

Shipwreck

Detectives



Captain's Notes

Overview

In this activity, students will act as maritime archaeologists and will need to collect data in order to make hypotheses about a shipwreck. After the students have made their observations in groups, they will answer critical thinking questions based on what they observed. Students will also learn about the importance of preserving an underwater site.

Difficulty/Grade Level

Easy-Moderate/Elementary

Suggested Group Size

3 students per group (based on a class size of 24)

Time

Between 45-60 Minutes (although the activity can be modified to fit a particular situation)

Helpful Hints

The wreck that the Mock Shipwreck Layout is based on is the E.B. Allen (see the Vessel Histories handout). The Mock Shipwreck Layout is only of the forward bow section of the E.B. Allen

Help the students as they record their data by giving them clues about what their section might have been used for. Remember to point out any dates, names, or symbols that might help them form hypotheses about the shipwreck and what happened to it.

Be sure the students understand on which side of the vessel they are and are using right angle measurements to measure their datum points.

Have fun choosing 'artifacts' to use on your mock wreck. Try putting something that does not fit with any of the other artifacts and see what conclusions your students draw from the observation of that object.

Objectives

- Introduce the idea of maritime archaeology
- Learn the names and locations of the parts of a ship
- Draw conclusions and form hypotheses based on observations made
- Understand the challenges archaeologists face underwater
- Understand the importance of the preservation of a shipwreck and its artifacts

Skills and Strategies

- Gathering information through recording and observation
- Forming hypotheses
- Working together in groups

Materials

- Mock Shipwreck Layout (outlined either on tarp or with masking tape)
- String (3 pieces to use as grid lines to separate mock wreck into 8 sections)
- Sample Shipwreck Diagram
- Artifacts (See Sample Shipwreck Diagram for suggested artifacts)
- Clipboard (1 per group)
- Shipwreck Detectives Worksheet (1 per student)
- Parts of a Ship Diagram (1 per student)
- Sanctuary Vocabulary
- Vessel Histories handout

For Extension Activity

- Log Sheet
- Measuring Tape (running the length of the mock shipwreck as the baseline)
- Measuring Tape or Yard Stick (1 per group)
- Datum Points (Marked S-1 and S-2 for the starboard side and P-1 and P-2 for the port side. Each group will need two datum points. These can be artifacts or points on the shipwreck outline.)





Preparation

1. The mock shipwreck should be set up before the students arrive to begin the activity. Lay down the tarp or tape the outline of the wreck to the floor (the shipwreck should be at least 10-15 feet long, though a length of 16 feet works best). Refer to the *Mock Shipwreck Layout* to create the mock shipwreck.
2. Create a grid of 8 even sections, 4 on the port side and 4 on the starboard side, over the mock wreck (See *Mock Shipwreck Layout*).
3. Arrange the artifacts and datum points in specific areas of the mock shipwreck. Artifacts will reflect what type of ship the mock shipwreck is supposed to represent and the different functions of the various areas on the ship (i.e. pots and pans = galley, clothes = passenger or crew cabins, boxes = cargo hold, etc.).

For Extension Activity

1. Run a tape measure along the center of the mock wreck from one end to the other and secure it to the floor. This is the baseline.
2. Mark two different objects or points as datum points in each of the 8 sections. These can be artifacts or places on the mock wreck. The students will be measuring to these points from the baseline.



Procedures

1. Introduce the students to what maritime archaeology is and the importance of Thunder Bay National Marine Sanctuary (refer to the activity introduction). Tell the students that they are going to pretend to be underwater archaeologists and that they are about to make a dive on a recently discovered shipwreck. During the dive they will have to record what they find on the shipwreck in order to understand how the ship was used.
2. Describe some of the terms on the *Sanctuary Vocabulary* that the students will need to know for the exercise, such as artifact, datum point, baseline, etc.
3. Separate the class into eight groups of about three students per group (numbers will depend on the number of students involved). Tell the students that they will be answering questions based on their observations after they finish their dives.
4. Pass out the *Parts of a Ship* handout and the *Shipwreck Detectives Worksheet* to each student and a clipboard to each group.

For Extension Activity

1. Give each group a measuring tape or yard stick and a log sheet.
2. Explain to the students that it is important for archaeologists to measure shipwrecks as well as identify artifacts. Measuring the wreck can lead archaeologists to correctly identifying which ship the wreck is. Just like real archaeologists, they will be measuring from a point on the baseline, to the datum points marked in their section.
3. Students will record their measurements on their log sheet. The students on the port side will record only the P-1 and P-2 measurements. The students on the starboard side will record only the S-1 and S-2 measurements.

Shipwreck Challenge

Pretend that you are really SCUBA diving and cannot talk to your dive buddies. Find another way to communicate your observations while you are underwater.





Discussion

- What kind of ship was it?
- What was on the ship?
- How old was the ship?
- When did the ship sink?
- What kinds of activities happened on the ship?
- What kind of hypotheses can you make about the ship or its crew or passengers?

**If using the E.B. Allen example, refer to Vessel Histories handout for correct information.*

Reeling It In

Review what the students learned about the wreck and about making a hypothesis from their collected data. Remind the students that shipwrecks are like underwater museums. If many people took just one item off of the shipwreck, soon there would be nothing left for anyone to learn from and enjoy.

Extension

To add a math component, have students measure a few points on the wreck from the baseline. The extra materials for this component are listed under Extension Activity. Refer to the Shipwreck Mapping Activity for more information on mapping shipwrecks.

Further Information

- Visit thunderbay.noaa.gov and the Alpena County Library for information about the shipwrecks of Thunder Bay and further education.
- Visit sanctuaries.noaa.gov for information about the Maritime Heritage Program and other National Marine Sanctuaries.

Resources

1. Thompson, Kate. Mock Shipwreck: An Exercise in Maritime Archaeology. NOAA National Marine Sanctuary Program. <https://www.sanctuaries.noaa.gov/education>.
2. Wisconsin Historical Society, Office of School Services. 2001. Working with Water: Wisconsin Waterways Teacher's Guide and Student Materials. Wisconsin Historical Society Press. Madison, WI.
3. Hanner, Roxanne; Slayden, Beverly; Butler, Jennifer; Thompson, Paula. Shipwrecks of Thunder Bay: Thematic Unit for Fourth Grade. Alcona Community Schools. Alpena Public Schools.
4. Jason 2006 Shipwreck Activity.

Figure It Out

What could you say about the shipwreck if 'looters' had removed some or all of the artifacts?

The same conclusions would not be made. We would miss out on some of the history of the vessel. We would not know the whole story because important information may be lost if looters took artifacts.

