MONUMENTAL IDEAS

Exploring the Martin Luther King, Jr. Memorial and Lincoln Memorial

INTRODUCTION

Produced by CyArk in partnership with the National Park Service, the digital experience allows students to virtually visit monuments on the National Mall and utilizing tools in the virtual environment, engage in STEAM based exploration of the sites. Accompanying lesson plans provide guidance on utilizing 'America's Front Yard' as a launching point for STEAM education in the classroom.

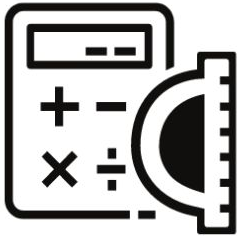
These lesson ideas are meant to ignite a spark in educators and students. Use these starters as a launchpad to learn more about the National Mall and other outdoor spaces within the National Parks. Share your work on Social Media #MonumentalIdeas

www.expeditionsineducation.org Links to Concept Maps for Content and Grade Levels!

Dive into the immersion:https://cyark.org/monumentalIdeas/game

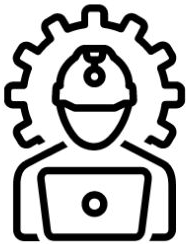
Monumental Ideas for 6th-8th

MATH



SCIENCE

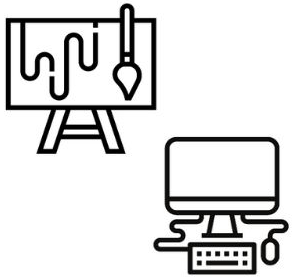
ENGINEERING



HISTORY

LITERACY

ART & TECHNOLOGY



MATH

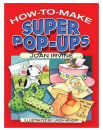
Geometric Shapes and Nets

CyArk Mini Model Tool: Students will be able to use the same data that was used to create the 3D model and digital experience to create their own 3D model of the memorial.

CyArk Reference Tool: Students can use the reference tool for perspective.

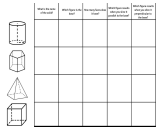
Vocabulary:
angle
cylinder
cube
line
midpoint
plane
prism
pyramid
rectangle
square
transverse line
trapezoid
triangle

Read:



Author: Madeleine L'Engle
Author: Joan Irvine

Click to Practice:



Resources:
Perfect Buildings
Pylon of the Month
It's All in the Detail
FlashPrint

Teacher Talk: Geometry is used in architecture to create the shape of the building. Triangles are great tools for architecture and are used in the design of buildings and other structures because they provide strength and stability.

Questions: How does the triangle hold its shape? What other shapes incorporate triangles? Why are triangles considered the simplest polygons?

Task: Students will deconstruct the monuments into basic geometric shapes. Students may upload photos of the monuments and then use online programs to manipulate the memorial so they can see the different shapes used. Extension- Build nets of the shapes to recreate the monuments.

Assessment: Have students compare the types of shapes they found. Encourage them to share their challenges. Have them make a Venn Diagram of findings with a partner.

SCIENCE

Chemical and Physical Properties of Rocks

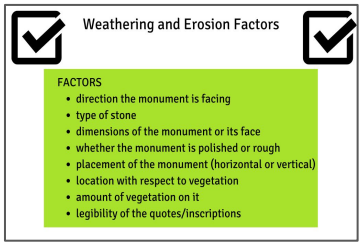
CyArk Camera: The camera tool will allow students to take photographs throughout the site as they observe the rocks used in the design.

Magnifying Glass: The magnifying glass tool will allow students to see weathering and erosion up close.

Vocabulary:
abrasion
decomposers
decomposition
erosion
permeable
run-off
soil
weathering

Resources:
Nature Erosion
Gone with the Weathering
Water, Wind, and Weather

Use:



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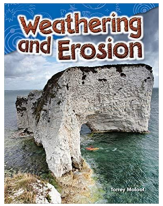


Author: Torrey Maloof

Teacher Talk: Architects must determine which types of rocks will be best for the durability and duration of the memorials. Great care is taken to ensure that the monuments will last a long time. Architects must understand erosion and weathering.

Question: How do rocks weather? How do rocks erode? What types of maintenance do memorials and monuments undergo?

Task: Your task is to research the factors that influence the weathering of monuments (left) and design a plan to address each factor. You will present this to the National Parks Maintenance Department.

Assessment: Ask students to present their plans to the class in preparation for their presentation to the National Parks. Assess their knowledge of weathering and erosion.

6-8

National Parks and CyArk Engineering Challenge

The engineering behind designing and building monuments began with Stonehenge and the Great Pyramid of Giza. These ancient engineers knew that the key to success was balance, strong structures, and careful planning. The Martin Luther King, Jr. Memorial took 27 years of fundraising, politics, planning, and construction. The Lincoln Memorial took 8 years from idea to construction.

Your task is to research and build a scale model of another monument or memorial on the National Mall. You have studied scale modeling and you understand geometric figures. Choose a monument or memorial that has a connection to the ones we are studying and build it out of wire and newspaper. Think about the shapes you will want to use for the foundation and build from the bottom up. You can cover your structure with clay or paper. Begin with a plan and then follow that plan through to completion.

HISTORY

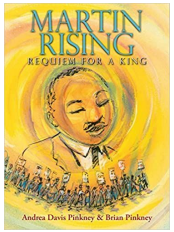
History: Assassination

CyArk Camera: The Camera tool will allow students to capture their surroundings and share their thoughts about the deaths of MLK and Lincoln.

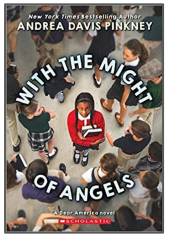
Vocabulary:
13th Amendment
assassination
Civil Rights
discrimination
emancipation
proclamation
equality
Ford's Theatre
Memphis
slavery

Do:
As a class, create a digital memory wall for MLK and Lincoln. Use photos and videos from the immersive experience and from online sources.
Create a peace garden at school or home.
Pledge to Do Good!

Read:



Authors:
Andrea Davis Pinkney
& Brian Pinkney



Author:
Andrea Davis Pinkney

Resources:
MLK's Life
Lincoln's Life

Teacher Talk: Talk about the lives of MLK and Lincoln. Celebrate their achievements and legacies. Share that not everyone agreed with them.Discuss the events that lead up to the death of MLK and Lincoln. Ask students how they feel about this. Let students express their feelings safely.

Questions: When and where did MLK die? When and where did Lincoln die? Why is it called assassination? What led up to their deaths?

Task: Read about the assassinations of both men. Create a timeline of events that led up to the assassinations. Compare and contrast. Propose a "peaceful" way that people can solve their problems and share with the class.

Assessment: Ask students questions about "why" they think these assassinations happened. What is their proposal for peace?

LITERACY

Primary sources such as photographs, newspapers, and letters, along with physical objects like clothing or even a lock of hair help transport us back to the time in which these people lived.

The Library of Congress holds an incredible collection of primary sources related to both Lincoln and King.

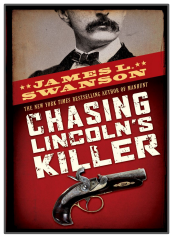
Select some of these resources for your students to analyze with the LOC Primary Source Analysis tools. This will help them more deeply connect with and understand the books they are reading.

Abraham Lincoln Primary Source Set

Today in History: Martin Luther King, Jr.

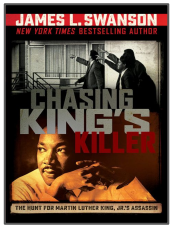
Have students select one primary source that they feel helps them best understand what Lincoln and/or MLK stood for. Then, ask them to use the CyArk Zoom and Camera tools to find evidence on the memorials the captures these traits.

President Lincoln and Dr. Martin Luther King, Jr. share a horrible reality: they were both assassinated. These two books, written by James L. Swanson, tell the story of the men who are responsible.



The author discusses his writing process in the book trailers (below), noting that an important tool for him is the ephemera of the time. Try using these books as the basis of classroom book studies.

1. Have students watch both the book trailers and then select the book they are most compelled to read.
2. As they read, have them keep a journal to note details that might have come from primary sources or ephemera, and questions that develop as they read.
3. Provide opportunities for partner or group discussion.
4. Bring closure to the book studies by having book groups share with the entire class to compare the two books.



Clay and Stop Motion Animation

ART & TECHNOLOGY

ART

Clay:

Sculptors Li Yexin (Chinese Sculptor for the MLK monument) and Daniel Chester French and the Piccirilli Brothers (Sculptors and Carvers for the Lincoln Memorial) used clay for their initial models. The use of clay made it easier for them to make changes in their work.

Your task is to create a clay model of the memorial that integrates both designs. You can make your own clay or use purchased material. Be abstract in your design so that someone can recognize the monuments that it represents without it looking like the actual memorial.

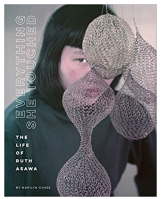
Resources:

How to Make Clay
Processing Clay
Sculpting with Clay

Watch:

TedTalk Pottery
NPS and Pottery

Read:



Author: Martha Chaser

TECHNOLOGY

CyArk Mini Model Tool: Through the use of the mini model tool, students will use the same data that was used to create the 3D model to see different perspectives of the memorial so they can create their stop motion animation.

Stop Motion Animation:

Students will research the MLK or Lincoln memorials and create a stop motion video that depicts the building of the memorial. The video should be at least 20 seconds long when completed.

Steps for Stop Motion Animation

Step 1: Set your scene
Step 2: Take a picture
Step 3: Make a small change
Step 4: Take a picture
Step 5: Make another small change
Step 6: Take a picture
Step 7: Make another small change
Step 8: Take a picture
Step 9: Repeat until you're done!