Curricular Unit

Introduction

Title of the curricular unit: Ancient American Pottery and Techniques – Maya Pottery

Name: Marie Monks

School: Branford High School

Subject Area: Art

Grade Level(s): 9-12

Number of Lessons in the Unit: 4

Time Frame Allow for Unit: 3-4 weeks

Brief Narrative Describing the Unit:

In this unit, student will gain knowledge and experience in preparing their own ceramic clay and the process clay undergoes when it is dug from the ground. Once the clay has been prepared, students will create a Maya-inspired clay vessel using similar hand-building techniques as the Maya and a clay ocarina where they incorporate the Maya’s playful notion of design and function. To conclude the unit, student will research and study the colors used by the Maya to decorate their pottery. Students will then create the colored slip and complete their clay vessel and ocarina using the colors black, red, and white.
**Unit Teaching Objectives**

By researching and observing a variety of techniques and works of art originating from the Maya culture, students will know how to prepare their own clay, design and create a ceramic vessel and/or a ceramic ocarina in the style of the Maya. To conclude the lesson unit, students will decorate their pieces using colored slip that they prepared themselves, using the same techniques the Mayas used to decorate their ceramic pieces.

Students will have an understanding of the techniques and the process used by the Maya and other indigenous societies, starting from when the clay was dug from the earth (cleaned, shaped, painted) to the finished product - being fired in a kiln/pit.

**Unit Essential Questions**

What process does clay go through in order to be used to create pottery?
What are the styles and techniques seen and used in Maya pottery?
What is the role of the artist/pottery in societies past and present?
What is the role of the ceramic material itself? How has it changed/stayed the same in the past and present?

**Vocabulary:**

**Lesson 1:**
Primary Kaolin
Secondary Kaolin
Ball Clay
Stoneware Clay
Fire Clay
Talc
Common Surface Clay
Earthenware
Silica
Porcelain
Raw Clay
Plasticity
Shrinkage
Absorption
Feldspar

**Lesson 2:**
Quadrupod
Animal Effigy
Puki
Coil Technique
Cache
Cylindrical tripod
Basal Flange bowls
Tiquisate pottery
Hemispherical bowls

**Lesson 3:**
Ocarina
Animal Effigy

**Lesson 4:**
Slip
Incised Design
Iron Oxide
Lesson 1: The Origin of Clay Pottery

Lesson Specific Objectives:

Students will:

• Read articles and watch videos that discuss and demonstrate the different types of clay, their uses and how clay is dug from the ground and cleaned to make it suitable to create pottery.
• Study and discuss the historical evolution of ceramics from the most primitive through early advancements.
• Experience the process of collecting clay from the ground to filtering/screening the clay in preparation of forming ceramic vessels.

Lesson Specific Essential Questions:

What is clay? What are the different types of clay that you may find in the ground?
What type of clay was most often used in Ancient America?
What process does raw clay go through in order to be used to create pottery?

Lesson 1: The Origin of Clay Pottery
Activity 1: What is Clay?

In this lesson, we will begin with offering the question of “What, exactly, is clay? Where do we find it? We will discuss if it is possible to find clay in our own back yard and where indigenous cultures found clay. Looking at a map, we will discuss the different types of clay that exist and where those types of clay can be found. We will briefly discuss the type of pottery found in different areas of the world and discuss how the type of clay that was available affected the pottery of that area. We will then focus on the Americas, specifically the Maya region, and discuss the kind of clay that was available to the Mayas. (Handout #1)

As a class, we will watch the video, Classic Martina Martinez: Native American Pottery Maker of San Ildefonso in order to give students a review and a demonstration of what this lesson unit includes and what they are generally going to be learning how to do.

Key Points to Cover:

• Ceramics have a longevity and performance like no other material – this is why we can study ancient civilizations by their ceramic artifacts and why ceramics is such a prized material for space exploration and other advancements in modern technology. At the same time, it functions in much the same way as it did 35,000 years ago.
• Three Basic Questions to ask yourself when you are creating something – How is the piece to be used? How do you want the work to look? **What materials are available?**
Discuss the characteristics of Kaolin, Ball clay, Stoneware clay, Fire clay and common surface clay. How do they differ from each other? Where are they found? Who used these different types of clay and why?

Discuss what causes different colors of clay.

Common surface clay was the clay type most often used by indigenous cultures. Why was that the case?

Discuss the differences between Porcelain, Stoneware and Earthenware – Pros and Cons and how you can tell the difference.

For Homework:

- Read Handout #2 “The Pots of Jatumpamba” and discuss in class.
- Watch the on-line videos that demonstrate the process of collecting, cleaning, screening and mixing raw clay in preparation for creating a ceramic vessel. Answer the questions on Handout #3.
- Write 3 questions you may have regarding clay, collecting/cleaning raw clay and the effects of different clay types in different cultures.

Lesson 1: The Origin of Clay Pottery

Activity 2: Collecting, Screening and Cleaning Raw Clay

Materials Needed:
Raw Clay (dug from Sheffield, MA)
Ball Clay
Dust Masks
Canvas
Water
Large bowls or buckets (for holding water and allowing clay to soak)
Clamps (to hold canvas down on table)

Optional:
Screens
Mallets (to help break up dried clay)

Note to Teachers
Field Trip possibility – Sheffield Pottery Ceramic Supply in Sheffield, Mass. allows you to dig your own raw clay from their clay mines. If it is not possible to bring students to the mines, clay should be dug in advance with a photo documentation of the process.

- If a field trip can be arranged, students will take a trip up to Sheffield, MA to dig out their own clay from the clay pits. If a field trip cannot be arranged, students will be shown a video documenting the process of the clay being dug.
- Once the raw clay has been obtained, students will begin the process of cleaning and preparing the clay to work with:
  1. First the debris will be removed (leaves, twigs, stones).
  2. The clay will then be dried and crushed into smaller pieces to further remove any visible debris.
3. OPTIONAL: Depending on how much debris is in the clay and the availability of good ventilation and safety equipment such as dust masks, the clay can be screened to remove further debris.
4. Once the debris has been removed from the dried clay, water will be added back into the clay to soften the clay.
5. Students will be given a canvas mat to work with the softened clay, mixing and wedging it into a workable state.
6. Ball Clay will be mixed into the raw clay to give the clay more plasticity (recommendation of Sheffield Pottery). Discuss the importance of this step with students.
7. Clay will be wrapped in damp cloths and plastic until students are ready to begin creating their ceramic vessels.

Lesson 1 Assessments:
Class Participation
Reaction to Videos
Comprehension Questions
Homework Worksheet
Final outcome or prepared clay

Lesson 1 Handouts:
#1 What is Clay?
#2 “The Pots of Jatumpamba”
#3 Homework Questions based on videos

Lesson 1 Resources:

Location:
Sheffield Pottery Ceramic Supply
995 North Main Street
Sheffield, MA 01257
www.sheffield-pottery.com
Phone: 1-888-774-2529

Books:


Magazine:

Video:
Classic Martina Martinez: Native American Pottery Maker of San Ildefonso National Park Service Film, DVD Release Date: January 26, 1999
Websites:

<http://www.ehow.co.uk/video_4946354_types-clay-ceramics.html>

<http://www.ehow.co.uk/video_4946358_dry-mixing-materials-pottery-clay.html>

<http://www.ehow.co.uk/video_4946357_weighing-materials-making-pottery-clay.html>


<http://www.ehow.co.uk/video_4946361_wedging-pottery-clay.html>

<http://www.ehow.co.uk/video_4946364_using-natural-clay-pottery.html>

<http://www.ehow.co.uk/video_4946365_cleaning-natural-clay-making-pottery.html>

<http://www.ehow.co.uk/video_4946366_testing-properties-natural-clay.html>

http://www.ehow.co.uk/video_4946355_pottery-clay-making-safety.html

<http://www.ehow.co.uk/video_4946362_conditioning-pottery-clay.html>
Maya Pottery Designs and Their Uses: Create a Maya-Inspired Ceramic Vessel

Lesson 2: Maya Pottery Designs and Their Uses

Lesson Specific Objectives:

Students will:

- Research and study the different styles and designs of Maya pottery
- Discuss the use of pottery in the past and present.
- Create a Maya-inspired clay vessel out of their cleaned and prepared clay.

Lesson Specific Essential Questions:

What are the styles, designs and techniques seen and used in Maya pottery?
What is the role of the artist/pottery in societies past and present?
How was pottery created by the Maya and by other cultures in the Americas?

Lesson 2: Maya Pottery Designs and Their Uses
Activity 1: Research and Study the Designs Used In Maya Pottery

In this lesson we will look at a variety of different Maya pottery, noting the similarities and differences we see in each piece as well as the shape, design and color. We will discuss the role of pottery for the ancient Maya and the role of pottery today. After looking at example of Maya pottery and the materials and tools that were available to the Maya, we will discuss the designs and techniques used to form the vessels. (Handout #1a and #1b)

Students will watch the videos of Dona Rosa and Nicole Caracciolo demonstrate hand-building techniques commonly used in the Maya region. As a class, we will discuss theories as to why certain hand-building methods were chosen for some vessels and how different approaches may work better than others based upon the shape and purpose of the piece that is being made.

Note to Teachers
Field Trip Possibility – Yale New Haven Art Gallery and/or Yale Peabody Museum in New Haven, CT to give students the opportunity to view pottery from the Maya region and other ceramic artifacts from the Americas.

Key Points to Cover:

- When looking at artifacts, why do we mostly see bowls, vases and vessels? Why do we not see a lot of plates or slab construction?
- Hand-building should be thought of in terms of how the hand manipulates the clay naturally, and with consideration for its consistency. What is the easiest/most effective way to create a specific style/shape out of? There can be different methods for different shaped vessels. Also, one must consider the materials and tools that are available.
- Think about what natural motions are made by a person the first time clay is in their hands – squeeze, pat, bang, pinch, twist, poke, roll, etc.
A method often used is the manipulation of taking clay away from clay, also known as carving or scraping.

Review the three basic questions from Lesson 1 - How is the piece to be used? How do you want the work to look? **What materials are available?**

Consideration of the climate/location and the clay characteristics itself should always be considered as it can greatly impact the outcome of a clay piece and play a role in determining the best building technique. We have a classroom setting of 45 minutes a day to work on our pieces. Therefore, we need to consider drying time and how to keep the clay soft and workable until we are finished forming the shape.

Homework:

- Handout #2 – Design a Maya-inspired vessel based upon the examples that were viewed and discussed in class. Consider the hand-building technique that will be used and how that technique will aid in achieving the desired vessel shape. Also, include how the pottery piece will be used – what will its function be?
- Write 3 questions regarding Maya pottery and the hand-building techniques used.

**Lesson 2: Maya Pottery Designs and Their Uses**

**Activity 2: Create a Maya-Inspired Clay Vessel**

**Materials Needed:**
Previously prepared clay
Puki (or small bowls or cloths for students to ‘spin’ their pieces on)
Water
Plastic Bags or sheets or plastic
Various clay tools:
(You can use modern day tools or try the traditional tools used by indigenous cultures)
   - Metal or Wooden Scraper / Shells or broken pottery shards
   - Sponges/Pieces of leather or cloth

1. Students will uncover and knead the clay that they had previously prepared.
2. Demonstrate in class other coil methods used to create pottery in the Ancient Americas
3. Based on the size and shape of the vessel design, students will use the appropriate hand building techniques demonstrated in the videos and in the classroom and begin forming their clay vessel.
4. Clay vessels will be allowed to set to allow a little drying.
5. Students will continue the technique of scraping and smoothing the surface of the clay to prepare it for slip decorations or incising.
6. Once the vessel is complete, students will cover the piece with plastic in order to hold the moisture in so the vessel stays in the leather hard stage.
7. Give students Handout #3 to answer questions and reflect on their approach to using indigenous hand building methods to create their vessel.
**Lesson 2 Assessment**

Class Participation  
Reaction to Videos  
Comprehension Questions  
Homework Worksheet  
Project Outcome  
Reflection  

**Lesson 2 Handouts**  
Handout #1a – What Can We Learn From a Maya Vase?  
Handout #1b – Observation Worksheet  
Handout #2 – Project Proposal - Design and Technique  
Handout #3 – Reflection and Questions  

**Lesson 2 Resources**

**Location:**  
The Yale University Art Gallery  
1111 Chapel Street, New Haven, CT  
(203) 432-0600  
http://artgallery.yale.edu/  
Ancient Americas Collection  
- Clay Ocarinas/Whistles  
- Cylinder vessel for cacao  
- Vessel in the shape of a conch shell  
- Quadrupod vessel  

Peabody Museum of Natural History  
170 Whitney Avenue, New Haven, CT  
peabody.yale.edu

**Books:**  


**Magazine:**  
Websites:
www.mesolore.org
www.famsi.org
http://www.maya-art-books.org/

http://pinterest.com/mrssmonks/maya-pottery/


<http://goafar.org/AFAR/Reading_files/The%20Art%20of%20Classic%20Vase%20Painting.pdf>
Lesson 3

Lesson Specific Objectives:
Students will:
• Research and study the different styles and designs of Maya ocarinas.
• Discuss the use of the ocarina and the role of music in the past and present.
• Create a Maya-inspired clay ocarina out of the cleaned and prepared clay.

Lesson Specific Essential Questions:
What are the styles, designs and techniques seen and used in Maya musical instruments?
What is the role of the musician/music in societies past and present?

Lesson 3: The Voice of Clay
Activity 1: Research and Study the Designs Used In Maya Clay Ocarina

In this lesson we will look at a variety of different Maya instruments, noting the similarities and differences we see in each piece as well as the shape, design and color. We will take a specific look at the playful designs the Mayas incorporated into their ocarina designs, specifically the role of form vs. function. We will also discuss the role of music for the ancient Maya and the role of music today. After looking at how the ocarina was to be used and the materials and tools that were available to the Maya, we will discuss the techniques they used to build these ocarinas.

Students will watch the videos and view websites of ocarinas to see the different styles and sounds. In class we will listen to and discuss the style of music in the Maya culture and how the ocarina was incorporated into Maya music.

Note to Teachers
If students already completed Lesson #2 - Maya Pottery Designs and Their Uses: Create a Maya-Inspired Ceramic Vessel, Lesson #3 Activity 1 will have a lot of the same information. Teachers can use this as a review or skip the parts that had been previously covered.

Field Trip Possibility – Yale New Haven Art Gallery and/or Yale Peabody Museum in New Haven, CT to give students the opportunity to view clay instruments from the Maya region and other ceramic artifacts from the Americas. (Handout #1)

Key Points to Cover:
• Hand-building should be thought of in terms of how the hand manipulates the clay naturally, and with consideration for its consistency. What is the easiest/most effective way to create a
specific style/shape out of? There can be different methods for different shaped vessels. Also, one must consider the materials and tools that are available.

- Think about what natural motions are made by a person the first time clay is in their hands – squeeze, pat, bang, pinch, twist, poke, roll, etc.
- A method often used is the manipulation of taking clay away from clay, also known as carving or scraping.
- Review the three basic questions from Lesson 1 - How is the piece to be used? How do you want the work to look? **What materials are available?**
- Consideration of the climate/location and the clay characteristics itself should always be considered as it can greatly impact the outcome of a clay piece and play a role in determining the best building technique. We have a classroom setting of 45 minutes a day to work on our pieces. Therefore, we need to consider drying time and how to keep the clay soft and workable until we are finished forming the shape.
- Place a lot of emphasis on the playful designs the Maya incorporated in their ceramic pieces, especially the ocarina (ex. An ocarina was built in the shape of a bird and sound comes from the bird’s mouth).
- Ask students to think about how the first musical instruments may have been discovered and how amazing the sensation of hearing music must have been when you only heard it played live (before the days of the radio, iPods/iPhones, sound recorders and electricity)

**Homework:**
- Handout #2 – Design a Maya-inspired ocarina based upon the examples that were viewed and discussed in class. Consider the creative designs viewed in the examples and try to incorporate a creative form vs. function design.
- Write 3 questions that you have regarding Maya ocarinas and the hand-building techniques that were used.

**Lesson 3: The Voice of Clay**

**Activity 2: Creating a Maya-Inspired Ocarina**

**Materials Needed:**
- Previously prepared clay
- Water
- Plastic bags or sheets of plastic
- Various clay tools
- Wooden coffee stirrers
- Sponges

1. Students will uncover and knead the clay that they had previously prepared.
2. Demonstrate in class several methods of creating a whistle out of clay (Handout #3)
3. Based on the size and shape of the vessel design, students will use the appropriate hand building techniques demonstrated in the classroom and begin forming their clay ocarina.
4. Clay ocarinas will be allowed to set to allow drying time.
5. Students will continue the technique of scraping and smoothing the surface of the clay to prepare it for slip decorations or incising.
6. Once the ocarina is complete, students will cover the piece with plastic in order to hold the moisture in so the vessel stays in the leather hard stage.
7. Give students Handout #4 to answer questions and reflect on their approach to using indigenous hand building methods to create their ocarina.

**Lesson 3 Assessment**

Class Participation  
Reaction to Videos  
Comprehension Questions  
Homework Worksheet  
Project Outcome  
Reflection

**Lesson 3 Handouts**

Handout #1 – Observation Worksheet  
Handout #2 – Project Proposal - Design and Technique  
Handout #3 - Step by step clay ocarina technique  
Handout #4 – Reflection Questions

**Lesson 3 Resources**

**Location:**  
The Yale University Art Gallery  
1111 Chapel Street, New Haven, CT  
(203) 432-0600  
[http://artgallery.yale.edu/](http://artgallery.yale.edu/)  
Ancient Americas Collection  
  - Clay Ocarinas/Whistles  
  - Vessel in the shape of a conch shell

**Books:**  

**Websites:**  
<http://www.tlapitzalli.com/rvelaz.geo/bonampak/hom.html>

<http://mcis2.princeton.edu/jaguar/jaguar.html>


**Music:**
Mundo Maya – Max Flores Ak’Bal – Traditional Mayan Music
Lesson 4

Lesson Specific Objectives:

Students will:
Research and study the different styles, colors and surface designs of Maya pottery.
Decorate their clay vessel and/or whistle with colored slip, the same technique used by the Maya.

Lesson Specific Essential Questions:

What are the styles, designs and techniques seen and used in Maya pottery?
What is the role of art in societies past and present?
What methods were used to decorate pottery in the past? How are they similar and different from the methods used today?

Lesson 4: Finishing Techniques
Activity 1: Research and Study the Decorative Designs and Techniques Used to Finish Pottery

In this lesson, refer back to the class discussions and previous research done in Lesson #2 and/or Lesson #3. This time, focus more so on the surface design of the works of art. As a class, discuss the colors and designs that are observed and discuss the materials that were available and how these designs/colors were made (Handout #1)

Have students watch the video of Gabriela Martinez: Pottery of San Bartoto Coyotopec and Del Proyecto Trilingue-El Barro Negro to show them a demonstration of decorative techniques. Also, refer back to the video of Martina Martinez: Native American Pottery Maker of San Ildefonso.

Key Points to Cover:

- View Heather Hurst’s mural painting replicas and Justin Kerr’s Maya Vase Database in order to give student the opportunity to notice the very fine detail incorporated in Mayan Art. Discuss what these images show and portray. Why were these images painted? What was their significance in Maya life? Have students discuss what is significant in their life? If these designs were painted today, what would they include?
- Bring up the three basic questions - How is the piece to be used? How do you want the work to look? What materials are available?
- Show students examples of Modern Day Maya artwork that blends traditional designs with modern designs.
- Demonstrate how to create the different colored slips – Black, red, and white.
- Teach students how to write their names in Maya Hieroglyphs and have them ‘sign’ their clay pieces using their Mayan name (Handout #2).

Homework:
- Handout #3 – Create a surface design for the Maya-inspired vessel and/or ocarina based upon the examples that were viewed and discussed in class. Consider the colors that are available – red, black and white. Consider how the pottery piece will be used – what will be the function
of the vessel? Try to give the design a ‘modern twist’ by basing designs off Maya artwork but making it your own design at the same time.
• Write 3 questions that you have regarding finishing techniques and designs in Maya pottery.

Lesson 4: Finishing Techniques
Activity 2: Using Colored Slip and Incision to Decorate Pottery

Materials Needed:
Previously prepared clay
Paint brushes (variety of sizes)
Colored Slip – Red, Black and White
Red and Black Iron Oxide

1. Demonstrate to students how to create basic clay slip
2. Discuss/review how different colored clay came about and demonstrate to students how to mix oxides and minerals into clay to change the color.
3. Demonstrate incision designs.
4. Have students mix their own colored slip based on their designs. (75% clay, 25% iron oxide)
5. Painting with clay slip and creating incision designs, students are to create surface designs on their vessel and/or ocarina.

Lesson 4: Finishing Techniques
Activity 3: Kiln vs. Pit Firing

Discuss with the students the process of pit firing (Refer to video, Martina Martinez: Native American Pottery Maker of San Ildefonso and the article “The Pots of Jatumpampa” by Joe Molinaro and Nancy Bronner) versus Kiln firing – The Pros and Cons to both.

All Student work will be fired in a kiln. Students will have the option to ‘finish’ their pieces in a school-safe pit fire-like technique if they choose to give their pieces an earthy, pit-smoked look.

Give students Handout #4 to answer questions and reflect on their finished piece.

Note to Teacher:
If a field trip can be arranged, Canton Clay Works in Canton, CT has several different kilns that students can visit and learn about if a field trip can be arranged.

Lesson 4 Assessments:
Class Participation
Reaction to Videos
Comprehension Questions
Homework Worksheet
Project Outcome
Lesson 4 Handouts:
Handout #1 – Art of Classic Vase Painting
Handout #2 – How to Write Your Name in Maya Hieroglyphs
Handout #3 - Project Proposal and Review – Surface Design
Handout #4 - Reflection and Questions

Lesson 4 Resources

Location:
Canton Clay Works
150 Cherry Brook Rd, Canton, CT 06019
(860) 693-1000
http://www.cantonclayworks.com/

Books:
Cortez, Constance. The Road to Aztlan – Art from a Mythic Homeland.

Websites:
www.mesolore.org
www.famsi.org
www.maya-archaeology.org

Miscellaneous:
Heather Hurst’s Maya Mural Painting Replicas
What new technology will you use in this unit as a result of attending the Yale Summer Institute? For creating the unit? For student use? For presentation? How are you going to incorporate museum artifacts, museum visits, virtual collections or primary sources in this curricular unit?

The Yale summer institute has really inspired me to look into a lesson that will really give my ceramic students a “raw” experience of the process of clay pottery and the work that it took indigenous cultures to collect, prepare, form, finish and fire their ceramic pieces. Clay does not always come out of a box ready to use. There is so much more involved and I am really excited to take students down that road to show them. I have contacted Sheffield Pottery regarding a possible field trip opportunity where students may be able to do dig their own raw clay. Various websites have aided me with the information on how to do this. I also look forward to taking students to the Peabody Museum and the Yale Art Gallery to view original Mayan Pottery and other pottery from the Americas. The collections of online databases on Mayan artifacts and their use of materials will give students a rich source of information to research and study for their pottery designs and for examples to view and discuss in class. Meeting Heather Hurst brought to my attention that there are these beautiful, colorful mural replicas that will allow students to really focus on the details in Maya artwork. Constance Cortez helped me to formulate ideas in how to discuss with students the concept of taking inspiration from older artwork and making it your own. There is that importance of identity and making a connection to one’s culture and roots that I am looking forward to discussing in the classroom.

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