

Lesson Plans

Marlinespike Seamanship

LESSON TITLE: Marlinespike Seamanship
GRADE LEVEL: Adult Learning
SUBJECT: Able Seaman Course
TIME FRAME: 4 hour lesson (of 40 hour course)

INTRO

Marlinespike seamanship skills are essential to safely and efficiently working on boats. In this lesson, students will learn about different types of line and how to tie and splice. Students will be encouraged to develop their own collection of resources. This can be a Google Sheet with rows of URLs, Google Drive with folders for images and videos. These resources will be used by the students as study materials. By the end of the lesson, they will record their own videos of how to tie knots and splice line. These videos will satisfy the formal assessment requirements for this part of the Able Seaman license.

LEARNING OBJECTIVES

By the end of this lesson, students will be able to:

- Understand basic terminology and concepts associated with marlinespike seamanship.
 - Identify and demonstrate the proper use of marlinespike equipment (line, fid, knife, etc).
 - Learn main knots and splicing techniques and tie and splice successfully.
 - Gain familiarity with practical applications for knot tying and line handling aboard a vessel.
-

STANDARDS

- U.S. Coast Guard:
 - Deck and Engineering Guide for the Administration of Merchant Marine Examinations (MCP-MA-NMC2-08(01)) Exam Code AB02 Marlinespike Seamanship Demonstration
 - NVIC 14-14 Task 4.9.A
 - United States Code of Federal Regulations: 46 CFR 11.910 Table 2 #4: Understand subjects for deck officer endorsement: Marlinespike Seamanship
 - ISTE Standards for Students:
 - 1.1d Technology Fundamentals
 - 1.3.a Effective Research Strategies
 - 1.3.c Curate Information
 - 1.6.b Original and Remixed Works
-

MATERIALS

- **Non-Tech Materials:**
 - 3' sections of line, Qty 2 pieces per student
 - Fids, Qty 1 per student
 - Electrical tape
 - CFRs and NVICs, print copies of relevant excerpts
 - **Technology Materials:**
 - Instructor computer
 - Projector or TV with casting capabilities
 - Student computers or tablets
 - Internet
 - Google (web browser, Google Drive)
 - CFRs and NVICs, electronic copies
 - **References:**
 - 46 CFR 11.910
 - Animated Knots: <https://www.animatedknots.com/>
 - The Ashley Book of Knots by Clifford W. Ashley: <https://archive.org/details/TheAshleyBookOfKnots/mode/2up>
 - Chapman Piloting & Seamanship by Chapman (Author) and Jonathan Eaton (Editor), 69th Edition
 - Deckhand tying off cleat clip: <https://www.youtube.com/shorts/ziMIcJtrnsc>
 - USCG Boating Safety Guide
 - NVIC 14-14
-

LESSON DETAILS

1. Introduction (5 minutes)

Objective: Introduce students to the concept of marlinespike seamanship and its importance in work aboard vessels of all sizes.

- **Activities:**
 - Show a video of deckhand tying off mooring line to cleat: <https://www.youtube.com/shorts/ziMIcJtrnsc>
 - Discuss the significance of marlinespike seamanship in the maritime industry.

2. Tools of the Trade (10 minutes)

Objective: Teach students about the essential tools used in marlinespike seamanship.

- **Activities:**
 - Direct instruction:
 - Demonstrate how to properly use the marlinespike, fid, and other tools.
 - Explain the purpose of each tool in relation to rope work and line handling.
 - Discuss safety considerations when using sharp tools like needles and knives.
 - Hands-On Activity:
 - Students pass around marlinespikes, fids, knives, etc to touch and feel different types of tools used.

3. Knots and Tying Techniques (30 minutes)

Objective: Teach students the basic knots and associated terminology used in marlinespike seamanship.

- **Activities:**

- Direct Instruction:
 - For each knot, explain its uses, strengths, and weaknesses.
 - Show step-by-step how to tie essential knots:
 - Bowline
 - Square Knot
 - Clove Hitch
 - Sheet Bend
 - Talk through other
- Hands-On Activity:
 - Students tie each knot on their own line.
 - Instructor walks around, offering individual assistance.

Assessment:

- Observe students' knot-tying techniques and provide corrective feedback.

4. Splicing Line (30 minutes)

Objective: Teach students basic splicing techniques to join two ropes or repair damaged lines.

- **Activities:**
 - **Direct Instruction:**
 - Explain the importance of splicing in maintaining strong and reliable lines.
 - Demonstrate the following splicing techniques:
 - Short Splice: To join two ropes of similar size.
 - Eye Splice: To create a loop in a rope's end.
 - **Hands-On Activity:**
 - Students practice different splicing techniques using their own line.
 - Instructor walks around, offering individual assistance.

Assessment:

- Observe students' splicing techniques and provide corrective feedback.

5. Gather Resources (60 minutes)

Objective: Find online resources demonstrating tying knots and splicing techniques and create a resource guide.

- **Activities:**
 - Direct Instruction:
 - Discuss the various ways that resources can be found online.
 - Show how to save resources via bookmarks, cloud files, etc.
 - Hands-On Activity:
 - Set up a practice area where students simulate real-world situations (e.g., securing a rope to a cleat, setting up a fender, etc.).
 - Students use lab time to search for photos and videos of knots and splicing.
 - Students develop a method of their choosing to save resources for future reference.

Assessment:

- Instructor observes students' search criteria, resource gathering technique, and document control progress.

6. Share work in small groups (30 minutes)

Objective: Share resources with fellow students.

- **Activities:**
 - Hands-On Activity:
 - Work with fellow students to share best resources.

- Share resources electronically, possibly through collaborative document sharing capabilities.

Assessment:

- Instructor observes students sharing resources with other fellow students.

7. Record or Present Assessments (60 minutes)

Objective: Apply knots and splicing techniques to complete the formal assessment requirement.

- **Activities:**
 - **Hands-On Activity:**
 - Students record video or schedule live demonstration with instructor. Students complete knots and splice as required by guidelines.

Assessment:

- Instructor reviews and grades students' assessment videos or live knot tying and splicing demonstration. Instructor records completion on assessment sheet.

8. Conclusion and Q&A (15 minutes)

Objective: Review key concepts and give students an opportunity to ask questions.

- **Activities:**
 - Recap: Briefly review the knots, splicing techniques, and tools learned throughout the lesson.
 - Allow students to ask questions or clarify any points of confusion.
 - Ask students to reflect on their learning and share any challenges they encountered.

Assessment:

- Informal assessment through Q&A and observation of students' ability to recall and explain key concepts.

ASSESSMENTS AND EVALUATION

- **Formative Assessment:**
 - Observation of students during hands-on activities (tying knots, splicing).
 - Observation of students during group activities (sharing of resources).
 - Questions and answers during discussions and practical exercises.
- **Summative Assessment:**
 - A practical assessment where students tie specific knots and splice line.
 - Students have option to record video of knots and splices or complete live in person or virtually.

DIFFERENTIATION

- **For Advanced Learners:**
 - Challenge them with more complex knots and splicing techniques.
 - Allow them to assist peers and lead group work section of lesson.
- **For Struggling Learners:**
 - Provide additional one-on-one support during knot-tying and splicing.
 - Offer advanced learners as support.
 - Provide additional hints at visual aids (e.g., links to YouTube videos, knot tying websites, etc.) to reinforce learning.

- **Special Considerations:**
 - Accommodate students with limited dexterity by offering larger ropes or suggest prioritizing simpler knots.
 - Can request additional accommodations via REC or NMC if additional time is needed for formal assessment.
-

REFLECTION

- What went well?
 - Where is there room for improvement?
 - How was student engagement?
 - Offer possible next steps:
 - Encourage practice, practice, practice! If you don't use it, you lose it! Keep a piece a line on you at all times. Helps with fidget!
 - Describe next lesson within the course.
 - Suggest other courses to build on skills acquired in this lesson/course.
-

ADDITIONAL NOTES

- Encourage use of tech throughout. (i.e., instead of writing down reference website by hand notebook, save bookmark in browser)
 - If time is running tight, remove group work section(s).
 - Establish clear expectations for teamwork during group work.
 - Make sure an assessment sheet is completed and filed for each student.
-