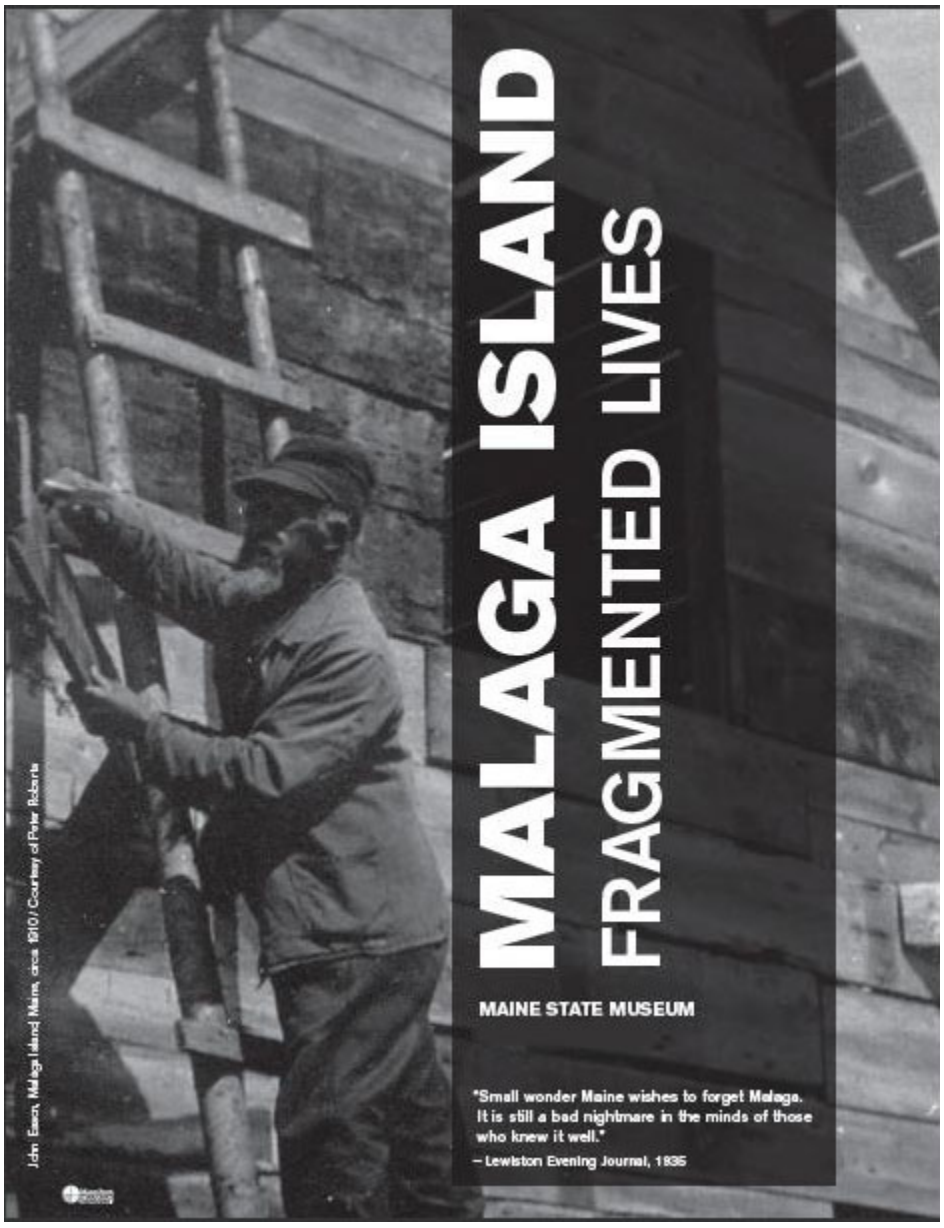
MAINE STATE MUSEUM

Time to see for yourself



MALAGA ISLAND
FRAGMENTED LIVES

A curriculum for middle school students

-developed from the research for the *Malaga Island, Fragmented Lives* exhibit, on view at the Maine State Museum
May 19, 2012 through May 26, 2013

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MALAGA ISLAND
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CURRICULUM OVERVIEW

Purpose:
Collectively, the lesson plans encourage a comparison of fiction and non-fiction materials about the historic events that occurred on Malaga Island, Maine, encourage skill-building in critical thinking and source evaluation, explore Malaga's place in a complex ecosystem, and strengthen understanding of the scientific process. All curricular materials are designed to assist students in achieving Maine Learning Requirements and Common Core Standards at the middle school level. Refer to the Bridging Document for details.

Lesson Plan Sequence
This curriculum has been designed to support cross-disciplinary teaching (language arts, social studies, science) and to allow teachers to adapt to various time constraints that they experience in each school district. Towards that end, all teachers are encouraged to begin with Lesson 1; the lessons that follow can be used in a sequence, isolated and used selectively, or used collaboratively by multiple teachers.

Lesson 1:	Introduction to Malaga Island: Primary Sources & Fragmented Lives
Lesson 2:	Visual Literacy and Images of Malaga Island
Lesson 3:	Media Literacy, Citizenry, and Conflicting Accounts of Malaga Island
Lesson 4:	Going Beyond "Lizzie Bright and the Buckminster Boy": Revisiting Malaga Island with Civil Action
Lesson 5:	Archaeology and Environment on Malaga Island: Understanding Scientific Process

Summary
Malaga Island is located at the mouth of the New Meadows River in Phippsburg. Bear Island lies 100 yards to the west and the small fishing village of Sebasco is about 300 yards to the east. Like much of the Maine coast, 42-acre Malaga Island is rocky and rugged. The shell beach on the north end was the location of several settlements, beginning with Native Americans who inhabited the island within the last 1,000 years. Little is known about how these first inhabitants lived; considerably more is known about Malaga's later residents – the mixed-heritage community that occupied the island's north end from the 1860s to 1912.

The probable origins of Malaga Island's historic community trace back to one African American man, Benjamin Darling. He purchased Horse Island (now known as Harbor Island and located near Malaga Island) in 1794. Darling's descendants and their families soon settled on numerous islands throughout the New Meadows River. Although records are not clear, Henry Griffin and Fatima Darling Griffin,

with their family, were most likely the first to live on Malaga Island, setting up house on the east side in the early 1860s.

In the early 1900s, the Malaga Island community found itself caught in a time of great change for Maine. A poor economy, the decline of the fishing and ship building industries, a boom in real estate prices, and thriving social reform efforts all affected Malaga. At the same time, the island residents became victims of the eugenics movement, a popular theory that the poor, immoral, or criminal were born that way due to heredity. The eugenics movement was widely accepted as fact throughout the early 1900s and included many advocates such as heads of state, teachers, religious missionaries, journalists, and scientists. The press publicized a common belief that the only way to help Malaga Island's residents, and improve tourism and property values on the Maine coast, was to dismantle the community.

Christian missionaries from Malden, Massachusetts, Captain George and Lucy Lane, began to visit Malaga Island during the summer of 1906. The Lanes focused their missionary efforts on educating the children of Malaga Island. They actively raised funds to build a permanent school on the island and help pay for food and clothing.

Although efforts were well underway to improve living conditions on Malaga Island, the notoriety of the island community in statewide and regional newspapers gave Phippsburg a bad reputation, just as the tourism industry was beginning to grow in Maine. Newspapers put forth commonly held beliefs that the individuals living on Malaga Island were degenerate and needed assistance in order to survive. The stories of Malaga Island, and the actions of both the town of Phippsburg and State of Maine to evict the community, were reported throughout the New England region and in nationwide publications such as Harper's Magazine.

As early as the 1890s, efforts were underway in Phippsburg to rid itself of the Malaga Island community. Legal disputes continued until Maine's state government became involved. Governor Frederick Plaisted visited Malaga Island in 1911, along with his Executive Council, to see the island for himself. During his visit, Plaisted remarked, "the best plan would be to burn down the shacks with all their filth. Certainly the conditions are not creditable to our state, and we ought not to have such things near our front door, and I do not think that a like condition can be found in Maine, although there are some pretty bad localities elsewhere." (Brunswick Times Record, July 21, 1911)

In 1911, the State of Maine ruled that Malaga Island was owned by the Perry family of Phippsburg, who, in turn, filed papers to have the islanders evicted. On December 9, 1911, a doctor and member of

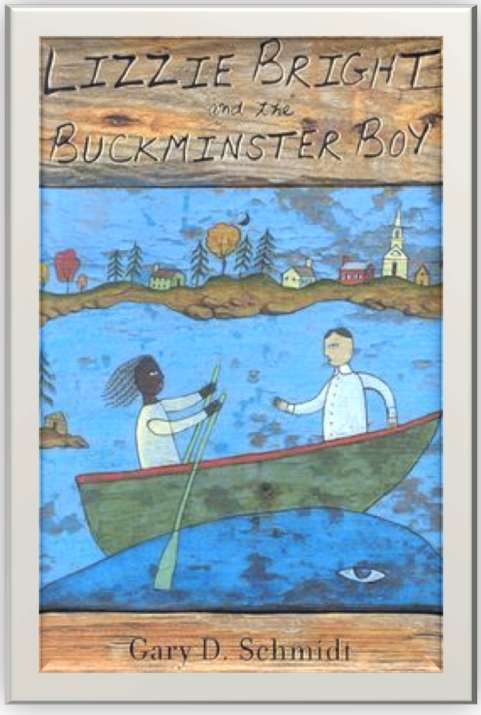
Governor Plaisted's Executive Council signed papers committing eight Malaga Island residents to the Maine School for the Feeble Minded.

Early in 1912, the State of Maine purchased Malaga Island from the Perry family for $400. Residents were told they must vacate the island by July 1, 1912. No alternative homes were provided or suggested, but when the state representative arrived on Malaga Island on July 1st, he found all the houses were gone – dismantled and removed by the residents themselves. To complete the eviction, the state exhumed the cemetery remains on Malaga Island, combining seventeen individuals into five caskets, and moved them to the cemetery at the Maine School for the Feeble Minded.

For decades, generations of descendants felt the need to hide their Malaga Island ancestry. The term "Malagite" became a racial slur commonly used on Maine's coast. Descendants experienced prejudice and slander through the years since 1912, causing many to deny any connection to the notorious island. As time passed, attitudes shifted among both the Phippsburg community and descendants. Now scattered across the nation, current generations are discovering their family history and connecting with one another through social media.

Malaga Island offers a rare example of an ethnically-diverse, historic, coastal community where the homesteads of specific families are known; this has allowed U. of Southern Maine archaeologists to excavate house sites and add their understanding of island life to our study of the tragic events that transpired there. Documentarians from the Salt Institute for Documentary Studies gathered family memories from Malaga descendants, further enriching this story. The Malaga Island: Fragment Lives exhibit marked 100 years after islanders' lives became sensationalized in local/regional news and government reports, and residents were evicted.

The research conducted for developing this exhibit offers middle school teachers and students an ideal opportunity to pursue the intersection of social studies, language arts, and science in Maine. These curricular materials were designed to use in conjunction with the Maine State Museum's "Malaga Island: Fragmented Lives" exhibit; however, they are also designed to stand on their own, using primary sources (provided here or available online) or the historical fiction novel "Lizzie Bright and the Buckminster Boy."



In 2011, the Maine State Museum received permission from Phippsburg resident Peter Roberts to use his extensive collection of historic

photographs of Malaga Island residents. Following years of archaeological excavation by the University of Southern Maine, in 2011 the Maine Coast Heritage Trust donated its Malaga Island collection to the Maine State Museum for preservation and exhibition. In addition, research for the exhibit uncovered documents from the Maine State Archives and the New England Historic Genealogical Society. Collectively, these comprise the primary sources or "evidence" available for student inquiry.

Online Teacher Resources – Malaga Island:

Malaga Island Radio Documentary "A Story Best Left Untold" - www.malagaislandmaine.org

Malaga Island: Fragmented Lives exhibit - www.mainestatemuseum.org/exhibits/malaga_island_fragmented_lives/

Maine Coast Heritage Trust - www.mcht.org

Maine Memory Network "Institutional Care: From 'Feeble-Minded' to 'Disabled'" - www.mainememory.net/sitebuilder/site/301/slideshow/307/display?use_mmn=&prev_object_id=567&prev_object=page&slide_num=1

Maine Memory Network – Malaga Islanders with missionary image - www.mainememory.net/search?keywords=malaga&submit=SEARCH

Maine Memory Network – "1870-1920 The End of the Ocean Highway" - http://www.mainememory.net/sitebuilder/site/905/page/1316/display

Online Instructional Resources:

- Teaching Tolerance www.tolerance.org
- Facing History and Ourselves www.facinghistory.org
- Library of Congress' Teaching With Primary Sources Program www.loc.gov/teachers/tps/
- American Memory Project www.memory.loc.gov/learn/
- Primary Source Learning www.primarysourcelearning.org/
- Smithsonian Sources: Resources for Teaching American History www.smithsoniansource.org
- The National Archives www.archives.gov/education/

Books

Seeking History: Teaching With Primary Sources in Grades 4-6 (2000) Monica Edinger. Portsmouth, N.H.: Heinemann.

Making History: A Guide to Historical Research Through the National History Day Program (2006) National History Day (The Making History Set includes: A Guide to Historical Research, The How to Create a Historical Documentary, How to Create a Historical Paper, How to...)

Reading Like a Historian: Teaching Literacy in Middle and High School History Classrooms (2011) Sam Wineburg, Daisy Martin, and Chauncey Monte-Sano. New York, NY: Teachers College Press

Maine's Visible Black History: The First Chronicle of Its People (2006) H.H. Price and Gerald E. Talbot. Gardiner, ME: Tilbury House Publishers.

Choosing to Particapate (2009) Facing History and Ourselves Foundation, Inc. Brookline, MA: Facing History and Ourselves Foundation, Inc.

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Bridging Document
Malaga Island Curriculum to Maine Learning Results and CCSS

The Maine State Museum developed the Malaga Island: Fragmented Lives curriculum in collaboration with the Maine Department of Education. Consequently, the learning objectives of the Malaga Island curriculum meet both Maine Learning Results and the Common Core State Standards. The Department of Education clarifies that:

> "The Common Core State Standards (CCSS) for English Language Arts (ELA) & Literacy in History/Social Studies, Science, and Technical Subjects ***do not replace*** the Maine Social Studies Learning Results, but, rather, complement them. CCSS support a shared responsibility for students' literacy development and emphasize that, while students learn to read and write in ELA, they apply and develop specific literacy skills through engagement in social studies content."
> (http://www.maine.gov/education/lres/ss/standards2.html).

Adopted by the Maine Legislature in March of 2011, the CCSS for ELA & Literacy in History/Social Studies, Science and Technical Subjects and Math provide a vision for what it means to be a literate person, prepare all students for college/career, and develop literacy skills in all subject areas. CCSS maintains that Social Studies students should be provided with authentic opportunities to apply and develop their literacy skills through engagement in social studies content.

According to Kristie Littlefield, one initiative of CCSS is to avoid shying away from challenging texts, texts with more complexity, and primary sources. This entails building skills of interpretation - who wrote this, where did it come from, what is the purpose/bias/perspective implicit or explicit, how do multiple sources align or conflict? According to Library of Congress' Teaching with Primary Sources:

> "Primary sources are integral to helping students achieve the CCSS. The standards require students to digest and apply information using discipline-specific skills, such as analysis, comparing sources, persuasive writing, and research. Students generate questions, take and organize notes, find, analyze, and cite sources. Additionally, learning new content vocabulary is essential, as is the ability to compare historical interpretations and form hypotheses."

Reading, Writing, Speaking/Listening, and Language are the four strands of College and Career Readiness. These strands integrate well with both social studies and science instruction. The chart below indicates how the Malaga Island lesson plans, respectively, support CCR anchors and the MLRs. CCSS for Literacy in History/Social Studies 6-12 parallel the CCSS ELA Standards. Both use the use College Career Ready Anchor Standards and include grade span standards particular to the discipline(s).

CCSS and MLR Standards – Language Arts, Social Studies, Science	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
CCR Reading 1: Cite textual evidence to support analysis of what the text says explicitly, as well as inferences drawn from text both primary and secondary sources		✔	✔	✔	
CCR Reading 3: Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution (e.g., write narratives to develop real or imagined experiences or events).				✔	
CCR Reading 4: Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone	✔		✔	✔	
CCR Reading 7: Integrate visual information (charts, graphs, photographs, maps) with other information in print.		✔			✔
CCR Reading 8: Distinguish among fact, opinion, and reasoned judgement.	✔	✔	✔		
CCR Reading 9: Compare/contrast texts in different forms or genres in terms of their approaches to similar themes and topics e.g. Analyze relationship between a primary and secondary source on the same topic.			✔	✔	
CCR Writing 1: Write argument to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.		✔	✔		
CCR Writing 7: Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.				✔	
CCR Writing 8: Gather relevant information from multiple print and digital sources, assess the credibility of each source and integrate the information while avoiding plagiarism			✔		
CCR Writing 9: Draw evidence from literary or informational texts to support analysis, reflection, and research.			✔	✔	
CCR Language 4: Determine or clarify the meaning of unknown and multiple meanings of words and phrases.	✔			✔	
CCR History: Compare and contrast the reliability of information received from multiple sources (e.g. newspapers, radio or TV, biography, historical narrative) to assess an historical issue.			✔	✔	
CCR Civics and Government 5: Evaluate the role of the media and public opinion in US politics, including ways the government and media influence public opinion			✔		
MLR Social Studies *A1-3. Researching, Developing Positions, Making Decisions, and Taking Action on Current Social Studies Issues using Social Studies Knowledge and Skills*			✔	✔	
MLR Social Studies D2. . *Individual, Cultural, International, and Global Connections in Geography* Students understand geographic aspects of unity and diversity in the community, Maine, and regions of the United States and the World, including Maine Native American communities. • students will learn how geographic features such as river courses and coastlines unite communities and regions and support diversity • students will discover the impact of a geographic feature, such as a river, upon the daily life of a community • students will learn how the geographic position of Malaga Island shaped the island community's experience with the late 19th/early 20th c. tourist industry	✔			✔	

MLR *Social Studies E1. Historical Concepts, Themes and Patterns* - Students understand various major eras in the history of the community, Maine, and the United States. • students learn about how Maine experienced the development of the industrial United States, 1865-1914 • students analyze past human experience based upon various historical evidence, print and non-print			✔	✔	
MLR Economics C1. *Economic Knowledge, Concepts, Themes, and Patterns*- Students understand personal economics and the basis of the economies of the community, Maine, the United States, and various regions of the world. • students will learn how entrepreneurs and other producers of goods and services in Casco Bay helped satisfy the entertainment/leisure/educational wants and needs of consumers in a market economy by using natural, human, and capital resources. • Production and exchange of goods • Commercial and subsistence fishing	✔			✔	
MLR Civics B3. Individual, Cultural, International, and Global Connections in Civics and Government • Students understand political and civic aspects of unity and diversity in Maine, the United States, and various world cultures including Maine Native Americans. • Explain basic constitutional, political, and civic aspects of historical and/or current issues that involve unity and diversity in Maine, the United States, and other nations.			✔	✔	
MLR *Science A1. Unifying Themes - Systems* – Students explain interactions between parts that make up whole man-made and natural things • Students learn how riverine and marine ecosystems are interconnected • Students learn how fisheries regulation intends to protect an ecosystem	✔				✔
MLR Science B1. Skills and Traits of Scientific Inquiry – Students plan, conduct, analyze data from, and communicate results of investigations, including fair tests • Students pose investigable questions and seek answers from reliable sources of scientific information and from their own investigations; • Students use simple equipment, tools, and appropriate metric units of measurement to gather data and create a histogram; • Student use data to construct and support a reasonable explanation; • Communicate scientific procedures and explanations					✔
MLR *Science C2. Understandings About Science and Technology* – Students describe why people use science and technology and how scientists and engineers work					✔
MLR Science C3. Science, Technology, and Society – Students identify and describe the influences of science and technology on people and the environment. • Students describe how the archaeological excavation of house sites on Malaga Island has changed how the historic community					✔

is represented					
MLR Science E5. The Living Environment - Evolution – Students describe the evidence that evolution occurs over many generations, allowing species to acquire many of their unique characteristics or adaptions. • Students explore how layers of sediments and shell midden on Malaga Island and their contained artifacts provide evidence for the history of changing fish populations, changing ecosystem, and changing lifeways that depend upon the environment					✔
MLR *Language Arts A1. Reading - Interconnected Elements* – Students read and draw conclusions from texts, within a grade appropriate span of text complexity, by applying their knowledge and strategies of comprehension, vocabulary, alphabetics, and fluency. • Students read age-appropriate essays provided and use the Vocabulary Worksheets	✔				✔
MLR *Language Arts A3. . Reading - Informational Texts* – Students read, paraphrase, and summarize information texts, within a grade appropriate span of text complexity, for different purposes. • students read primary sources, including historic articles from turn-of-the-century Maine newspapers			✔		
MLR Language Arts B1 *Writing – Interconnected Elements* – Students use a writing process with an emphasis on the development of a central idea, for a variety of audiences and purposes. • students use the Graphic Organizer provided to write a letter to the Governor as though they were a Maine citizen in 1912 • students write a newspaper article using various sources		✔	✔	✔	
MLR Language Arts B2 *Writing Narrative* – Students write narratives that relate events, ideas, observations, or recollections. • students write their own version of a part of the Lizzie Bright novel • students write creatively from historic photographs • students will summarize interpretations of their archaeological data		✔	✔	✔	✔

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Lesson 5 Archaeology and Environment on Malaga Island

Instructional Materials

- Malaga Island historic photographs and images of artifacts
- Stratigraphy Graphic Organizer
- Archaeology and Environment Vocabulary Sheet
- Student Reading - "Reading the Dirt: Interview with Archaeologist Nathan Hamilton"
- Student Reading – "Archaeology and Environment on Malaga Island"

Archaeologist (noun) – a scientist who studies historic or prehistoric peoples and their cultures by analysis of their artifacts, inscriptions, monuments, and other such remains, especially those that have been excavated.

Teacher Resources

- Archaeology Lesson Plans, Society for American Archaeology http://www.saa.org/publicftp/public/resources/lessonplans.html
- Quest Lesson Plan - MPBN - www.mpbn.net/quest/pdf/archaeology_ml.pdf
- Decoding the Past – Smithsonian lessons on archaeology http://www.smithsonianeducation.org/educators/lesson_plans/decoding_the_past/index.html
- Online Bar Graph Generator http://nces.ed.gov/nceskids/createagraph/default.aspx?ID=ed09f65572454202abbcb2903affb8bd
- How to Make a Bar Graph http://www.thinkscience.org/pdfs/HowtoMakeaBarGraph.pdf

Essential Questions

- What can artifacts tell us about a place and a prior time?
- How can artifacts show evolution in populations and ecosystems?
- How is evidence used to support a scientific hypothesis?
- What is the scientific method?
- How does archaeological evidence about life on Malaga Island compare to historic newspaper stories?
- What do archaeologists do?

Plan of Instruction

1. This lesson plan builds upon Lesson 1: Introduction to Malaga Island. Using the suggested readings provided, your students already should have been introduced to the location of Malaga Island on the Maine coast, to the historic community upon which they are focusing, and to the prejudice that was directed against islanders. This lesson plan goes deeper into the islanders' relationship with the natural environment, explores environmental change, and provides insight into how archaeologists work as scientists.

This photograph was taken by an archaeologist who was excavating on Malaga Island. This view shows a cross section of the many stratigraphic layers of the house site. Artifacts, shells, animal bone, and the chemistry of the dirt itself all constitute scientific evidence that can be used to study what life was like on the island. Stratigraphy photo courtesy of Arthur R. Clausnitzer, Jr. and Nathan Hamilton, Ph.D. "Thinking Matters" poster.

2. As in Lesson 1, introduce the concept that they will be working like **archaeologists**, working to excavate **primary resources** to understand what life was like on Malaga Island, how islanders used the natural environment, and how changes in the environment affected them.
3. Use class discussion to reinforce or review the distinction (from Lesson 1) between **evidence** (the primary source itself) and **interpretation** (an explanation based upon primary sources). Also, clarify that sometimes evidence will conflict and requires further research.
4. Hand out the Student Readings "Reading the Dirt on Malaga Island," and "Archaeology and Environment on Malaga Island," as well as the Archaeology and Environment Vocabulary Sheet for study, discussion, and possible quiz.
5. Show students the image of the cross-section of one of the Malaga shell middens that archaeologists excavated and explain: *you are*

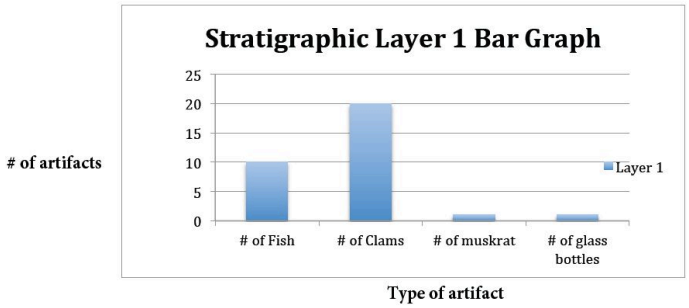
Primary sources (noun) - any piece of evidence about a historic event or past time period in which the creator of the source participated in or witnessed that historical moment. A primary source could be: a photograph, a drawing, a document (e.g., first-hand account in a diary, legal records from the time), an object or other cultural artifact, or an interview quoting a person from the time period.

Stratigraphy (noun) – the study of the relative position, order, structure, and age of layers of earth, including archaeological remains.

Hypothesis (noun) – an initial explanation about something that is based upon limited evidence and is used as a starting point for further investigation and proof.

looking at stratigraphic layers full of archaeological evidence. Each layer can be read like the page of a book if you understand the critical thinking tools that archaeologists use.

6. Showing them the diagram of the stratigraphic layer exercise (provided), tell them: *you have excavated a test pit at a house site on Malaga Island and discovered two stratigraphic layers below the surface. They are named Layer 1 and 2 with #1 being the oldest and deepest layer and #2 being the youngest layer at the surface.*
7. **Look at the inventory of artifacts that came out of (a hypothetical) Layer 1 and learn how to read the bar graph**. Explain how a bar graph is a chart that shows visually what types and quantities of evidence you have so that you can analyze patterns. Walk them through this sample, pointing out the x axis, y axis, and how the height of the bars communicates the quantity of artifacts per type.



8. **Using the graphic organizer,** tell them that their assignment is to: a) **look at the inventory of some of the faunal remains** (waterfowl, mammals, fish) that came out of the Malaga Island stratigraphic layers. The chart is provided in the student reading; b) dividing up the students have some create one **bar graph** that charts the data for layer #1 and another group create the bar graph that charts the data for layer #2; and c) In teams of two, **compare the two bar graphs, side by side,** and observe the patterns of change from one layer to the next. Ask them: *In your own words, describe the change in the presence of species from one time period to the next* (for example, help students see that one type of artifact becomes less common over time and another type becomes more common).
9. Review the meaning of a **hypothesis** that explains or **interprets** the pattern that you see in your data. Ask them to identify in the student reading: *what is the archaeologists' hypothesis that explains the change why the two stratigraphic layers are different from one another. How does life change? How do artifacts reflect this?* This is an opportunity to review how changes in the ecosystem and economy – such as a collapse in fishing stocks and the fishing industry – can lead to a change in food sources and lifeways.

Extension Activity #1:
Every October is Maine Archaeology Awareness Month; the Maine Archaeological Society sponsors a number of events each year that you might consider attending.

Extension Activity #2:
Using the Maine Memory Network, identify historic photographs that are available online that document your main street or other well-known area. In the same way that archaeologists compared historic photographs of Malaga Island with the natural features and views on the island today to help identify the house sites, have your students compare historic photos with their community to recreate where the photographer was standing at the time the picture was taken. If these locations are not within walking distance of your school, Google maps may provide an online tool for viewing your town. What has changed? What has remained the same?

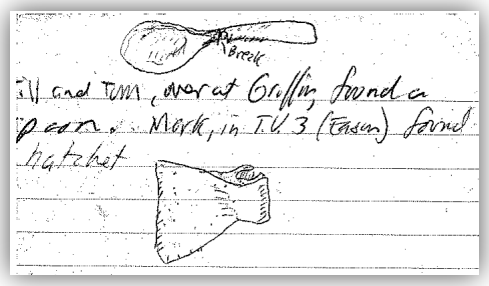
Extension Activity #3:
You can create an assemblage of objects of any kind (paperclips, erasers, pennies, etc.) and ask students to work on best practices of inventorying and charting their data.

Extension Activity #4:
Ask students to imagine what would happen if an important natural resource were to become scarce in our lifetime. An example would be fresh water. How might people respond to this?

Reading the Dirt on Malaga Island: An Interview with University of Southern Maine Archaeologist Nathan Hamilton

Q: What does an archaeologist do?
Hamilton: Archaeologists are scientists who literally dig into history. They excavate objects left behind by residents of communities who lived in the past.

Q: Tell us, how do you excavate?
Hamilton: My students and I used wood-framed metal screens to remove or sift fine debris from the material we excavated from the house sites. The students worked in pairs, discovering what remained on the screen after the dirt fell through. When we find artifacts, we carefully measure them and sketch them in our field notebooks (see below).



Q: Why did your research discover thick layers of shells on the island?
Hamilton: We focused our research on examining shell midden deposits at the sites where family households were located. Any food waste (including shells) or broken items were thrown into the yard, which is what people used to do before we had town dumps. After fifty years or so, that pile becomes very thick and full - not only of shell from clams, lobster, and crab, but also bones from fish, birds, sea duck and pig, as well as man-made artifacts. The food remains in the midden tell us what they fished and hunted for, or what they bought from the store. The picture below shows the thick midden at the site of Henry Griffin's home on Malaga.

Q: what did you learn from the artifacts?
Hamilton: During our seven years of research on Malaga, we recovered over 50,000 artifacts. The volume of artifacts was richer than we expected – everything from ceramics, pipe stems, leather, nails, fishhooks, coins, and teacups (see right).

These remains help to tell the story of a vibrant, working community that once existed on Malaga. They were fully engaged in maritime lifeways. They produced bait, and caught fish and lobster. They fished with longlines and with nets in dories at the mouth of the New Meadows River. Malaga Island looks a lot like any other working community at the turn of the century.

Q: What else can you say about the houses?
Hamilton: We used old postcards and photographs of Malaga to help us map the sites for excavation; these photos record shingled houses amid small gardens, rather than the "shacks" and "hovels" often described in the newspapers of the day. Photographic and archaeological evidence tell a different story.

QUESTIONS TO CONSIDER:

- ✓ What do archaeologists do?

- ✓ How do archaeologists separate artifacts from the dirt in which they are found?

- ✓ What is a shell midden and what types of things might an archaeologist find in one?

- ✓ Based on the archaeological evidence, was life on Malaga Island like it was in other communities? Why or why not?

- ✓ If the spoon and the teacup shown here were used for eating, what do you think the hatchet was used for?

- ✓ In what way does the archaeological evidence paint a different picture of life on Malaga Island than historic newspaper articles?

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Graphic Organizer: Archaeology & Environment Vocabulary Sheet

Vocabulary Word	What you think it means	Dictionary definition	Use vocabulary word in sentence
Adaptation			
Fauna			
Evidence			
Hypothesis			
Intertidal zone			
Population			
Commercial fishing			
Stratigraphy			
Shell midden			
Bar Graph			

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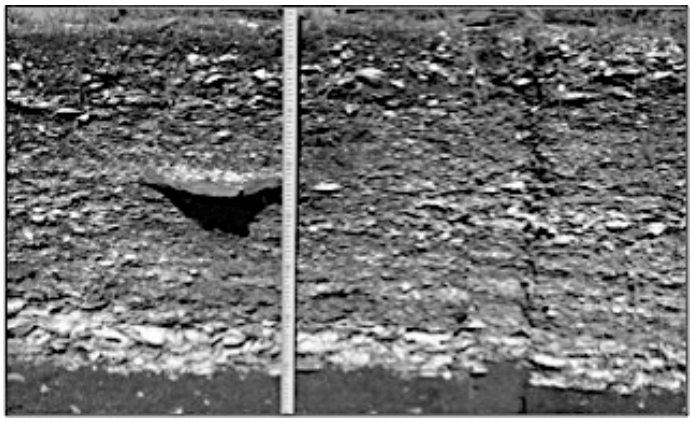
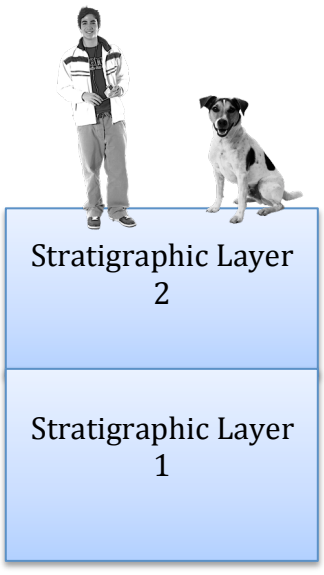
Stratigraphy Graphic Organizer

Let's imagine that you have excavated the site where a house once stood on Malaga Island. The hole you dug – the test pit - uncovered two stratigraphic layers below the surface. You have named them Layer 1, and Layer 2, with #1 being the oldest and deepest layer and #2 being the youngest layer at the surface. Looking at the layers in cross section, they would look like this…



This photograph was taken by an archaeologist who was excavating on Malaga Island. This shows a side view of the stratigraphic layers of the shell midden where a house once stood. Artifacts, shells, animal bone, and the chemistry of the dirt itself are all scientific evidence that can be used to study what life was like on the island.



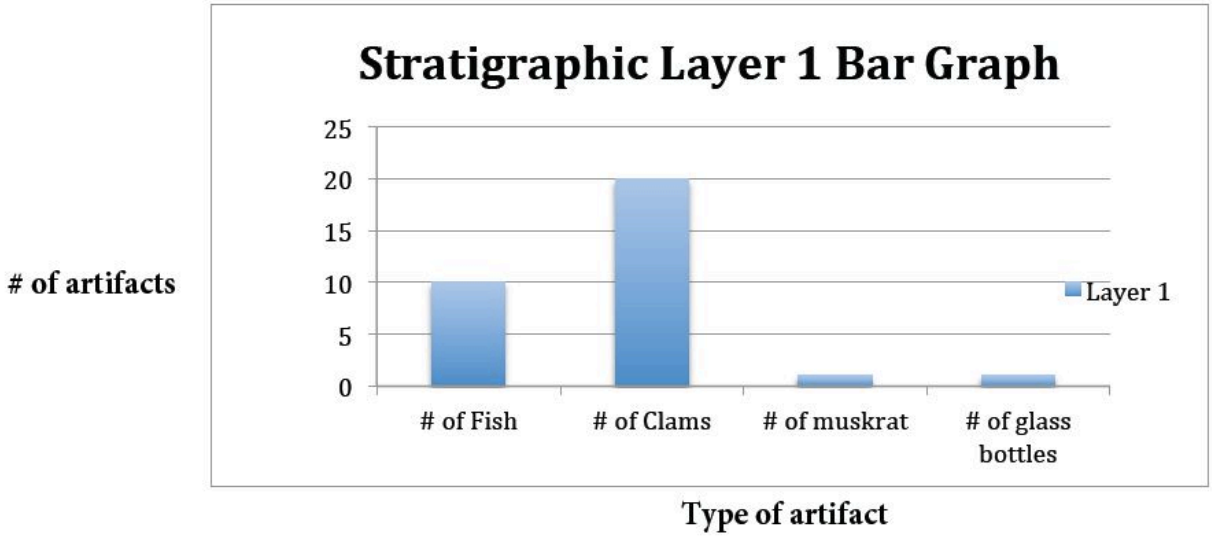
YOUNGEST LAYER

OLDEST LAYER

Your assignment is to: 1) look at the **inventory** of artifacts that came out of each layer. This is the chart in the "Archaeology and Environment Student Reading"; 2) create a **bar graph** that describes some of your data; and 3) describe the archaeologists' **hypothesis** that explains or **interprets** the pattern that you see in your data.

Let's practice before you create your own bar graph. Pretend that this is your bar graph showing what was found in Layer 1.

- How many clams were found in Layer 1? _____
- How many fish were found in Layer 1? _____
- Approximately how many muskrat remains were found? _____
- Approximately how many fragments of glass bottles? _____



Let's practice further. Imagine that the artifacts excavated from Stratigraphic Layer 2 are as follows:

#fish: 5
#clams: 25
muskrat: 20
glass bottles: 10

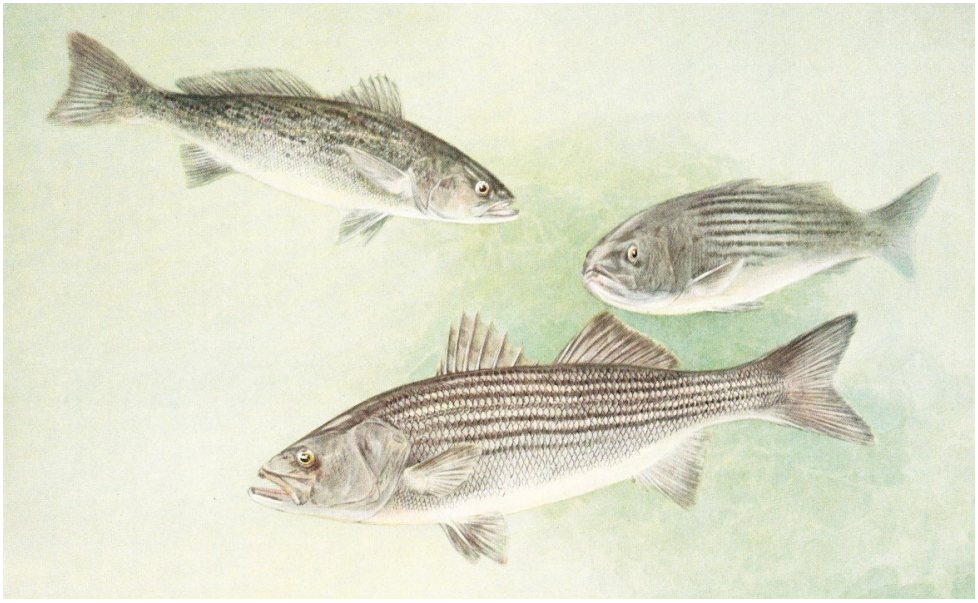
Draw a new bar graph, like the one above, that charts out this data. When you are done, compare the #Layer 1 and #Layer 2 bar graphs, side by side. What changes do you see in the data from one graph to the next? What has changed?

Now you are going to repeat this analysis of artifacts, but with real data from Malaga Island. Follow your teacher's instructions and use the data chart in the "Archaeology and Environment Student Reading."

What has changed from one time period to another? Describe any patterns that you see.

What is your **hypothesis** – or suggested explanation – for why the artifacts change over time? In other words, can you **interpret the evidence** to suggest how life may have changed for islanders over time? **For example,** if there are less and less fish showing up in the shell midden of a house site, what might that mean about islanders and fishing?

What new research would you like to try to prove your hypothesis about what life was like on Malaga Island? What more information would you need to know that you are right?



MALAGA ISLAND
FRAGMENTED LIVES

Archaeology and the Environment on Malaga Island – A Student Reading

The goal of archaeological research on Malaga Island is to increase our understanding of the people who lived there in the past. Archaeologists can't reconstruct everything. However, artifacts (and how they're sitting within the soil around them), can tell us about past ways of living and about the environment in which people lived.

In early 1900s newspaper articles, residents of Malaga Island were stereotyped badly. Despite this, archaeological research has shown that life in this small, poor fishing community was very similar to life in other communities along the Maine coast.

Archaeologists mapped Malaga Island and the location of all of the house sites.

Archaeologists found artifacts, like this cod fish bone (a vertebra from its spine). Remains from fish, birds, and animals show us what islanders ate or what they caught to sell (fish for bait or birds for feathers).

Sometimes, the evidence from historic documents and archaeology agree with each other. For example, historic documents describe fishing at Malaga Island as being extremely poor. The study of artifacts supports this, but provides more information. Fishing wasn't always poor on Malaga Island.

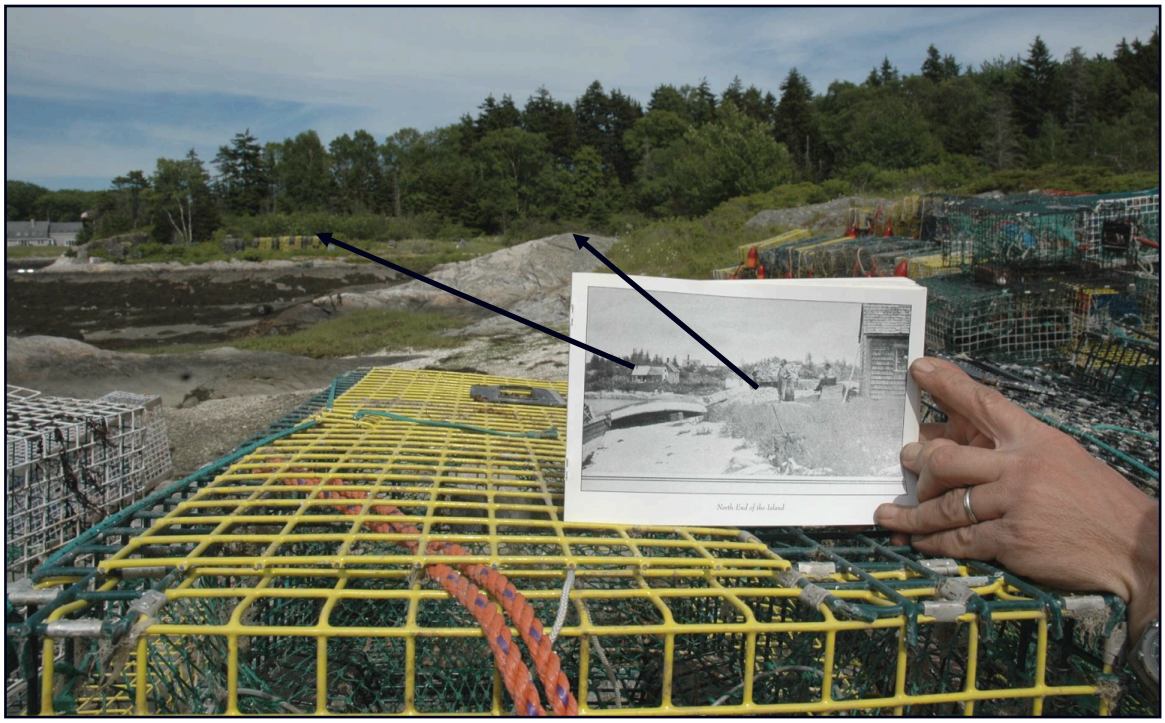
The stratigraphic layers and their artifacts show two different eras or time periods on Malaga Island. First, a **fishing station period from about 1860-1890** contains remains of large fish (see bone at left); other remains show that only a small list of species were used as food. The **residential period from about 1890-1912** included the remains of some domestic animals (for example, pigs and cattle); this layer shows that islanders relied more upon the natural environment for a wide range of wild species that were edible (for example, loon and muskrat) and a more diverse fish assemblage.

How do archaeologists know this? The answer: excavation of shell middens, comparison with historic photographs, and analysis of artifacts.

The north end of the island is almost completely covered by at least six shell middens. By comparing the locations of these archaeological sites with historic photographs, archaeologists know that three of these shell midden areas match the location of house sites during the late 1800s and early 1900s.

Test units or test pits are excavated by hand, some down to 100 centimeters (cm) below the present ground surface. Archaeologists found two different layers in the midden. Each represents a different time period. This photo shows the Griffin-Eason shell midden.

The photo below shows an archaeologist comparing a historic photograph of the Marks Family household with a view of the Malaga shoreline. It appears that islanders built these middens as elevated, flat, and well-drained surfaces with good air circulation, making them ideal locations for placing a house. Some middens are 70-100 cm deep. Most of the shell is soft-shell clam with minor amounts of blue mussels. Some of the middens are refuse or dumps sites. Others are sites where large quantities of shellfish and fish were processed or worked on to prepare the seafood for sale or use as bait.



Reflection: How did the deeper/older stratigraphic layer compare to the shallower/ younger layer? What does the difference tell us?

Lower/deeper/older stratigraphic layer – contains less mammal remains, commercially-important fish, such as cod, haddock, Pollock, and smaller fish - such as mackerel and menhaden used for bait. Archaeologists interpret this as a pre-1890 commercial fishing station time period when the small Malaga population made its living from commercial fishing.

Shallower/younger stratigraphic layer– contains more mammal remains (pig, sheep, goat, cattle, dog, muskrat, red squirrel, rabbit), and a broad range of species including: chickens, ducks, common loon, cormorant. Archaeologists interpret this as a post 1890 residential time period when the Malaga population had increased, but fishing had become very poor.

Practice reading the changes that are shown in the archaeological evidence in the chart below:

1. In which time period are codfish more present?
2. In which time period are the remains of ducks more present?
3. In which time period do people seem to have kept dogs?
4. Which time period has the largest total number of wild birds?

Archaeologists separated artifacts into groups: bone, shell, brick, metal, glass, ceramic, stoneware/red ware, coal, buttons, pipe fragments, coins, and prehistoric flakes (lithic) and miscellaneous.

COMMON NAME	MALAGA 1860-1890 (MNI)	MALAGA 1890-1912 (MNI)
Haddock	(15)	(5)
Atlantic Cod	(37)	(16)
Pollock	(12)	(10)
Atlantic Salmon	(3)	(1)
Mackerel	(9)	(4)
Alewife of Mackerel	0	(6)
Mallard	(12)	0
Chicken	(3)	(4)
Common Loon	(1)	0
Red Throated Loon	0	(2)
Cormorant	0	(3)
Eider	(1)	0
Large & Medium Ducks	(3)	(9)
Shore Birds	(1)	(3)
Domestic Cow	(4)	(6)
Domestic Pig	(12)	(11)
Domestic Sheep/Goat	0	(2)
Domestic Dog	0	(3)
Red Squirrel	0	(1)
Muskrat	0	(3)
Rabbit	0	1 (1)

This chart shows some of the species whose remains were excavated by archaeologists. The chart also shows how many of each species were present in the older stratigraphic layer as well as in the younger stratigraphic layer.

MNI=Minimum Number of Individuals

Historic Images of *Malaga Island*

Rosella and John Eason, with Rosella's grandchildren Leonard and Harold Tripp,
in front of their home on Malaga Island
July 20, 1911
Maine State Museum collection, 96.38.189

John Eason repairs a building on Malaga Island, circa 1910
Courtesy of Peter K. Roberts

Eason house, Malaga Island, circa 1910
Courtesy of Peter K. Roberts

Malaga Island school, July 1911
Maine State Museum collection, 96.38.178

Students entering the Malaga Island school, circa 1910
Courtesy of Peter K. Roberts

Interior of the Malaga Island school decorated for Christmas, circa 1910
Courtesy of Peter K. Roberts

View from a tarpaper house on Malaga Island
looking toward the Phippsburg mainland, circa 1910
Courtesy of Peter K. Roberts

Eliza Griffin house, Malaga Island, circa 1910
Courtesy of Peter K. Roberts

Postcard, "Malaga Island, Maine. A portion of Governor Plaisted's party landing at the harbor of "Ex-King" Murphy." Inset: "The School on Malaga", circa 1912
Courtesy of Peter K. Roberts

Wallace family at the Basin in Phippsburg, circa 1910
Courtesy of Peter K. Roberts

Unidentified children inside a home on Malaga Island, circa 1910
Courtesy of Peter K. Roberts

Group of Malaga Island students, circa 1910
Courtesy of Peter K. Roberts

Group of Malaga Island students outside, circa 1910
Courtesy of Peter K. Roberts

Eastern shore of Malaga Island looking towards the Phippsburg mainland, circa 1910
Courtesy of Peter K. Roberts

Unidentified woman with children on Malaga Island, circa 1910
Courtesy of Peter K. Roberts

Harold McKinney (left) and Johnny Murphy (right) on Malaga Island, circa 1910
Courtesy of Peter K. Roberts

Murphy family, Malaga Island, circa 1910
Clockwise: John Murphy, Holman Murphy, George Murphy, Louisa McKinney Murphy
Courtesy of Peter K. Roberts

Historic Artifacts of *Malaga Island*

Button
circa 1900
Maine State Museum collection 2011.41.2473

Fish hook
circa 1900
Maine State Museum collection 2011.41.2348

Frozen Charlotte doll
circa 1890
Maine State Museum collection 2011.41.3380

Head from a milks glass covered dish shaped like a chicken
circa 1905
Maine State Museum collection 2011.41

Fragment of a shell-edge decorated pearlware plate
1800s
Maine State Museum collection 2011.41.1263.2

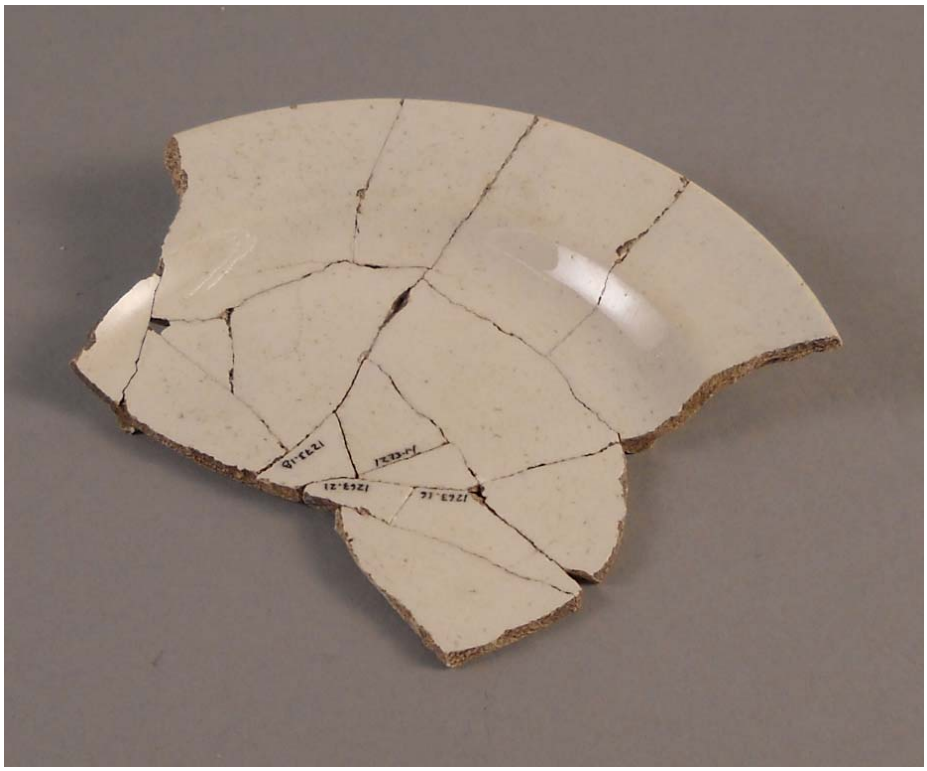
Lock
late 1800s
Maine State Museum collection 2011.41

Child's ring
circa 1900
Maine State Museum collection 2011.41.3455

Decorated teacup
mid-1800s
Maine State Museum collection 2011.41.1273

Lamp wick holder
"Dietz" brand
late 1800s
Maine State Museum collection 2011.41

Doll cup
1800s
Maine State Museum collection 2011.41.286



Ironstone plate
1800s
Maine State Museum collection 2011.41.1263

Rockingham bowl
late 1800s
Maine State Museum collection 2011.41.2306