UNCOVERINGHISTORY.ORG – *Uncovering a Discovery* UNIT OVERVIEW (3-5 DAYS)

Students are in a virtual internship program through a famous museum. Their assignment is to research a new archaeological find uncovered by detectorists in England. Using scaffolded techniques to make historical thinking visible, the teacher will lead students through a series of inquiry-based activities in which students evaluate individual items in the collection in order to construct a plausible narrative about how they came together. Students will also evaluate whether or not the items in the collection challenge or corroborate secondary source information present in the historical record. This unit is designed to operate in a "lab" format. The final assessment rubric for the project will evaluate how well the student records his/her own thinking processes in the *Investigative Notebook*, individual and group participation in the investigation and an individual final narrative object analysis.

TOPIC	Thinking Historically About Vikings
DEVELOPED BY	Kathy Tucker Carroll
GRADE	World History 6-8

LEARNING CONCEPTS OUTLINED BELOW FOR HISTORY AND GEOGRAPHY ARE TIED TO THE C3 FRAMEWORK PUBLISHED BY THE NATIONAL COUNCIL FOR SOCIAL STUDIES.

KEY LEARNING(S)

- *How do we make sense of the raw materials of the past?* (The term "raw materials" borrows from one of Stéphane Lévesque's Five Essential Questions for practicing history. Raw materials and primary sources have a common meaning; however, the term "raw materials" may help students understand the concept of material objects as primary sources in a new way. The teacher may want to explore this terminology with students prior to beginning the unit.

UNIT ESSENTIAL QUESTIONS

- What steps must history professionals go to in order to preserve and interpret the raw materials of the past?
- How do historians corroborate their findings?
- How might this collection of items have come together?
- What role might technology and geography have played how or why these items were assembled?
- Were Vikings *raiders* or *traders* as textbooks suggest? How do the items in this collection confirm or challenge this assertion?

INSTRUCTIONAL TOOLS

- *Uncovering a Discovery* Teacher Resources & Lesson Plan
- *Uncovering a Discovery* Student Archive
- Readworks – "The Secrets of Viking Ships"
- BBC's *Detectorists* clips (individual links in LP instructions)
- BBC Radio 4 – Vale of York Hoard Episode
- Glow Forge/3-D Printer or modeling compound & paint
- Inexpensive glass fish bowl and ModPodge/paper
- iPad or computer for each student or group of students

CONCEPT #1	CONCEPT #2	CONCEPT #3	CONCEPT #4	CONCEPT #5
D2.His.10.6-8. Detect possible limitations in the historical record based on evidence collected from different kinds of historical sources.	D2.His.11.6-8. Use other historical sources to infer a plausible maker, date, place of origin, and intended audience for historical sources where this information is not easily identifiable.	D2.Geo.7.6-8. Explain how changes in transportation and communication technology influence the spatial connections among human settlements and affect the diffusion of ideas and cultural practices.	D2.His.12.6-8. Use questions generated about multiple historical sources to identify further areas of inquiry and additional sources.	D2.His.16.6-8. Organize applicable evidence into a coherent argument about the past.
LESSON ESSENTIAL QUESTIONS #1	**LESSON ESSENTIAL QUESTIONS #2**	**LESSON ESSENTIAL QUESTIONS #3**	**LESSON ESSENTIAL QUESTIONS #4**	**LESSON ESSENTIAL QUESTIONS #5**
What steps must history professionals go to in order to preserve and interpret the raw materials of the past? What can one learn by closely reading an object? What are the limitations of this type of analysis?	How do historians corroborate their findings?	What role might technology and geography have played how or why these items were assembled?	Were Vikings *raiders* or *traders* as textbooks suggest? How do the items in this collection confirm or challenge this assertion?	How might this collection of items have come together?

TIPS FOR TEACHERS:

This is designed to be a 5 day unit where students are given time to practice the skills of questioning and investigating and reflecting while they are "hands on" with the raw materials (primary source objects) of the past. If time is a challenge, the teacher may choose to deliver some sections of the lesson plan as lecture. For example, the teacher could follow the Day One lesson plan and then choose to shorten the Day Two lesson plan by giving them the corroborating artifacts with the information already completed. Or, the teacher may choose to have student "model" each artifact simply by cutting out a printed copy of each object instead of going through the process of using 3D printer or conventional modeling techniques.

UNCOVERING A DISCOVERY - LESSON ONE (5O MINUTES)

Before beginning the unit, the teacher should become familiar with the story of the Vale of York Hoard and its discovery using the bibliographic links in the Teacher Guide. Teachers should also review the principles of Uncovering History and the techniques presented by Harvard' Project Zero Thinking Palette.

KEY LEARNING	UNIT ESSENTIAL QUESTIONS	INSTRUCTIONAL TOOLS
Historians and archaelogists must take care in preserving raw materials of the past so that the clues they leave behind are not lost to mishandling. Historians must investigate these raw materials by attempting to categorize them by "reading" the objects closely for important details that might suggest an maker, date, origin intended audience or purpose for the object. They might used digital technology to engage more closely with the items. They might corroborate their findings with other materials that have previously been discovered. *C3 Framework D2.His.10.6-8.*	What steps must history professionals go to in order to preserve and interpret the raw materials of the past? How might digital technology be a part of this process? What can one learn by closely reading an object? What are the limitations of this type of analysis?	*Detectorists* Introductory Lesson Clip *Uncovering History* Lesson Plan & Visual Materials List *Uncovering a Discovery* Student Archive Project Zero Thinking Palette *Vale of York Hoard Object Association List* *Investigative Notebook Packet* (one per student)

ACTION #1	ACTION #2	ACTION #3	ACTION #4
Determine how best to assign students to objects using *Vale of York Hoard Object Association List* Show the Clip 1 – Intro to a Discovery from *Detectorists*	Announce that the students are digital interns for a famous museum. Curators need the team to investigate object newly discovered in England that have been digitally archived at the museum for further study.	Explain to students that they will be eventually create a model their object. Students should create a rough sketch of their assigned object in their field journal. Some sketches may be more complex than others.	Sort the objects by type (vessel, coin, jewelry, broken items, ingots, etc.) by having students rearrange themselves into groups by type. Help the coin group to subdivide by type F, S, AV or AS.
PROCEDURE: INVITE QUESTIONS	PROCEDURE: CLOSE READING	PROCEDURE: CLOSE READING II	PROCEDURE: QUESTION AND INVESTIGATE
What have these detectorists discovered? What steps should they take in order to preserve these raw materials? How might digital technology be used to investigate the materials? Students should record responses in their *Investigative Notebook*s.	Assign each student one item from the visual materials list in the archive. Explain to students how to use the Project Zero Ten Times Two strategy for investigation of their object. Students should findings in *Investigative Notebooks.*	Once students have created the sketch, they should now use the PZ Parts, Purposes and Complexities strategy and record their observations in *Investigative Notebooks*. If time differentials are an issue, assign another strategy.	In groups have students use the Think Puzzle Explore or See Think Wonder strategy from Project Zero. Students should keep a record of their findings in their in their *Investigative Notebooks.*
DISCUSS: BEST PRACTICES	DISCUSS: PRELIMINARY FINDINGS	DISCUSS: CATEGORIZE AND CONNECT	DISCUSS: CONCLUSIONS & NEXT STEPS
Answers may include marking the site, preserving the integrity of the object, looking for more obvious artifacts nearby, and/or contacting local authorities or history professionals. History professionals might use digital imaging or x-rays to learn more about these objects.	Ask students to share some of their findings.	How does it help to look carefully and observe multiple times? Are students beginning to notice any patterns among the individual items?	What similarities do students notice among the various items in their group? Do they have guesses as to the date, origin, audience or purpose for their object or group of objects? Record observation in notebooks. Assign REFLECTION QUESTION for homework: What are the limits of this type of observation?

TIPS FOR TEACHERS

Encourage students to record data in the *Investigative Notebook* in the same way that they "show their work" in math class or record findings in a science lab. Students who have a coin may want to explore the obverse/reverse separately in the Ten Times Two strategy.

UNCOVERING A DISCOVERY - LESSON TWO (5O MINUTES)

Review concepts from the previous day. What do students know? What do they have questions about? How might they go about finding those answers? Students will conduct further inquiry by into the collection by considering other sources of information.

KEY LEARNING

Students will learn how to contextualize the collection of objects by comparing them to similar objects previously discovered. They will corroborate their findings by reading secondary sources about similar finds. They will investigate the collection further by mapping the general location of origin for many of the items in order to begin to piece together an explanation of how the items came together.

C3 Framework D2.His.11.6-8.

UNIT ESSENTIAL QUESTIONS

- How do historians corroborate their findings?
  - Using other primary sources
  - Using secondary sources

INSTRUCTIONAL TOOLS

Uncovering History Lesson Plan & Visual Materials List

Uncovering a Discovery Student Archive

Investigative Notebook Packet (one per student)

Corroborating Object Case File (one per group)

Senior Curator's Report (one per group)

Findings Report (4-5 per group depending on total # of groups)

ACTION #1

Announce to students that the museum has sent items from its collection that are potentially similar to the items being analyzed.

ACTION #2

Sometimes, raw materials have limits on what we can understand about them. Consulting secondary sources can often be helpful in corroborating guesses about what the raw materials reveal.

ACTION #3

Students will share the information they gleaned from the previous activities on the *Findings Report* with the other groups.

ACTION #4

Ask students to think reflect on what historical thinking might mean.

PROCEDURE: INVITE COMPARISONS

Continuing to work in object-type groups, have students consider which items best match the object types they are working with. Students should complete the chart in the *Corroborating Object Case File* Students will need to click on the hyperlinked text in order to complete the chart. Record responses in their *Investigative Notebooks*.

PROCEDURE: CONFIRM COMPARISONS

Read the *Senior Curator's Report* and assess the secondary sources for any new information. Record any new information in the *Investigative Notebook.*

PROCEDURE: EVALUATE COMPARIONS

Each group will fill out duplicate copies of the *Findings Report* to share with the other groups. Groups will exchange copies of their *Findings Report*. Groups should evaluate the authority of the evidence received.

PROCEDURE: REFLECT

Invite students to share what they first thought when they first saw the picture of their item. What were the strategies that made the history "visible" to them? How might they use these skills in other situations?

DISCUSS: BEST GUESS

Have each group report back as to where they think each item came from and why.

RECORD: ASSERT FINDINGS

Students will record a final draft of their findings about the place and date of origin of their item along with an explanation of its purpose based on the evidence in the *Investigative Notebook*.

RECORD: EVALUATE FINDINGS

Teacher will lead a discussion about the findings of each group in order to clarify any missing or inconsistent information. Each student will record an accurate account of the findings for each group of objects in the *Investigative Notebook.*

REFLECT: VISIBLE THINKING

Each student should individually record a short entry in the *Investigative Notebook* about what it means to "think historically." How do the raw materials of the past aid our understanding of the past? How they must be viewed in light of other primary and secondary sources?

TIPS FOR TEACHERS

If time is tight, the teacher could pre-populate information in the Corroborating Objects Case File. Or, the lesson could be shorted by working though the information collectively in a lecture Q & A format. Encourage students to record data in the *Investigative Notebook* in the same way that they "show their work" in math class or record findings in a science lab.

UNCOVERING A DISCOVERY - LESSON THREE (5O MINUTES)

Review concepts from the previous day. What do students know? What do they have questions about? How might they go about finding those answers? Students will conduct further inquiry by into the collection by considering other sources of information.

KEY LEARNING

Students investigate the collection further by mapping the general location of origin for many of the items in order to begin to piece together an explanation of how the items came together. While geographic influence of river systems may be visully apparent, the technological advances of Viking ship building helped to increase connectivity in these regions.

C3 Framework D2.Geo.7.6-8. and D2.His.12.6-8.

UNIT ESSENTIAL QUESTIONS

- How do historians use other forms of thinking to understand objects?
  - Mapping
  - Geographic thinking
  - Research

INSTRUCTIONAL TOOLS

Uncovering History Lesson Plan & Visual Materials List

Uncovering a Discovery Student Archive

Detectorists Geographic Thinking Clip (2 parts divided at 2:59)

Free Readworks Account and article (assessment optional)

Access to History Channel video clip

Investigative Notebook Packet (one per student)

ACTION #1

Students now know the origin of the object, its general purpose and general date of production. Students will think historically to hypothesize how these objects came together.

PROCEDURE: FORMULATE HYPOTHESIS

Working individually students should map the general location of the place of origin for each group of items on the map in the *Investigative Notebook.* Student should record a hypothesis for how these items came together.

DISCUSS: BEST GUESS

Lead students in a discussion about possible explanations for how these objects came together. At this point, the only mention of Vikings is in one coin type. Students may or may not draw a conclusion to Vikings based on prior knowledge. Students may suspect river connections or long ships. Students should record a hypothesis in the *Investigative Notebook.*

ACTION #2

Share part one of the *Detectorists* clip. What kind of thinking is the woman in the clip demonstrating? What kind of thinking will students need to use to come up with their own hypothesis? Watch part two of the *Detectorists* clip.

PROCEDURE: INVESTIGATE HYPOTHESIS

Students will learn about Viking ship building technology using Readworks in order to develop a hypothesis for how the items came together. Assign students the short article on Viking shipbuilding from Readworks.

RECORD: ASSESS

Discuss technological advancement of Viking shipbuilding in terms of its understanding of engineering and forces. What impact did this scientific thinking have on expanding the geographic reaches of Viking exploration?

Students should record evidence to support or refute their original hypothesis and further refine their claim in the *Investigative Notebook.*

ACTION #3

Students will explore another source of information about Viking shipbuilding through a clip produced by the *History Channel*. Have students consider what claims the clip is making about Vikings. Is it similar or different from the *Readworks* article?

PROCEDURE: EVALUATE HYPOTHESIS

Share this educational clip from the History Channel. *(https://safeshare.tv/safeshare.tv can often remove commercials)*

DISCUSS: REFINE CONCLUSIONS

How did Viking technology influence trade patterns during this age? Why had other civilizations not been able to range this far in the past? What about the geography of Northern Europe makes this technology especially advantageous?

Students should adjust their claims in their *Investigative Notebook.*

ACTION #4

Ask students to reflect on the messages in the two secondary sources. Were Vikings raiders or traders or both? How did the historians who worked on the pieces know to make that claim? What was their evidence?

PROCEDURE: REFLECT

Based on the new evidence in the collection at hand, does this new discovery confirm or challenge the accounts students have viewed today?

REFLECT AND RECORD: VISIBLE THINKING

Students should record a short entry in the *Investigative Notebook* answering the question above using only evidence recorded in their *Investigative Notebook.* They may not go back to any other source. If they are "missing" information, they may list a question they like to have answered from that source instead.

Show the last part of the *Detectorists* clip. Does the main character "leave something" behind? How can we relate that to showing evidence of historical thinking?

TIPS FOR TEACHERS

Encourage students to record data in the *Investigative Notebook* in the same way that they "show their work" in math class or record findings in a science lab.

UNCOVERING A DISCOVERY - LESSON FOUR (5O MINUTES PLUS HOMEWORK DAYS OR TWO OR MORE CLASS PERIODS DEPENDING ON THE METHODS CHOSEN)

Technology is changing the way we interact with objects. Digital representations may offer enhanced viewing capabilities or opportunities for study without harming the original. But, digital representations may not fully engage the five senses. Physical replication (manually or digitally) might help an researcher come to understantand how an object was actually crafted. This lesson is purposely vague in the process of actual making because the options for doing so are so vast and vary school to school. You may also intersperse these days within a larger unit.

However you choose for students to interact with Maker Thinking, you will need to help your students understand the physical dimensions of the objects they are creating. This information may be found on each object's page at the British Museum. The URL for each object's page may be found in the METADATA for each object in the *Uncovering a Discovery* digital archive.

KEY LEARNING

While this lesson is not explicitly tied to a C3 Standard, digital or maker technology may have value in developing historical thinking skills in facilitating engagement with the raw materials in a new, albeit simulated, way while preserving the originals. Maker technology may help historians understand the process by which objects were crafted, leading them to a deeper understanding about the humans who created them.

C3 Framework D2.His.12.6-8.

UNIT ESSENTIAL QUESTIONS

- How do historians use other forms of thinking to understand objects?
    - Maker technology
        - Digital replication
        - Manual replication

INSTRUCTIONAL TOOLS

Uncovering History Lesson Plan & Visual Materials List

Uncovering a Discovery Student Archive

Civilizations clip – Maker Thinking in History

3-D modeling technology (3-D printer, Glowforge, etc.)

Modeling compound or clay and spray paint

Glass or plastic bowl/bucket and ModPodge

Investigative Notebook Packet (one per student)

ACTION

Ask students to brainstorm different types of Maker technology might help historians to interact with the raw materials of the past. How might Maker thinking might help historians better understand the raw materials of the past or the humans who made them? Record ideas in the *Investigative Notebook.*

MAKER OPTION #1 - 3D PRINTING OR GLOWFORGE

Consult with your school's technology specialist to set up options for utilizing a 3D printer or GlowForge to print all or some of the objects.

MAKER OPTION #2 – MANUAL FORMATION

Use clay or modeling compound to form the individual object. When the object is dry, paint it with silver or gold spray paint and use a Sharpie marker to add details.

PROCEDURE: EXPOLORE MAKER THINKING

Show the clip from *Civilizations.* Lead students in a discussion about what the historical archaeologist learned from the process of manually reproducing the object.

COINS AND JEWELRY

The coins may be best suited for production on a GlowForge while jewelry might be best crafted on a 3D printer or manually. Take care to craft BOTH sides of the coin.

JEWELRY AND HACKSILVER

Students may find that using modeling clay or compound to form objects such as jewelry and hacksilver is easiest. The project could be completed using only this Maker method for any of the objects.

DISCUSS: COMPARING MAKER THINKING

Explain to students that they will employ Maker technology to form a replica of their object. Help them to understand that different methods may be best suited for different objects.

Assign each student a different item from the collection based on class size and distribution. Not all items in the hoard are represented in the images in the archive or at the British Museum.

THE CUP

The largest object in the collection is the cup. It may be best to modify a plastic tub or glass bowl using paper sketches or printouts and ModPodge.

Make sure that the cup is large enough to hold the items once they are crafted.

REFLECT: EVALUATING MAKER THINKING

How does experience of holding an object in hand make it more 'real' than a digital image? What senses can a person use to thing historically when engaging with models of raw materials in this way? What can a historian learn about human beings who might have created these items or modified them in some way as with the hacksilver?

Write a brief reflection in the *Investigative Notebook.*

TIPS FOR TEACHERS

Teacher may choose to extend the timing on this portion of the unit and assign manual formation of objects as a homework assignment over several nights. Alternatively, the teacher could assign the making of the objects to coincide with the beginning of the unit and teach the lesson portion once the objects are finished in order to conserve the number of days encompassed by the unit. Alternatively, while students are potentially "waiting their turn" to use digital Maker techniques, they could be working on the narrative assignment in Lesson Five independently.

UNCOVERING A DISCOVERY - LESSON FIVE (5O MINUTES)

This is the capstone lesson to the unit where students use what they have learned to craft a plausible narrative for how their individual item came into the collection based on the historical evidence from their *Investigative Notebooks.* The length of this narrative is variable, but in the interest of time, a two to three paragraph narrative is sufficient. The goal is to generate possible options. At the end of the lesson, students will listen to the narrative produced by BBC Radio and the British Museum about what the Vale of York Hoard reaveals about Viking trade in England and in world history during the 9th century.

KEY LEARNING

Students should be able to use their historical thinking skills and the evidence they have gleaned from the raw materials (primary sources) of history and secondary sources to construct their narrative. Writing in a narrative format may free students to express historical thinking in a way that more formal assessment might constrain.

C3 Framework: D2.His.16.6-8.

UNIT ESSENTIAL QUESTIONS

How can evidence be used to construct a plausible argument about the past? In other words, how do you know what you know about the narrative you are creating about how these objects came together?

INSTRUCTIONAL TOOLS

Uncovering History Lesson Plan & Visual Materials List

Uncovering a Discovery Student Archive

Detectorists Narrative Thinking Clip

BBC Radio 4 – Vale of York Hoard Episode

Investigative Notebook Packet (one per student)

ACTION #1

Show students the *Detectorists* Narrative Thinking Clip. This scene is from an episode prior to the discovery of the gold object in the first lesson. Direct students to think about how historical thinking is being used in this clip. Is it factual? Is it historical? What is the difference?

ACTION #2

Explain to students that real historians at the British Museum came up with their own narrative about how these items came together. While this narrative is more evidence based and does not fictionalize events, it does make use of imagination in some ways.

WRAP UP

Students should write one final reflection explaining how historians "know what they know" about history. How has their understanding of this concept changed through this unit.

PROCEDURE: DISCUSS HISTORY AS A NARRATIVE

Briefly discuss students' reactions to the clip and the above questions. Explain to students that like Mackenzie Crook, the creator of the show, they will need to construct a brief narrative explaining how their individual object came to be part of the hoard, or an event in its life. Students should rely on the evidence they have collected in their *Investigative Notebooks*¸ but they may invent characters or situations as long as plausible evidence exists.

PROCEDURE: LISTEN TO A NARRATIVE

Listen to BBC Radio 4 – Vale of York Hoard Episode

EXTENSIONS

The teacher may choose to have students further flesh out their proposed object narrative as a more polished piece. This would also be a good opportunity for a cross curricular project with an English teacher or drama class. Students could also use an Esri StoryMaps account to craft a more formal narrative using digital evidence and maps to create their story.

Students could present their objects and the hoard as a museum exhibit for younger students at the school.

WRITE: HISTORY AS A NARRATIVE

Students should spend about 20 minutes writing a rough draft of their narrative in their *Investigative Notebooks.* They might spend 5 minutes looking back and highlighting the evidence the evidence they will use to support the narrative before beginning to write.

REFLECT: SUMMARIZE THE UNIT

After the episode is over, invite a discussion with students about what surprised them about what they learned. What did they already suspect? What historical thinking went into this episode? How has their perspective changed on how historians "know what they know" about history? Make notes in the *Investigative Notebook*.

ASSESSMENT:

Collect the *Investigative Notebooks.* Use the *Assessment Rubric* to evaluate each student's thinking, quality of reflection and attention to recording evidence.

TIPS FOR TEACHERS

Depending on the level of discussion, this lesson could spill over to another day. It might be possible to assign the discussion/reflection as homework and give students time to "polish" their *Investigative Notebooks* before for collecting them for final assessment.