



Day Three Full Lesson Plan

Simulated Maritime Archaeology

[Classroom option]

NOTE ON CLASSROOM OPTION

Because some of the work on days four and five relates to using the Trident in a pool, the activities on those days will need to be adjusted. For example, on day four, you may wish to consider including the extension activity – researching the Antelope shipwreck – into your lesson. For the final assignment, students will have only one choice – completing the Moonrise fictional narrative.

SUMMARY

Students will use observation skills to collect “evidence” that will provide a foundational understanding of the opportunities and challenges associated with conducting maritime archeology. Students may choose to use this “evidence” when crafting a claim- and evidence-based narrative on day 5.

LEARNING OBJECTIVES

I can identify the controller buttons used to operate an ROV and specify how each button is manipulated to adjust the ROV’s position within a waterbody.

I can engage in a collaborative discussion making connections between the “evidence” found during a simulated maritime archeology activity and my prior knowledge of “The Moonrise: A Fictional Account of a Great Lakes Voyage.”

LESSON CONCEPTS

Available technology influences what can be accomplished at a particular moment in history.

ACADEMIC VOCABULARY

Maritime archaeology, ROV: Remotely Operated Vehicle.

PRIOR KNOWLEDGE

What students need to know and be able to do prior to this lesson:

Students who have experience with a game controller and/or other devices used to remotely operate electronic devices such as drones will be at an advantage.

Students need to understand what a “claim” is and be able to arrive at a conclusion by reasoning based on evidence.

Students should have a basic understanding of group dynamics and be able to express their views without dominating the conversation or failing to contribute.

Student preferences and interests to consider in preparation for this lesson:

Middle and high school students generally enjoy working in small groups and sharing their thoughts with one another.

Misconceptions and/or misunderstandings that students might have related to this lesson:

Underwater remotely operated vehicles (ROVs) can be controlled like a drone or remote-controlled toy without a tether.

CLASSROOM NEEDS

Trident and Controller

Banner

Easel

TEACHER PREPARATION

PREPARE BANNER FOR STUDENTS

If you do not have access to a pool and are unable to deploy the Trident, you can still complete the simulated maritime Archaeologist activity. The banner may be hung on a hallway or classroom wall using the ropes provided. Please do not damage the banner by hanging it with tacks and/or nails. Have the easel with enlarged images from the banner in an opposite corner of the room from the banner. The images should be faced away from the class and in numerical order so that they can be easily revealed upon “discovery.”

PREPARE TRIDENT FOR ITS VOYAGE

Check that the Trident is fully charged and ready to move in its case. Have the laminated Trident Controller Image. Complete the steps in the Trident Quick Start Guide (e.g., charge the Trident and the Controller.)

DOCUMENTS

For students

[The Moonrise: A Fictional Account of a Great Lakes Voyage](#)

[Sketch of Ship](#) (file coming soon)

[Trident Data Points Log](#) (file includes Answer Key and Worksheet)

For educator

[Trident Controller Image Labeled](#)

[Trident Quick Start Guide](#)

[Trident Operation Manual](#)

[Sketch of Ship Answer Key](#) (file coming soon)

[Trident Data Points Log](#) (file includes Answer Key and Worksheet)

[Enlarged Images from Banner](#) (file coming soon)

LESSON PLAN

GUIDED PRACTICE (15 MIN)

1) Explain to students that one use of remotely operated vehicles (ROVs) is to observe shipwrecks.

Ask students to describe how the remote-control buttons need to be manipulated in order to adjust the Trident's position within a waterbody. Tell students that although water is not available for using the Trident, they will still be involved in a simulated maritime archaeology activity.

2) Demonstrate how to collect "evidence" from the banner.

A possible way to begin: "Imagine that what we are seeing is 200 feet below the surface of Lake Michigan and what we are about to view has not been viewed before today. Group by group, we will make careful observations related to the "evidence." The "evidence" we collect today will be used to make a claim (and support it) when you write a claim- and evidence-based narrative. We need to work efficiently and effectively to document as much as possible. If this doesn't happen, then we won't have all the evidence we otherwise might. The fewer pieces of evidence we have, the harder it will be to piece together what happened and to refute claims that couldn't possibly be true. So, let's get started!" Teacher draws students' attention to the scale on the banner and reports what (e.g. the scale) is found. Students record on the Trident Data Point Log.

3) Demonstrate how to record "evidence" (data points) and what to do with it.

Teacher demonstrates referencing the Enlarged Images from Banner and marking on the Sketch of Ship where the item has been found. Students follow teacher's lead by also referencing the Enlarged Images from Banner and marking on their Sketch of Ship the particular location of where the item was found.

4) Model discussion of what the "evidence" may mean.

Teacher (and students) model discussion of what the item might reveal about whether the "wreckage" is the Moonrise, and if so, the fate of her passengers using the following prompts as discussion starters. Some examples include:

"I think this shows us that _____ because _____."

"I think this happened because _____."

"What could the _____ mean?"

"This may be related to the story of the Moonrise because _____."

"I don't think this supports the story of the Moonrise because _____."

INDEPENDENT PRACTICE (REMAINDER OF CLASS PERIOD)

1) Groups take turns gathering “evidence.”

Have the first group of students identify their assigned data point(s), report what they find (i.e., name of item and its location), and record the data on their Trident Data Point Log. Remind the students that as other students are collecting data, observers should be looking at the previous data points, marking on the Sketch of Ship where the item was found, discussing what the previous data point meant or to what conclusions it could lead and recording this information on their Trident Data Points Log. Continue by having each group in turn find the remaining data points.

2) Groups discuss what conclusions they can draw from the data points.

LESSON SUPPORTS

Group work (students who are higher performing can work with lower-performing students).

ASSESSMENT

Completed Trident Data Points Log.

For the complete [ROVe the Great Lakes](http://go.wisc.edu/ROVe2) curriculum, visit go.wisc.edu/ROVe2.

