoming a law, the arts are in a position to be recognized as the integral part in education they are.

Harry O. Eisenberg Elementary of the Colonial School District faces many challenges of serving a population that faces poverty and significant life struggles. Less than five miles south of Wilmington, Delaware, our school, while considered suburban, is on the edge of a very dangerous city. According to an analysis of the FBI's uniformed crime report, Wilmington was the third most violent of 450 cities of comparable size in 2012. It's the 8th most violent city of nearly 750 cities with a population of over 50,000.<sup>3</sup> The district serves approximately 10,000 students and has 8 elementary schools, 3 middle schools, one high school and two special needs schools. In my suburban elementary school of over 530 students, the enrollment by race and ethnicity shows 43% of the students are African American, 31% Hispanic, 18% Caucasian, and 8% multiracial. Other student characteristics of our population include 18% of our students are English Language Learners and over 16% are designated as requiring Special Education services.

The attitudes and priorities of our elementary students are similar to many other students across the nation - smart phones, fashion, video games, and music, but their exposure to the adult world at home is much more complex- negligent parents, parent(s) imprisoned, teenage pregnancy, gangs, and drug abuse. The basic needs of food and shelter are still a priority for many. There are at least 10 families (15 to 20 students who attend Eisenberg) who live in motels because their families cannot afford a security deposit and monthly rent, let alone, a down payment and mortgage. Our on-site food pantry of the Food Bank of Delaware serves between 10 to 15 families each month. Each Friday, over 40 students receive 'backpack food,' a large bag of non-perishable goods to take home for the weekend. At Eisenberg, 100% of students receive free breakfast, lunch and a fruit or vegetable snack every day! In addition, each year approximately 75 students receive a free backpack and over 50 students receive a winter coat.

As you can imagine, my students are typically not exposed to the same type of cultural experiences of visiting museums, seeing plays, and attending concerts that many others enjoy. The students' home environment and recent standardized test scores propels my job as an art teacher to be even more vital and challenging for the future success of my students. I feel that I have an important job to not only teach the skills of visual art but also to help them understand the world around them. As an educator, we encourage students to be better people and good citizens. Through this unit students will learn about triumphal arches and have an understanding of how public art reflects history and how we interpret the past. The students will be able to create their own artwork, reflect on their work and display it.

My previous Delaware Teacher Institute and Yale National Initiative units were developed for third, fourth and fifth grade and I am interested in writing this unit and implementing it for second grade. The art curriculum for second grade includes a unit on Ancient Egyptian art and the students absolutely love learning about how they lived and the environment around them. I hope that I can bring the same passion to my art classroom with the Ancient Romans.

## **Objectives**

In this unit based on Dominico Grasso's seminar, "Ancient Inventions," students will study Ancient Rome and triumphal arches to discover how *objects, artifacts, and artworks collected, preserved, or presented either by artists, museums, or other venues communicate meaning and a record of social, cultural, and political experiences resulting in the cultivating of appreciation and understanding.* The students will learn about the culture and crafts of the Romans to demonstrate how *people create and interact with objects, places, and design that define, shape, enhance, and empower their lives.* The students will reflect on their lives to show how *through art-making, people make meaning by investigating and developing awareness of perceptions, knowledge, and experiences* by creating their own triumphal arch.

To understand these concepts we will also explore many questions throughout the unit. To look at the general culture of the Ancient Romans we will discuss, "How do artists change the way a community is built?" Students will recall their prior knowledge of arch bridges to explore, "How do architects use arches for design and purpose?" Students will draw, build and dedicate their own triumphal arch after looking at previous triumphal arches to consider, "What ways do monuments help us understand people and events that happened long ago?"

## **Ancient Inventions**

"Any sufficiently advanced technology is indistinguishable from magic."  
~Arthur C. Clarke

Since the beginning of man, we have been innovators, creative thinkers, engineers and inventors. We adapt the world around us to fill a need or revise an existing method. Many of the inventions that were created hundreds of years ago are still be used similarly today. Some ancient inventions are no longer used and for some, their use remains a mystery.

One of the intriguing inventions we studied in this seminar is the Antikythera mechanism. A portion of the Antikythera mechanism was found on the ocean floor off Greece. Over several decades and several tests, its purpose is still not entirely explained. Scientists believe that the Ancient Greeks used the precision gears to track the moon and most likely the planets. The need that was filled was for the Ancient Greeks, is the tracking of the phases of the moon helped plan crop planting and religious celebrations.

As with the proposed purpose of the Antikythera mechanism, measuring time has always been an incentive to create an invention. As early as 3500 BC Egyptians built obelisks to mark the sun's position, however, this only worked on during the day and if it was not cloudy. In the fifth century BC, Ancient Greeks are attributed to creating the clepsydra, a water clock. The clepsydra employs gravity and two chambers to regulate the flow of water to delineate time. This device was not truly accurate as the water flow increased, the speed of displacement decreased. Around 270 BC, while listening to drops of water fall at regular intervals in his father's barbershop, Ctesibius is said to have had a "eureka" moment. He thought to add a third chamber to regulate the water more precisely. Ctesibius' revision of the clepsydra remained the most accurate clock for over 1,500 years.

## **Ancient Rome**

*When in Rome, do as the Romans do*

The Romans were "influenced by two neighboring peoples – the Etruscans and the Greeks."<sup>4</sup> The Etruscans were people who lived in northwest and central Italy, whose civilization flourished between 800 BC and 400 BC. For part of its very early history, Rome was ruled by Etruscan kings. The Romans adapted or adopted many aspects of design and technology into their lives. The Romans took the Etruscan arch and improved upon it. One way they improved the arch was by stacking the arches on different levels. This allowed for bigger, longer, and stronger structures. In addition, the Ancient Romans invented concrete. The use of mixing lime, volcanic rock and other substances gave their architecture permanence. The durability of Roman concrete is seen today in incredibly intact buildings like the Pantheon. "Before Romans, most buildings were constructed with walls and columns topped by beams of wood."<sup>5</sup>

Arches were thought to carry the load of the surrounding architecture in an ingenious way. Arches are constructed of stones, bricks, or other materials that spans an opening

and does not employ a lintel or beam across the top of an opening<sup>6</sup> “Instead of pushing straight down, the load of an arch bridge is carried outward along the curve of the arch to the supports at each end. The weight is transferred to the supports at either end. These supports, called the abutments, carry the load and keep the ends of the bridge from spreading out.”<sup>7</sup> While the arch was built piece by piece a wooden support called falsework would occupy the space supporting the arch until the keystone and abutments were in place. The wooden falsework support would then be removed.

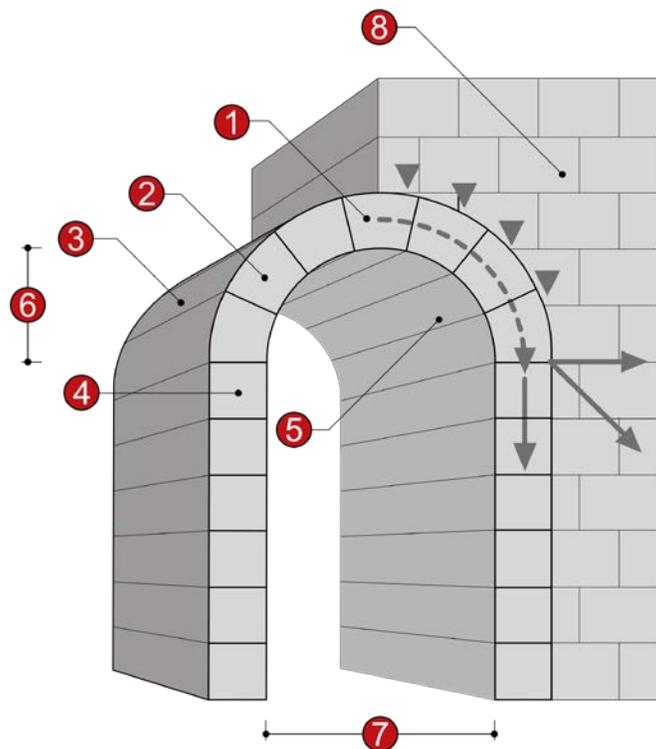


Figure 1: Arch Illustrations

1. Keystone
2. Voussoir
3. Back
4. Impost
5. Intrados
6. Rise
7. Clear span, "Bay"
8. Abutment

Many different styles of arches were developed and arches were used in a myriad of ways. “The Romans developed the stone voussior arch, with the use of freestanding piers to stabilize it. From this basic form are derived the barrel vault, the cross vault, and the dome.”<sup>9</sup> The different types of vaults developed from arches lead to more and more use

of the arch. “Romans realized that a line of arches side by side could produce a tunnel vault to enclose larger areas. But this allowed very little light to enter a building.” The architects continued to explore the ways arches could be used to add more light. “Later architects overlapped two tunnels at right angle to each other. This was easier to illuminate.”<sup>10</sup>

Due the skills and talent of the craftspeople, the Roman mosaics, sculpture, and paintings show us clearly what people and everyday objects looked like. Arches were so popular that they are even painted on walls. “The Romans usually lived in sparsely furnished rooms, no matter what their lifestyle or position was in society. Decoration on the walls, however was another matter. Some of the theses were painted to look like windows and open arches creating an illusion that the viewer is looking outdoors.”<sup>11</sup>

The Roman Empire was enormous in size and the emperors needed travel among the regions to be easier. Bridges were needed to cross spans of water and valleys. “Bridge of Augustus, Rimini (1<sup>st</sup> century ce) The Romans exploited the hydraulic properties of their concrete, which would dry under water, to create bridges of great strength and aesthetic appeal. This bridge at Rimini on the Adriatic is an example, with five arches of varying size and immense piers.”<sup>12</sup>

In every large city, even today, officials are faced with the challenge of providing enough water for bathing, cleaning and safe drinking. Ancient Rome was no different than the major cities of today. The Ancient Romans used the arch technology to build aqueducts, an underground or raised channel through which water was brought into Roman towns<sup>13</sup> These are essentially bridges with a pipe-type system to transport water. The aqueducts ran by gravity. The aqueducts carried fresh water from the mountains to the city of Rome, in some cases over 30 miles. During the time Sextus Julius Frontinus (c. 40 – 103 AD) served as Water Commissioner, nine aqueducts measuring over 420,000 meters served Rome and its surrounding areas. A Water Commissioner was necessary to monitor how much water was flowing into the city and if anyone was trying to reroute water to serve his or her personal needs.

The invention of the aqueduct gave Romans time to do other things that they normally would have been spending hours carrying water by hand. Some of the aqueducts were covered at the top to prevent the water from being contaminated or the water temperature getting too hot from the sun. Arches were built if the aqueduct had to be higher than 6 ½ feet off the ground over the various terrains. Arch technology also saved the Ancient Romans money on building materials because of the gaps where the empty space of the arch existed while it increased strength.



Figure 2: Pont du Gard aqueduct, France, 2008<sup>14</sup>

One of the longest, most well-known and beloved aqueducts is called the Pont de Gard. The Pont de Gard aqueduct (Figure 2) in France is built with three rows of arches on top of each other to cross the valley at the river Gardon. While it is not in use today, many people marvel at its beauty and spectacular architectural engineering. Another aqueduct at Segovia in Spain, (which) consists of a double tier of 128 arches 100 ft (30 m) high with rough stonework.<sup>15</sup>

While arch technology gave the Ancient Romans different entrances and hallways, they then used the arch to create domes. At its basic form, a dome is simply an arch rotated at 360 degrees. “A further development of the arch was the dome, made by crossing a number of different arches over each other to create a circular area.”<sup>16</sup> The Romans began construction on the Pantheon (Figure 3) in 27 BC by statesman Marcus Vipsanius Agrippa and it was rebuilt in AD 118-128 by emperor Hadrian. Emperor Hadrian added the dome.<sup>17</sup> The Pantheon’s dome is 43 meters (141.9 ft) high and 43 meters (141.9 ft) across. To this day, the Pantheon is the largest unreinforced solid concrete dome in the world.

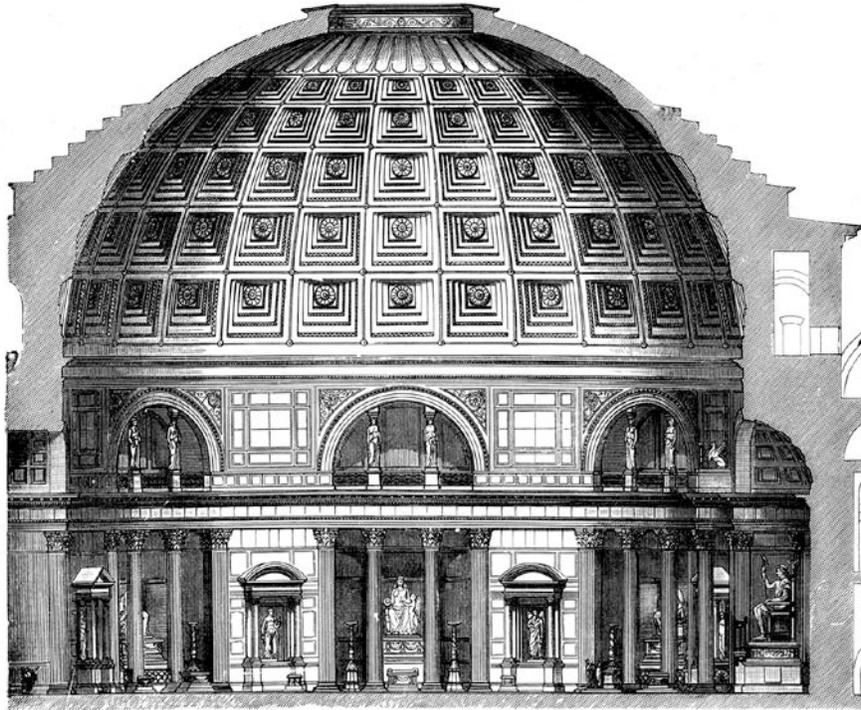


Figure 3: Drawing, Pantheon, Rome.<sup>18</sup>

Ancient Rome is well known for another famous architectural landmark constructed by arches, the Colosseum. The Colosseum took a decade to construct, beginning with the emperor Vespasian in AD 70 and was completed by his son Titus in AD 80. “There are four arcaded stories, the first three each have eighty arches, framed respectively by engaged Doric, Ionic and Corinthian columns. Seventy-six of these arches are numbered to assist spectators in finding their assigned seats. An attic, which serves as the fourth story, has Corinthian pilasters framing bays that alternate between windows and large decorative shields of gilded bronze, which had been added by Domitian, the brother of Titus. Above them, projecting corbels supported masts that passed through the crowning entablature of the attic story. It was from these tall wooden masts that a sheltering awning was suspended.”<sup>19</sup>

The Coliseum held over 50,000 spectators supported by over 250 arches below them and along the side of the structure. When stacking arches on top of each other, the arches allowed the weight of thousands of spectators at amphitheaters. Another amphitheater constructed of arch technology is the Theater of Marcellus. “The semicircular exterior of the Theater of Marcellus (dedicated in 13 BCE to the memory of Augustus’s grandson Marcellus) consists of two tiers of arches acting as buttresses to the seating. The combination of structural arch and the decorative order is quintessentially Roman.”<sup>20</sup>

It is by no coincidence to me that Ancient Romans chose arch technology when designing a structure to honor its heroes. “When an emperor won a great victory, he would be granted a parade called a triumph. This gave him the right to lead his soldiers and prisoners through Rome, while people cheered.”<sup>21</sup> And what better way to make a grand entrance than through a triumphal arch. The triumphal arch also gave a canvas of epic size to display images of the victor for all the public to see. Works of art and monuments were not uncommon as a way for ancient civilizations to show their admiration and appreciation. Many busts, statues and honorific columns were commonly commissioned by the governing figure himself or in dedication to an ancestor or beloved. “Roman Emperor Augustus decreed that only emperors would be granted triumphs. The term *fornix* abruptly ceased to be used and was replaced by *arcus*, from which the English word “arch” is derived.”<sup>22</sup>



Figure 4: Arch of Constantine, Rome, Italy. 2009<sup>23</sup>

The triumphal arches consisted of raised relief images and columns that told the story of what occurred in the battle and explained why the arch was created. A raised relief is a carved or molded image that stands out physically from its background. The arches were inscribed at the top center above the arch with a dedicatory inscription naming and praising the honoree. Also at the top, you commonly find the attic and the frieze. The attic consists of a low wall or storey above the entablature of a classical façade, as in a roman triumphal arch.<sup>24</sup> The frieze is a horizontal band that may be painted or decorated with sculpture or moldings. It many run along the upper part of a wall, or form the middle

section of entablature.<sup>25</sup> In AD 315, Emperor Constantine had a triumphal arch erected to celebrate his victory over Emperor Maxintius. The inscription in the attic states “Constantine overcame his enemies by divine inspiration.”<sup>26</sup> The Arch of Titus “honored Titus posthumously” and was built by his younger brother and successor Domitian who was emperor between 81-96 ce. The attic inscription reads “The Senate and the Roman people (dedicate this) to the deified Titus Vespasian Augustus, son of the deified Vespasian.”<sup>27</sup> At the top of the triumphal arches, bronze sculptures and gilded letters were inlaid in the inscription. As these were the highest point of the structure they “reflected the sunlight which made them visible from great distances.”<sup>28</sup> Symbolic sculptures and reliefs were common on triumphal arches, such as images of the winged lady Victory, children representing the future, and chariots led by horses. Depending on the triumphal arch, it contained different number of arches. For example, the Arch of Trajan has one arch, the Arch of Constantine has three arches and the Janus Arch in Rome had four arches.

Triumphal arches were initially built to be temporary, providing a ceremonial entrance, but over time the triumphal arches were made of more permanent materials, marble and concrete. The Arch of Constantine is unique in that several of the reliefs and parts of the structure were taken from existing triumphal arches. By 4<sup>th</sup> century AD, 36 arches existed in the Roman Empire but today only three of those remain standing, Arch of Titus (AD 81), Arch of Septimius Severus (203-05), Arch of Constantine (312).

All over the world, countries have mirrored the triumphal arch to commemorate special moments or people in history. In Paris, France, Emperor Napoleon began the construction of the Arc de Triumph to boast his own victories. After his demise, the French eventually continued and completed the triumphal arch amending it to honor the “bravery of the Army of the Pyrenees.”<sup>29</sup> The largest triumphal arch that exists today is the Arch of Triumph in Pyongyang in North Korea at 200 feet tall and 160 feet wide. Built in 1982, the Arch of Triumph was built in remembrance of the Korean resistance to Japan.

As I mentioned earlier, New York, New York is home to the Washington Square Arch. The arch was originally erected across the street from its current place to celebrate the one hundred year anniversary of the inauguration of George Washington in 1889. The original arch was only built to be temporary, made of staff, a mixture of substances containing mainly plaster and horsehair. The arch was so popular renowned architect Stanford White was commissioned to design a permanent arch made of marble. The arch is filled with “inscriptions, reliefs, and figures...pay tribute to George Washington, the city and state of New York, and the people who conceived and built the monument.”<sup>30</sup> The new arch was dedicated in 1895 and the final reliefs and sculptures were added in 1918.

Locally, amongst the beautiful brick architecture at the University of Delaware, we can find arches where they were built to demarcate what were formerly the men's' and women's' campuses. The arches, built by brick, are know as the kissing arches because the students who were romantically involved would meet for one last kiss before returning to their dormitories at night. The arches still stand today, connecting Memorial Hall and Hullahen Hall off of South College Avenue, Newark.

### Teaching Strategies

I think one element of a well-prepared unit, is the myriad of approaches a teacher can approach to teach the material to their students. My approach to these unit lesson ideas is based on the access I have to technology and my students' backgrounds.

In the fall of 2015, Congress essentially revoked the "No Child Left Behind Act" and made a revised document titled, "Every Student Succeeds Act" (ESSA). In addition to reducing high-stakes testing, the ESSA includes language that supports arts education among the core content areas. Thus keeping arts education in the forefront with all stakeholders – teachers, parents, children, school administration, and the community.

Of the many SIOP (Sheltered Instruction Observation Protocol) techniques, I intend to facilitate 'Think, Pair, Share' and a walking 'Carousel'. As adults we must commonly work in collaborative groups in our careers and as families. Modeling ideal collaborative behavior for working in groups in the elementary level will help build these skills for their future. Critical thinking will be applied through the practices of Learning Focused Strategies. Students will be presented with Unit and Lesson Essential Questions prior to the activities in class and reviewed daily. These questions will provide students with the knowledge of the goals and outcomes for their learning.

K (Know)	U (Understand)	D (Do)
<p>Key Terms-</p> <p>Abutment, aqueduct, arch, architect, architecture, attic, civil engineer, concrete, dome, engineer, frieze, keystone, monument, Pantheon, relief, sculpture, technology, triumph, triumphal arch</p> <p>Artworks- Arc de Triumph, Arch of Constantine, Arch</p>	<p>Students will understand...</p> <p>People create and interact with objects, places, and design that define, shape, enhance, and empower their lives. VA:Cr2.3.2a</p> <p>Objects, artifacts, and artworks collected, preserved, or presented either by artists, museums, or other venues</p>	<p>Analyze how art exhibited inside and outside of schools (such as in museums, galleries, virtual spaces and other venues) contributes to communities.</p> <p>Create works of art about events in home, school or community life.</p>

of Servus, Coliseum, Pantheon, Pont de Gard aqueduct	communicate meaning and a record of social, cultural, and political experiences resulting in the cultivating of appreciation and understanding. VA:Pr6.1.2a  Through art-making, people make meaning by investigating and developing awareness of perceptions, knowledge, and experiences. VA:Cn10.1.2a	
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Activating Strategy: Present a slideshow of images of one of the triumphal arches showing details of vault, reliefs, inscriptions, columns, and in full view in local. Ask students to describe what they see. Ask students what do they think this is. Ask students what do they see that makes them think that.

Graphic Organizer: Think, Pair Share: Think - Students will think of one fact they know about arches from their studies in Science. Pair - Students will share their fact with their partner or group. Share - Students will share with the class their known facts about arches. The teacher will record facts on a KWL (Know, What to Know, What you've Learned) chart. The teacher will ask the students what do they want to know more about arches and record questions on the KWL chart. At the end of the unit, the students will share facts they've learned about arches and the teacher will record on the KWL chart.

Performance Task: Students will create a Triumphal Arch to boast one of their accomplishments. Using a template, students will dedicate the triumphal arch, draw pictures, symbols and columns on paper. Students should draw pictures that show them reaching their goals. Students can draw symbols or objects related to achieving their goal. Students can draw self-portraits or have their profile traced for different elements on the arch.

Students will write a statement to 'inscribe' on the attic. Examples: "Brynne F. reached her Accelerated Reader (AR) goal." "Theo D. brought in the most box tops in Mrs. Smith's class." "Simona T. completed her mileage club card." "Zach B. had his artwork displayed in the Colonial School District Art show." "Olivia L. participated in

guitar club.” “Quinn B. learned to roller skate backwards.” The template will then be cut out and folded to be a freestanding 3-D triumphal arch.

**Summarizing Strategy:** Students will do a gallery walk of each other’s triumphal arches and fill out an exit ticket analyzing one of them.

**Differentiation/Additional Activities:** There are many ways to add extensions to this unit and other ways to create the triumphal arch. Students could make small relief images using modeling clay and glue to paper. Cardstock or poster board could be an additional option instead of drawing paper to add strength to the monument. Or if you have students bring in used cereal or snack boxes, you can overlay the paper form on top of a box or cardboard. If time and space is a hindering factor, students can just draw one side of the triumphal arch.

In Ancient Roman times, art was intertwined in many aspects of life. It was commonplace for money, in the form of coins, to show the profile image of the current leader. One activity could include students using aluminum foil to create a relief of their profile. I would recommend making a larger than normal size coin to be able to have some details in the face and hair, keeping the size around 4” in diameter or larger. Most people are familiar with the style of clothing Romans sometimes wore called togas. Romans wore brooches at times to hold the toga in place. Students could create brooches of their own design inspired by those worn. At school and in many areas of Ancient Rome, people used waxed writing tablets to record information. The wax writing tablet may be difficult for an entire class to create their own but it would lead to interesting discussion and experience to have the students try one out and compare the differences between the wax writing tablet and an Ipad.

Columns for support were commonly built into Ancient Roman architecture. There are three main types of columns; Doric, Ionic and Corinthian, each are differentiated by the design at the ends of the support. Students could make a column out of clay or draw their own building supported by one of these types of columns. As if the buildings themselves were not already stunning in many cases, interior rooms and public baths typically had a fresco painting or a mosaic tile image. Fresco is a painting that is done on plaster while it is wet. When the plaster dries the painting is set. Students could create a similar process using quick dry clay or cement with acrylic paint. A mosaic is a picture made up of small tiles, stones, or glass. If masonry items are not available, the students can replicate the look of mosaics with small pieces of colored paper to create a mosaic image.

### **Resources for Background and Research**

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Bradley, Mark. *Colour and meaning in ancient Rome*. Cambridge: Cambridge University Press, 2009.

Carlson, Laurie M. *Classical Kids: An Activity Guide to Life in Ancient Greece and Rome*. Chicago, IL: Chicago Review Press, 1998.

Chandler, Fiona, Jane Bingham, and Sam Taplin. *The Usborne Internet-linked Encyclopedia of the Roman World*. Tulsa, OK: EDC Pub., 2002.

Photographs, illustrations, timelines and definitions. A great resource for students.

Clarke, Georgia, and Paul Crossley. *Architecture and language: constructing identity in European architecture, c. 1000-c. 1650*. Cambridge, UK: Cambridge University Press, 2000.

This scholarly book contains chapters focused on certain types of architecture; the one related to this seminar is “The Rhetorical Model in the Formation of French Architectural Language in the Sixteenth Century.

Cole, Emily. *The Grammar of Architecture*. Boston: Bulfinch Press, 2002.

A must have resource of architectural information.

Diamond, Jared M. *Guns, Germs, and Steel: The Fates of Human Societies*. New York: W.W. Norton &, 1998.

Compelling look at how different societies grew and developed based on various factors.

Elsner, Jaś. *Art and text in Roman culture*. Cambridge: Cambridge University Press, 1996.

If you want to focus on the children depicted in triumphal arch of Trajan, this is the chapter for you – ‘The empire of adults: the representation of children on Trajan’s arch at Beneventum’

Espejo, Roman. *Eco-architecture*. Detroit: Greenhaven Press, 2012.

Interesting information representing both sides of viewpoints of the benefits, impact, implementation and advocacy for eco-architecture.

Frothingham, Arthur L. *Who Built the Arch of Constantine?: Its History from Domitian to Constantine*. Piscataway, NJ: Gorgias Press, 2009.

Descriptions and images of the reliefs of the Arch of Constantine and their origin.

Hanser, David A. *Architecture of France*. Westport, CT: Greenwood Press, 2006.

General information about the Arc de Triomphe, Pont de Gard and the Triumphal Arch, Orange, among many other famous architecture.

James, Simon. *Ancient Rome*. New York: Knopf, 1990.

James, Simon. *Eyewitness Ancient Rome*. New York, NY: DK Pub., 2008.  
Very visual encyclopedia of Ancient Rome with short descriptions of each image.  
Appropriate for the elementary level.

Jovinelly, Joann, and Jason Netelkos. *The Crafts and Culture of the Romans*. New York:  
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## **Appendix A – Implementing District Standards**

As of March 17, 2016, The Colonial School District adheres to the Delaware National Core Arts Standards, which were adopted from the National Art Education Association Standards (NCAS). The NCAS were published in 2014. In the Creating Anchor Cr2.3.2a, students will be inspired by triumphal arches of the Romans to “Repurpose objects to make something new” and create their own triumphal arch using a cereal or snack food box as support. Students will be able to state, “I can reuse objects to make something new.” Students will reach Presenting Standard VA:Pr6.1.2a, “Analyze how art exhibited inside and outside of schools (such as in museums, galleries, virtual spaces and other venues) contributes to communities” by looking at various triumphal arches and other public monuments. Students will be able to state, “I can tell why art is important to a community.” Visual Arts Connecting Standard VA:Cn10.1.2a, “Create works of art about events in home, school or community life” will be reflected in what achievements they select to celebrate about themselves on their triumphal arch. Students will be able to state, “I can create works of art about people, places and things in my life.”

## **Notes**

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<sup>1</sup> Cole. *The Grammar of Architecture*. 341.

<sup>2</sup> <http://www.wordcentral.com/cgi-bin/student?book=Student&va=monument>, (accessed December 19, 2016)

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- <sup>3</sup> "No Escaping Wilmington Violence," accessed July 13, 2014, <http://www.newsworks.org/index.php/local/speak-easy-delaware/63274-no-escaping-wilmington-violence-in-2013>.
- <sup>4</sup> Simon James. *Eyewitness Ancient Rome*. New York, NY: DK Pub., 2008. 6.
- <sup>5</sup> Fiona Chandler, Jane Bingham and Sam Taplin. *The Usborne Internet-linked Encyclopedia of the Roman World*. Tulsa, OK: EDC Pub., 2002. 70.
- <sup>6</sup> Cole. *The Grammar of Architecture*. 332, 336.
- <sup>7</sup> [www.design-technology.org/archbridges.htm](http://www.design-technology.org/archbridges.htm) (accessed December 19, 2016)
- <sup>8</sup> [https://commons.wikimedia.org/wiki/File:Arch\\_illustration.svg](https://commons.wikimedia.org/wiki/File:Arch_illustration.svg), (accessed December 19, 2016)
- <sup>9</sup> Emily Cole. *The Grammar of Architecture*. Boston: Bulfinch Press, 2002. 127.
- <sup>10</sup> Fiona Chandler, Jane Bingham and Sam Taplin. *The Usborne Internet-linked Encyclopedia of the Roman World*. 71.
- <sup>11</sup> Joann Jovinelly and Jason Netelkos. *The Crafts and Culture of the Romans*. New York: Rosen Pub. Group, 2002. 36.
- <sup>12</sup> Cole. *The Grammar of Architecture*. 129.
- <sup>13</sup> James. *Eyewitness Ancient Rome*. 70.
- <sup>14</sup> <https://commons.wikimedia.org/wiki/File:Pontdugard.jpg>, (accessed December 19, 2016)
- <sup>15</sup> *Ibid.*, 127.
- <sup>16</sup> Chandler, Bingham and Taplin. *The Usborne Internet-linked Encyclopedia of the Roman World*. 71.
- <sup>17</sup> Jovinelly and Netelkos. *The Crafts and Culture of the Romans*. 24.
- <sup>18</sup> <https://commons.wikimedia.org/wiki/File:Pantheon.drawing.jpg>, (accessed December 19, 2016)
- <sup>19</sup> [http://penelope.uchicago.edu/~grout/encyclopaedia\\_romana/romanurbs/colosseum.html](http://penelope.uchicago.edu/~grout/encyclopaedia_romana/romanurbs/colosseum.html) (accessed December 19, 2016)
- <sup>20</sup> Cole. *The Grammar of Architecture*. 128.
- <sup>21</sup> James. *Eyewitness Ancient Rome*. 8.
- <sup>22</sup> [https://en.wikipedia.org/wiki/Triumphal\\_arch](https://en.wikipedia.org/wiki/Triumphal_arch) (accessed December 16, 2017)
- <sup>23</sup> [https://commons.wikimedia.org/wiki/File:Roma\\_Arch\\_Constantine.JPG](https://commons.wikimedia.org/wiki/File:Roma_Arch_Constantine.JPG), (accessed December 19, 2016)
- <sup>24</sup> Cole. *The Grammar of Architecture*. 332.
- <sup>25</sup> Cole. *The Grammar of Architecture*. 335.
- <sup>26</sup> Jovinelly and Netelkos. *The Crafts and Culture of the Romans*. 25.
- <sup>27</sup> <https://www.khanacademy.org/humanities/ancient-art-civilizations/roman/early-empire/a/the-arch-of-titus> (accessed December 19, 2016)
- <sup>28</sup> Donald M. Reynolds. *Monuments and masterpieces: histories and views of public sculpture in New York City*. New York: Macmillan Pub. Co., 1988. 346.
- <sup>29</sup> David A. Hanser. *Architecture of France*. Westport, CT: Greenwood Press, 2006.

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<sup>30</sup> Reynolds. *Monuments and masterpieces: histories and views of public sculpture in New York City*. 357.