

BOAT *Basic*

A Teaching Guide



The logo features the word "BOAT" in a large, bold, metallic, 3D-style font. To its left is a stylized graphic of a boat's wake. Below "BOAT" is the word "Basic" in a smaller, italicized, metallic, 3D-style font.

A Teaching Guide

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Teaching the Basic Boating Safety Course

Preparing To Teach

Follow these steps to teach confidently and effectively.

- ◆ Master the subject matter, and plan how to present it.
- ◆ Familiarize yourself with the instructor aids available to you.
 - Class Plan (see pages 4-5). A two-page quick reference that gives a recommended schedule for an eight-hour class.
 - Lesson Plans (see pages 6-38). Overview of the Student Manual, including the following:
 - Objectives. Statements of what students should have learned at completion of the lesson. These will help you set goals and keep on course.
 - Suggested Props. List of props to bring with you to class. Using these props in addition to this Teaching Guide, the Student Manual, the PowerPoint presentation, and the *Boat America* classroom video will help you present the material.
 - Topic and Suggested Method of Presentation. A summary of the material covered in that section with ideas for ways to present the material beyond simply repeating what is in the Student Manual and on the PowerPoint presentation. In the margins for each topic, you will see these icons:



indicates the page number of the Student Manual on which the material is covered.



indicates that there are also illustrations in the Student Manual you may want to use.

- Review Questions. Questions to ask to determine students' comprehension of the material covered in that lesson and to help them complete the Chapter Review Exercises at the end of the Teaching Guide.
- Summary. A review to use at the end of each lesson to summarize the most important points.
- Student Manual. You should study all of the material in the Student Manual before you teach.
- PowerPoint Presentation. You should watch the PowerPoint presentation before you teach to decide how you want to incorporate it into your lessons.
- *Boat America* Classroom Video. You should watch the video segments before you teach to see how the information works with the other instructor aids.
- ◆ Decide what level of printed instructor aids is appropriate for you.

Your teaching experience and familiarity with the material will determine which printed aids you need to use to prepare to teach and what to have in front of you while teaching.

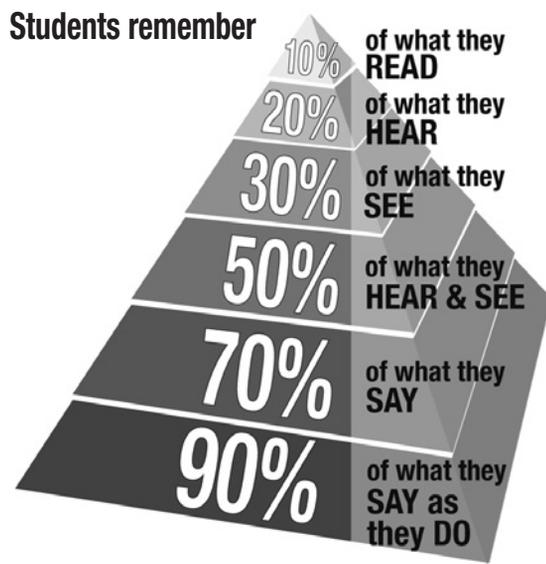
 - Experienced. If you have taught this course before and are well acquainted with the material, the lesson objectives, and classroom activities, you may only need to use the Class Plan. This plan will help you keep on schedule and remind you of the key topics to be covered in each lesson.
 - Familiar. If you are familiar with all of the material in the Student Manual but have not taught the material before, you will want to use both the Class Plan and the Lesson Plans provided in this guide. The Lesson Plans will help you focus on the key information, plan how to present it, and give you ideas for questions and activities to reinforce the learning.
 - Novice. If you are new to some of the material and have not taught this course before, you will want to use the Class Plan and the Lesson Plans provided in this guide, as well as the Student Manual. You may want to organize a three-ring binder and put each chapter of the Student Manual behind the Lesson Plan for that chapter.
- ◆ Choose and obtain the teaching aids you want to use.

Variation in the presentation of the material is essential to holding the attention of students and helping them retain the information. Even adults have an attention span of only 20-30 minutes, so breaking up the class routine with various teaching aids is critical. Consider using:

 - Props. Decide which of the props in the Lesson Plans you want to use, and add any of your own.
 - Audio/visual aids. In addition to the PowerPoint presentation, you may wish to copy illustrations from the Student Manual to transparencies to display using an overhead projector.
 - Sample documents. Get samples of documents such as a registration form, a certificate of registration, a validation decal, an accident report form, the U.S. Coast Guard's *Navigation Rules*, and a float plan.
 - Guest speakers. Ask a U.S. Coast Guard officer, law enforcement officer, or marine industry professional to speak for 10-20 minutes. The guest appearance of a law enforcement official is an excellent way to reinforce the message that boating safety isn't just a good idea—it's the law!

Principles of Learning Methods

Discover how people learn by studying the principles of learning methods. These principles demonstrate that to teach effectively, we must use different teaching techniques to reach all individuals.



Teaching Techniques

- ◆ For each chapter, do the following:
 - Tell the students what you will teach them.
 - Teach the lesson.
 - Summarize what they should have learned.
- ◆ An effective way to achieve this is by doing the following.
 - Introduction. Briefly state the lesson's objectives.
 - Lecture, hands-on activities, and questions.
 - Reinforce the key safety, responsibility, and legal topics.
 - Encourage discussion and questions from students.
 - Use props, sample documents, the PowerPoint presentation, the classroom video, or visual displays as needed.
 - Ask review questions aloud, and have students answer aloud. If there is any confusion, clarify the material.
 - Summarize. Restate key points.
- ◆ Observe these teaching "do's."
 - Teach with confidence. Remember, you know the material better than anyone else in the room.
 - Treat the students courteously. Let the students know that there are no "dumb questions."
 - Speak clearly and loudly enough to be heard in the back of the room.
 - Vary your voice to avoid monotony. Use volume, inflection, and pauses to emphasize key points.
 - Divide course material with other instructors, if possible. The "break" for students will avoid monotony and help with the responsibility of teaching a class.
 - Maintain eye contact with your students. This keeps their interest and helps you assess their comprehension.
 - Encourage discussion. For example, ask the students to explain the benefits of boating safety practices or the dangers of unsafe practices.
 - Encourage participation in demonstrations. If no one volunteers, select someone to help with a demonstration. Also make sure to give every student an opportunity to participate.
 - When releasing the students for a break, clearly indicate when you plan to resume the class.
 - Be punctual when you start class and resume after breaks. Take a 10-15 minute break at least every 1½ to 2 hours.
 - Maintain order in the classroom—remember that you are in charge.
 - Encourage students to follow along in the Student Manual.

- ◆ Avoid these teaching “don’ts.”
 - Don’t simply read the material. Instead, speak to the students, paraphrasing in your own words.
 - Don’t allow one or two students to dominate the class discussion. Try to get all to participate.
 - Don’t allow yourself to get off schedule. Otherwise, you will not be able to cover all of the material.
 - Avoid telling “war stories.” Instead, use concise descriptions of personal experience only to make important points.
 - Don’t use profanity or tell off-color jokes. You will lose respect as an instructor.
 - Avoid annoying or distracting mannerisms, such as jingling coins in your pocket or twirling a pointer.
 - Avoid using demonstrations by the instructor. Do this only when it is impossible or impractical for the students themselves to do the demonstrating.
 - Don’t let your cell phone interrupt your teaching. Return any calls you receive during breaks.

Preparing the Classroom

- ◆ Arrive at least a half hour prior to the start of the course.
- ◆ Confirm that the classroom is furnished with the following:
 - Appropriate lighting
 - Climate control (heat or air conditioner)
 - Ample space, free of barriers and obstructions
 - Adequate seating for all students
 - Clean, working restrooms
 - Clean drinking water
 - Telephone, in case of an emergency
 - First-aid kit (optional)
- ◆ Develop an emergency evacuation plan for each facility you use.
- ◆ Set up the following:
 - Computer(s) with PowerPoint presentation and/or *Boat America* classroom video
 - Flip chart with markers
 - Overhead projector
 - Table with relevant demonstration items or equipment
- ◆ Distribute manuals, certificate applications, and other materials.

Beginning the Class

- ◆ Introduce yourself and your team of instructors.
- ◆ Welcome everyone.
- ◆ Thank the host club, organization, agency, or facility.
- ◆ Offer help for those with special needs.
- ◆ Review the schedule, including breaks, and the location of the restroom facilities.
- ◆ Explain that there is no smoking during the class and how smokers may be accommodated during breaks.
- ◆ Check for proper paperwork (if necessary).
- ◆ Describe any exams or other paperwork that are to be completed at the end of the course.
- ◆ If the class is small enough, ask the students to introduce themselves and tell briefly what they hope to learn from the class.
- ◆ Mention some of the props around the room that you will be referring to during the class.
- ◆ Introduce the next speaker and lesson topic.

The Basic Boating Safety Course Class Plan

This recommended eight-hour Class Plan assumes you are teaching the course in one full day, starting class between 8 a.m. and 9 a.m. with an hour lunch break midday. If instead you are teaching this in two sessions, follow the plan on this page for the first session and the plan on the next page for the second session. This plan also assumes you are using the *Boat America* classroom video.

Start Time	Duration	Key Topics	Instructor's Notes
0:00	15 min	Kick Off <ul style="list-style-type: none"> ◆ Class logistics ◆ Course introduction 	
0:15	25 min	Lesson One: Know Your Boat <ul style="list-style-type: none"> ◆ Vessel parts—terms and definitions ◆ Hull types and shapes ◆ Vessel lengths ◆ Types of engines and drives—outboards; inboards; stern drives; jet drives ◆ PWCs ◆ Sailboats 	
0:40	35 min	Lesson Two: Before You Get Underway <ul style="list-style-type: none"> ◆ Vessel's capacity—load and horsepower ◆ Float plans ◆ Fueling a vessel/PWC and fuel selector switch ◆ Trailering ◆ Vessel and engine maintenance 	
1:15	15 min	BREAK	
1:30	1 hr 40 min	Lesson Three: Operating Your Boat ... Safely <ul style="list-style-type: none"> ◆ Docking ◆ Navigation rules when encountering other vessels ◆ Types of navigation lights ◆ Encountering other vessels at night ◆ Sound signals ◆ U.S. Aids to Navigation System ◆ Anchoring ◆ Local hazards—low-head dams; bridges; sandbars; changing water levels and tidal currents; locks ◆ PWC operation—steering and stopping; courtesy; other considerations; reboarding ◆ Ignition safety switches ◆ Avoiding propeller strike injuries 	
3:10	1 hr	BREAK FOR LUNCH	

Start Time	Duration	Key Topics	Instructor's Notes
4:10	1 hr 20 min	Lesson Four: The Legal Requirements of Boating <ul style="list-style-type: none"> ◆ Vessel numbering and documentation—registration, HIN ◆ Age requirements for vessel and PWC operation ◆ Unlawful operation ◆ Obstructing navigation and homeland security ◆ Alcohol and drug laws ◆ Personal flotation devices (life jackets) ◆ Fire extinguishers ◆ Backfire flame arrestors, ventilation systems, and mufflers ◆ Required navigation lights ◆ Visual distress signals and sound-producing devices ◆ PWC laws ◆ Laws related to towing person(s) on skis or other devices ◆ Other equipment and regulations—diver-down flags, etc. ◆ Waste, trash, and hazardous substance disposal, including protection of the environment and aquatic nuisance species ◆ Reporting accidents ◆ Enforcement of laws 	
5:30	15 min	BREAK	
5:45	35 min	Lesson Five: Boating Emergencies ... What To Do <ul style="list-style-type: none"> ◆ Risk management—rules for PFDs; inflatable life jackets ◆ Boating accidents—capsizing, swamping, or falling overboard; alcohol; running aground; fires ◆ Cold water immersion and hypothermia ◆ Carbon monoxide poisoning ◆ Weather emergencies and summoning help ◆ First-aid kit 	
6:20	25 min	Lesson Six: Enjoying Water Sports With Your Boat <ul style="list-style-type: none"> ◆ Responsibilities of operator—to passengers; to others using the waterways ◆ Paddlesports—canoes, kayaks, and rafts; paddling instruction ◆ Water-skiing and wakeboarding ◆ Fishing and hunting 	
6:45	15 min	BREAK	
7:00	1 hr	Wrap Up <ul style="list-style-type: none"> ◆ Certification exam ◆ Instructor/class evaluation ◆ Review of exam questions and correct answers with class 	
8:00		Conclude Class	

Objectives
The students
should be able to...

- ◆ Identify the basic parts of a boat, a PWC, and a sailboat.
- ◆ Identify the different types of hulls and their performance characteristics.
- ◆ Identify the different types of engines and drives commonly found in recreational vessels.

Suggested Props:

- ◆ *Boat America* classroom video (4 minutes)
- ◆ Drawings or photographs of recreational boats
- ◆ Toy boats with round, flat, and vee bottoms
- ◆ Clear container filled with water
- ◆ Drawings or photographs of PWCs
- ◆ Drawings or photographs of sailboats
- ◆ List with contact information for boating resources in your state or area
- ◆ Copy of the Chapter Review Exercises from pages 40-42 of this Teaching Guide for each student



The Many Parts of a Boat

Topic: Every boat operator should know the terms for the different parts of a boat.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation beginning with the illustration of the boat with the names of the parts deleted.
- ◆ As the name for each part is displayed on the screen, explain what it is using the information from the Student Manual.
 - Red and green sidelights
 - Bow
 - Hull
 - Gunwale
 - Starboard
 - Cleat
 - Propeller
 - Stern
 - All-round white light
 - Port
 - Beam
 - Freeboard
 - Draft
 - Keel
- ◆ Show the “Boat Nautical Terms” segment from the classroom video.
- ◆ If you have additional drawings or photographs of boats available, ask the students to name the parts on those vessels.



Types of Boat Hulls

Topic: Every boat operator should know the two types of boat hulls.

Suggested Method of Presentation:

◆ **Displacement Hulls:**

- Use the PowerPoint presentation to show a round-bottomed hull as you discuss displacement hulls.
- If you have a toy boat with a round-bottomed hull, put it in clear container of water to show how the water is displaced.

◆ **Planing Hulls:**

- Use the PowerPoint presentation to show:
 - A flat-bottomed and vee-bottomed hull shape
 - How a planing hull operates
- If you have a toy boat with a flat-bottomed hull and/or a vee-bottomed hull, put it in clear container of water. Move the boat through the water, and ask the students which mode the boat is in—displacement, plowing, or planing.
- ◆ To review the information:
 - Show the “Hull Types” segment from the classroom video.
 - Use drawings or photographs of recreational boats and ask the students to tell the hull shape and if it is a displacement hull or planing hull.



Length of a Vessel

Topic: The length of the vessel determines which equipment must be carried on board to comply with federal and state laws.

Suggested Method of Presentation:

- ◆ Using the PowerPoint presentation beginning with the illustrations of the boats with the lengths deleted, discuss how the length of a vessel is measured on outboard and inboard vessels.
 - Ask a student to come up and show how he/she thinks the length would be measured on an outboard boat. Then ask the class if they agree.
 - Ask another student to come up and show how he/she thinks the length would be measured on an inboard boat. Then ask the class if they agree.
 - Use the PowerPoint presentation and/or the “Boat Length” segment from the classroom video to show how the length is actually measured, and discuss which items would not be included in the measurement.
 - Use the toy boats from the section on “Types of Boat Hulls” to show how the length would be measured and which items would not be included.
- ◆ Use the PowerPoint presentation to explain how some states refer to vessel lengths as “classes.” Tell the students if your state uses Class A, 1, 2, and 3 to refer to vessels.



Types of Engines and Drives

Topic: Every boat operator should be familiar with the different types of engines and drives—outboards, inboards, stern drives, and jet drives.

Suggested Method of Presentation:

- ◆ **Outboards:** Use the PowerPoint presentation to show the illustration of an outboard as you discuss it.
- ◆ **Inboards:** Use the PowerPoint presentation to show the illustration of an inboard as you discuss it.
- ◆ **Stern Drives:** Use the PowerPoint presentation to show the illustration of an inboard as you discuss it.
- ◆ **Jet Drives:** Use the PowerPoint presentation to show:
 - The illustration of a jet drive on a PWC as you discuss how it works
 - The illustrations of an outboard and inboard jet drive as you compare them
- ◆ To review, show the “Motor Types” segment from the classroom video.



Personal Watercraft

Topic: Every operator should know the terms for the different parts of a PWC.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation beginning with the illustration of the PWC with the names of the parts deleted.
- ◆ As the name for each part is displayed on the screen, explain it.
 - Starboard
 - Steering control
 - Safety lanyard
 - Port
 - Stern
 - Bow
 - Draft
 - Jet pump intake grate
 - Drive shaft
 - Impeller
 - Steering nozzle
- ◆ For those parts that are the same as the boat, such as the bow and stern, ask the students to name the part.
- ◆ Show the “PWC Nautical Terms” segment from the classroom video.
- ◆ If you have additional drawings or photographs available, ask students to point out the parts on those PWCs.



Sailboats

Topic: Every operator should know the terms for the different parts of a sailboat.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation beginning with the illustration of the sailboat with the names of the parts deleted.
- ◆ As the name for each part is displayed on the screen, explain it.
 - Mast
 - Headsail (jib)
 - Hull
 - Keel
 - Rudder
 - Boom
 - Sheets
 - Mainsail
 - Halyards
- ◆ For those parts that are the same as the boat and/or PWC, such as the hull and keel, ask the students to name the part.
- ◆ If you have additional drawings or photographs available, ask students to point out the parts on those sailboats.

Boating Resources

Topic: Boat owners and operators can go to other sources for additional information on boating and sailing.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation to list other boating resources as you explain what additional information and/or classes they offer, including any hands-on classes.
- ◆ If your state or area has other organizations that offer hands-on classes or other materials, write the contact information on the board or pass out a list to the students.

Review

- ◆ Pass out the copies of the Chapter Review Exercises and give the students time to answer the Chapter 1 questions.
- ◆ Use the PowerPoint presentation to complete the Chapter 1 exercises (see next page).
 - Display each question.
 - Have a student answer the question.
 - Display the answer, and ask the students if they have any questions about the correct answer.

Review Questions

1. Which side of the vessel is the port side?
Answer: left
2. Which part of the vessel is the stern?
Answer: rear
3. What are the two basic types of vessel hulls?
Answer: displacement and planing
4. What are three basic hull shapes?
Answer: round bottom, flat bottom, and vee bottom
5. What are the four length classes of vessels?
Answer: less than 16 feet, 16 to less than 26 feet, 26 to less than 40 feet, and 40 to less than 65 feet
6. What are the four basic types of engines?
Answer: outboard, inboard, stern drive, and jet drive
7. What type of engine is an inboard?
Answer: automotive engine adapted for marine use
8. What type of engine does a PWC use?
Answer: inboard jet drive
9. Are personal watercraft subject to the laws and requirements of other vessels?
Answer: yes
10. What do you call a device that is used to pump water and force it through a steering nozzle at the rear of the vessel?
Answer: impeller

Summary

- ◆ Most powerboats and PWCs have planing hulls; most sailboats and cruisers have displacement hulls.
- ◆ A vessel's length dictates the equipment it must have to comply with federal and state law.
- ◆ There are four types of engines and drives—outboards, inboards, stern drives, and jet drives.
- ◆ PWCs must follow all boating laws.

Objectives

The students should be able to...

- ◆ Locate and describe the information on a vessel's capacity plate.
- ◆ File a proper float plan.
- ◆ Explain how to fuel a vessel safely.
- ◆ Explain how to launch a vessel from a trailer and retrieve it from the water safely and courteously.
- ◆ Give the basics of vessel and engine maintenance.

Suggested Props:

- ◆ *Boat America* classroom video (6 minutes)
- ◆ Illustrations or photographs of capacity plates
- ◆ Blank float plan for each student (use PowerPoint presentation to create)
- ◆ Boat windows and doors made from pieces of poster board
- ◆ Garden hose and short piece of PVC pipe
- ◆ Paper fan
- ◆ Vessel on a trailer
- ◆ Gear that might be loaded into a vessel, such as an ice chest, picnic basket, life jackets, boat fenders, etc.
- ◆ Non-phosphate detergent
- ◆ Vessel maintenance checklist (use PowerPoint presentation to create)
- ◆ Vessel owner's manual
- ◆ Engine maintenance checklist (use PowerPoint presentation to create)
- ◆ Copy of the Chapter Review Exercises from pages 40-42 of this Teaching Guide for each student



Your Boat's Capacity

Topic: Every operator needs to know the boat's capacity to avoid taking too many people or too much gear on board the boat. Overloaded boats may swamp or capsize more easily and are more difficult to control.

Suggested Method of Presentation:

- ◆ Show the sample capacity plate in the PowerPoint presentation.
 - Explain the information on it.
 - Explain that maximum weight includes the weight of the passengers, gear, and motors.
- ◆ Show the "Boat Capacity" segment from the classroom video.
- ◆ Show illustrations or photographs of other capacity plates. Ask the students to tell you the maximum number of people, maximum weight, and maximum horsepower rating.
- ◆ Use the rule-of-thumb formula and PowerPoint presentation to show how to calculate the capacity (number of people) for a vessel that is 18 feet long and 6 feet wide.



File a "Float Plan"

Topic: Vessel operators always should let someone know the plans for their outing.

Suggested Method of Presentation:

- ◆ Using the PowerPoint presentation and/or the "Float Plan" segment from the classroom video, list the basic information that should be left with a responsible person for a:
 - Short outing
 - Longer outing
- ◆ Pass out blank float plans like the sample in the PowerPoint presentation. Discuss the questions and why the answers are important.



Fuel Your Vessel ... Safely

Topic: To avoid serious accidents while fueling, vessel operators need to know the steps to follow to fuel safely.

Suggested Method of Presentation:

- ◆ As an introduction, show the “Fueling” segment from the classroom video.
- ◆ Set up a “boat” with passengers and an operator.
 - Set up rows of chairs in the classroom to resemble a boat. Add windows and doors made from poster board.
 - Select one student to be the operator and others to be the passengers. Have one passenger hold a fake cigarette.
- ◆ Have the operator demonstrate what to do before beginning to fuel the boat by following the steps in the PowerPoint presentation.
- ◆ Using a garden hose and piece of PVC pipe, have another student demonstrate how to hold the fuel hose while filling the tank by following the instructions in the PowerPoint presentation.
- ◆ With different students, have the operator demonstrate what to do after fueling the boat by following the steps in the PowerPoint presentation. Have a student wave a fan to simulate the exhaust blower.
- ◆ **Fuel Selector Switch on a PWC:** Use the PowerPoint presentation to discuss the settings on a PWC selector switch.



Trailing Your Vessel

Topic: Many recreational vessels are transported to the waterway on a boat trailer. Operators should know how to choose a trailer and towing vehicle, what to do before leaving home, how to drive when pulling a trailer, how to launch a vessel from a trailer, and how to retrieve a vessel.

Suggested Method of Presentation: If you have a vessel on a trailer with you, take the students outside as you present “Before Leaving Home,” “Launching Your Vessel from a Trailer,” and “Retrieving Your Vessel.” Otherwise, use the PowerPoint presentation to present the following information as you discuss it.

◆ **Choosing the Right Trailer and Vehicle:**

- Discuss how to select a trailer and towing vehicle.
 - Explain the items the trailer must be able to carry.
 - Tell the students that the weight of your 19-foot boat with engine, fuel, and gear is about 2600 lbs. and you can choose a trailer with a 2300-lb. or 3000-lb. capacity. Ask them which one you should get.
 - Explain the items the towing vehicle must be able to tow.
- Discuss the towing hitch.
 - Explain the ball hitch, coupler, and tongue weight.
 - Tell students that a boat trailer has a 2 3/16" coupler. Ask them which of the following sizes of ball hitch should be on the towing vehicle—2 1/4", 2 3/8", 2 5/16", or 2 1/2".

◆ **Before Leaving Home:**

- If you have a vessel on a trailer:
 - Show students different items (ice chest, picnic basket, life jackets, fenders, etc.). Ask them where to put each one and how to secure it in the boat.
 - Point out how the vessel is secured to the trailer, how the engine is secured, and how the safety chains are crisscrossed.
 - Point out the items to check on the towing vehicle and trailer. Turn the signal lights, taillights, and brake lights on and off. Have a student verify that they are working properly.
- If you do not have a vessel on a trailer:
 - Discuss how to secure the gear in the vessel, secure the vessel to the trailer, secure the engine, and crisscross the safety chains.
 - List the items to check on the towing vehicle and trailer. Explain how they need two people to check the lights—one to turn lights on and off and one to see if they go on and off.

◆ **On the Road With a Trailer:** List the precautions to take when towing a trailer.

◆ **Launching Your Vessel from a Trailer:**

- If you have a vessel on a trailer:
 - Demonstrate how you would prepare your boat for launching if you were at the waterway. Emphasize that you would complete all preparations before you pull onto the boat ramp.
 - Show the steps you would take after you back the trailer into the water. Point out the winch line but do not undo it.
- If you do not have a vessel on a trailer:
 - Discuss the steps you take to prepare your boat for launching. Emphasize that they must complete all preparations before they pull onto the boat ramp.
 - Explain what to do after you back the trailer into the water.

- ◆ **Retrieving Your Vessel:** Emphasize that they should never pull their vessel into the launch lane until the towing vehicle is on the ramp.
 - If you have a vessel on a trailer:
 - Show what you would do to get the vessel on the trailer and pull it out of the water.
 - Demonstrate how to remove and dispose of aquatic nuisance species, remove the drain plug, and secure your vessel and gear.
 - If you do not have a vessel on a trailer:
 - Explain how you would get the vessel on the trailer and pull it out of the water.
 - Play the animation to show how power loading a vessel can cause erosion.
 - List the steps to take to prepare the vessel for the drive home.
- ◆ To review, show the “Trailing” segment from the classroom video.



Vessel Maintenance

Topic: Maintaining a vessel properly will extend its life.

Suggested Method of Presentation:

- ◆ On a vessel, show how to perform a maintenance check on the boat. If a boat is not available, use the PowerPoint presentation to list the items that should be checked to keep the boat well-maintained. As you discuss keeping the hull clean, show the students an example of non-phosphate detergent (or provide names of some you have used).
- ◆ Pass out a vessel maintenance checklist for students to take with them.
- ◆ Show the vessel maintenance schedule that is included in the owner’s manual.



Engine Maintenance

Topic: Vessel operators should keep their vessel’s engine clean and tuned properly.

Suggested Method of Presentation:

- ◆ On a vessel, show how to perform a maintenance check on the engine. If a boat is not available, use the PowerPoint presentation to list the items that should be checked to keep the engine well-maintained.
- ◆ Pass out an engine maintenance checklist for students to take with them.
- ◆ Show the engine maintenance schedule that is included in the owner’s manual.

Review

- ◆ Give the students time to answer the Chapter Review Exercises for Chapter 2.
- ◆ Use the PowerPoint presentation to complete the Chapter 2 exercises (see next page).
 - Display each question.
 - Have a student answer the question.
 - Display the answer, and ask the students if they have any questions about the correct answer.

Review Questions

1. What information is displayed on the capacity plate of an outboard boat?
Answer: capacity in pounds or number of people, and maximum horsepower rating
2. Name four things that should be included on your float plan before you embark on an extended outing.
Answer: WHO is going, WHERE you are going, WHAT boat you are in, WHEN you are leaving and returning
3. What three things should you do while filling the fuel tank of your vessel?
Answer: keep the nozzle in contact with the tank opening, fill the tank slowly and avoid spilling fuel, and never fill to the top
4. What is “tongue weight”?
Answer: the amount of the loaded trailer’s weight that presses down on the towing hitch
5. How should two strong safety chains be secured to support the trailer’s coupler in case the hitch fails?
Answer: crisscrossed
6. Where should you prepare your vessel before launching it from the trailer?
Answer: well away from the boat ramp
7. Name three engine maintenance tips.
Answer: may include:
 - keep well tuned
 - check oil levels
 - change oil
 - check batteries
 - check for anything loose
 - use marine parts

Summary

- ◆ Don’t exceed the maximum carrying capacity or horsepower stated on your boat’s capacity plate.
- ◆ Turn on your boat’s power ventilation system for at least four minutes after fueling and before starting the engine. Use the “sniff test” after fueling a PWC before starting the engine.
- ◆ Before trailering a vessel, make sure the coupler is attached securely and crisscross the safety chains.
- ◆ When launching a vessel from a trailer, make sure the drain plug is in. After backing down the ramp, start the engine while the vessel is still on the trailer.
- ◆ Be considerate of other boaters when launching your vessel from the trailer and retrieving it from the water.

Objectives

The students should be able to...

- ◆ Dock a vessel in different wind or current conditions.
- ◆ Give the three basic navigation rules.
- ◆ Explain what to do when encountering another vessel.
- ◆ List the types of nighttime navigation lights and explain how to interpret them.
- ◆ Use and understand sound signals.
- ◆ Explain what to do when encountering the buoys and markers of the U.S. Aids to Navigation System.
- ◆ Anchor a vessel correctly.
- ◆ Explain what to do when encountering various hazards—low-head dams, bridges, sandbars, changing water levels, tidal currents, and locks.
- ◆ Operate a PWC safely and courteously.
- ◆ Explain how an ignition safety switch works.
- ◆ Explain how to avoid propeller strike injuries.

Suggested Props:

- ◆ *Boat America* classroom video (24 minutes)
- ◆ Toy boats and sailboats
- ◆ Strip of cardboard, paper, or poster board to use as a dock
- ◆ Combination red and green sidelights and all-round white light from a recreational vessel
- ◆ Drawings, photographs, or models of sailboats displaying:
 - Only a green light
 - Only a red light
 - A green light and a red light (no white light)
- ◆ Drawings, photographs, or models of power-driven vessels displaying:
 - A red light, a green light, and a white light
 - Only a white light
 - A green light and a white light
 - A red light and a white light
- ◆ Boat or bicycle horn and/or a whistle
- ◆ Pictures of various lateral and non-lateral markers found on waterways
- ◆ Marine chart (map) of a local waterway
- ◆ Anchor or pictures of anchors
- ◆ Decal that shows which way to roll a PWC upright
- ◆ Ignition safety switch lanyard
- ◆ Copy of the Chapter Review Exercises from pages 40-42 of this Teaching Guide for each student



Docking

Topic: Operators should know how to dock their vessel in different wind or current conditions.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation as you discuss the docking steps that apply to all situations.
- ◆ Use the animations in the PowerPoint presentation and/or the “Casting Off and Docking” segment from the classroom video to show how to dock, depending on the wind or current. Discuss what to do if:
 - There is no wind or current
 - The wind or current is toward the dock
 - The wind or current is away from the dock
- ◆ Using toy boats and a cardboard dock, have three different students demonstrate for the class how to dock a boat in each of the three different conditions.



Navigation Rules ... Traffic Laws of the Waterways

Topic: Operators must know the navigation rules in order to operate their vessel safely.

Suggested Method of Presentation: Use the PowerPoint presentation and/or the “Navigation Rules” segment from the classroom video to present the following information.

- ◆ Discuss the three basic rules of navigation:
 - Responsibility
 - Proper lookout
 - Safe speed
- ◆ **Key Navigation Terms:** Make sure the students know these key terms:
 - Vessel
 - Risk of collision
 - Underway
- ◆ **Rules of Responsibility:** Emphasize that all boaters are responsible for preventing collisions.
- ◆ **Navigation During Restricted Visibility:** Discuss what to do when visibility is restricted.
- ◆ **Encountering Other Vessels:**
 - Play the animations in the PowerPoint presentation using the “Start” option on the screen to show what operators should do when they encounter other vessels. Discuss what to do in the following situations.
 - Two power-driven vessels meet:
 - ◇ Head-on, including the definitions for “power-driven vessel,” “meeting head-on,” and “stand-on vessel”
 - ◇ On paths that cross, including the definitions for “paths that cross,” “give-way vessel,” “stand-on vessel,” and “early and substantial action”
 - ◇ When one vessel is overtaking the other, including the definition for “overtaking”
 - Two sailing vessels meet with the wind on:
 - ◇ The same side, including the definitions for “sailing vessel,” “windward vessel,” and “leeward vessel”
 - ◇ Different sides, reviewing the definitions for “give-way vessel” and “stand-on vessel”
 - A power-driven vessel and a sailing vessel meet:
 - ◇ Head-on, reviewing the definition for “meeting head-on” and asking which vessel is the stand-on vessel and which one is the give-way vessel
 - ◇ On paths that cross, reviewing the definition for “paths that cross” and asking which vessel is the stand-on vessel and which one is the give-way vessel
 - ◇ When one vessel is overtaking another, reviewing the definition for “overtaking” and asking which vessel is the stand-on vessel and which one is the give-way vessel
 - Set up toy boats and sailboats in various situations where they are meeting head-on, crossing paths, or overtaking. Have students move the toys to show what each vessel should do to avoid a collision.



Navigation Lights

Topic: There are four common navigation lights.

Suggested Method of Presentation:

- ◆ If you have samples of actual lights from a recreational vessel, show them to the students.
- ◆ Play the animation in the PowerPoint presentation as you discuss:
 - Sidelights
 - Sternlight
 - Masthead light
 - All-round white light
- ◆ **Typical Recreational Vessels’ Navigation Lights:** Use the PowerPoint presentation to show how the lights are displayed on different types of vessels and in different circumstances.



Night Navigation

Topic: Boats must use navigation lights at night or when visibility is restricted.

Suggested Method of Presentation:

- ◆ Play the animations in the PowerPoint presentation to show the light(s) an operator might see at night. Discuss what an operator should do at night when:
 - A power-driven vessel and a sailing vessel meet (green light only, red light only, and red and green lights)
 - Two power-driven vessels meet (red, green, and white lights; white light only; green and white lights; red and white lights)
- ◆ Show the students illustrations, photographs, or models of sailboats and power-driven vessels displaying various combinations of lights. Ask the students what they would do if they saw these lights while boating at night.
- ◆ To review the types of navigation lights and navigating at night, show the “Night Boating” segment from the classroom video.



Sound Signals

Topic: Sound signals give vessel operators a way to communicate with each other.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation to discuss the different sound signals that vessel operators should use. Tell the students what signals to use in these conditions:
 - Meeting or crossing the path of another boat
 - Overtaking another boat
 - Poor visibility
 - Danger
 - How to respond to show that they agree or disagree with a signal
- ◆ Demonstrate some of the common sound signals. If you have a whistle, you should blow it. If you have a horn, let the students give the signals. Cover the signals for changing direction, restricted visibility, and warning.
- ◆ To review:
 - Signal with a sound-producing device and ask students what it means *or* ...
 - Prepare slips of paper with a different situation when a sound signal might be used on each one (“I plan to leave you on my starboard side,” “I plan to pass you on my port side,” “I am a power-driven vessel and I am underway,” etc). Place them in a container. Have students pick one and then honk the horn to make the appropriate signal for the situation. Have the other students tell what the situation is.



U.S. Aids to Navigation Systems

Topic: The U.S. Aids to Navigation System uses buoys and other markers to guide vessels along some waterways.

- ◆ **Lateral Markers:** Operators should know the meaning of the buoys and other lateral markers that indicate the edges of safe water areas.

Suggested Method of Presentation:

- Use the PowerPoint presentation to show examples of the different types of lateral markers as you explain the meanings of the colors, numbers, and shapes:
 - Nun
 - Can
 - Lighted buoys
 - Square daymark
 - Triangular daymark
 - Explain the meaning of “red, right, returning.”
 - ◆ **Variations on the U.S. Aids to Navigation System:** Operators using the Intracoastal Waterway (ICW) and Western Rivers System should know the meaning of the lateral
- Suggested Method of Presentation:** Use the PowerPoint presentation to show examples of the different types of lateral markers used on the ICW and Western Rivers System.
- ICW markers with a yellow square or yellow triangle
 - Western Rivers System marker

- ◆ **Non-Lateral Markers:** Operators should know the meaning of non-lateral markers that they will see while boating.
 - ◆ **Suggested Method of Presentation:** Use the PowerPoint presentation to show examples of the different types of non-lateral markers as you discuss them.
 - Squares, diamonds, circles, and crossed diamonds
 - Safe water markers
 - Inland waters obstruction marker
 - Mooring buoys
- ◆ To summarize the U.S. Aids to Navigation System:
 - Play the animation in the PowerPoint presentation to show a marine chart with the various buoys and markers.
 - Show the “Navigation Aids” segment from the classroom video.
 - Show pictures of different lateral and non-lateral markers. For each one, ask the students what they would do if they saw that marker.



Anchoring

Topic: Anchors are used most often to “park” a boat while swimming or fishing or in an emergency situation.

Suggested Method of Presentation:

- ◆ Play the animation in the PowerPoint presentation as you discuss why anchors are important and how to:
 - Choose an anchor
 - Prepare an anchor before setting out
 - Anchor a boat – emphasize that you *never* anchor from the stern
 - Retrieve an anchor
- ◆ Show the students an actual anchor or pictures of anchors. For each one, ask them what type of anchor it is and with which type of boat you would use it.
- ◆ To review how to anchor a boat, show the “Anchoring” segment from the classroom video.



Local Hazards

Topic: Various hazards are found on waterways.

Suggested Method of Presentation:

- ◆ Using the PowerPoint presentation, list and explain the hazards that may be found on local waterways:
 - Low-head dams (play the animation)
 - Bridges
 - Sandbars
 - Changing water levels and tidal currents
 - Locks (play the animation)
- ◆ Show a marine chart of a local waterway to point out the hazards.



Operating a Personal Watercraft

Topic: PWC operators must follow all boating rules and regulations. They must know other information also.

Suggested Method of Presentation:

- ◆ **Steering and Stopping a PWC:** Using the PowerPoint presentation, explain how to steer and stop a PWC. Emphasize that you must always have power to steer a PWC.
- ◆ **Courtesy on the Water:** Using the PowerPoint presentation, discuss the rules of courteous operation of a PWC.
- ◆ **Other PWC Considerations:** Using the PowerPoint presentation, discuss:
 - Ways to prevent accidents
 - How to avoid overloading a PWC
 - What to do before allowing others to use your PWC (also show the “Sharing a PWC” segment from the classroom video)
- ◆ **Reboarding a Capsized PWC:**
 - Use the PowerPoint presentation to discuss the procedures for rolling a PWC upright and then reboarding it.
 - Show the students a decal that tells how to roll a PWC upright.
- ◆ To review steering and stopping, courtesy, and reboarding, show the “Operating a PWC” segment from the classroom video.



Ignition Safety Switches

Topic: The ignition safety switch shuts off the engine if the operator falls off the PWC or out of the powerboat.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation and/or the “Ignition Safety Switch” segment of the classroom video to discuss how an ignition safety switch and lanyard work.
- ◆ Show the students a lanyard. Demonstrate how to attach it to your wrist, clothing, or a life jacket.
- ◆ Play the “Circle of Death” animation in the PowerPoint presentation.



Avoiding Propeller Strike Injuries

Topic: Being struck by a propeller can cause severe injury or death.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation and/or the “Avoiding Propeller Strikes” segment of the classroom video to discuss how to help prevent propeller strike accidents.
- ◆ Use the PowerPoint presentation to discuss the different types of safety devices that can help reduce the risk of propeller strikes—guards, alternative propulsion, interlocks, and sensors.

Review

- ◆ Give the students time to answer the Chapter Review Exercises for Chapter 3.
- ◆ Use the PowerPoint presentation to complete the Chapter 3 exercises (see below).
 - Display each question.
 - Have a student answer the question.
 - Display the answer, and ask the students if they have any questions about the correct answer.

Review Questions

1. When docking in good weather, how should you approach the dock?
Answer: head into the wind or current—whichever is stronger
2. In encountering situations, what do you call the vessel that must take early and substantial action to stay well clear of the other vessel?
Answer: the give-way vessel
3. What must the stand-on vessel do?
Answer: keep the same speed and course, unless the give-way vessel does not take action
4. What should you do if you are driving a powerboat or PWC and meet another powerboat or PWC head-on?
Answer: keep to the right
5. If you are overtaking another vessel, are you the stand-on vessel?
Answer: no
6. If you see a red and a white light ahead when boating at night, should you maintain your course and speed?
Answer: no
7. If you see only a green light while boating at night, what type of vessel are you approaching and what must you do?
Answer: a sailing vessel and you must give way
8. What does the U.S. Aids to Navigation System use to guide vessels along some waterways?
Answer: buoys and markers
9. What phrase reminds you how to use lateral markers to help you navigate?
Answer: Red, Right, Returning
10. What does a solid green buoy with an odd number indicate?
Answer: the edge of the channel on a boater’s left side when entering from the open sea or heading upstream

11. What does a white buoy with an orange open diamond indicate?
Answer: danger
12. What does a white buoy with an orange crossed diamond indicate?
Answer: areas that are off-limits to vessels
13. How long should an anchor line be?
Answer: at least 7-10 times the depth of the water
14. Where on the vessel should you never anchor from to avoid making the vessel unstable?
Answer: the stern
15. To maintain steering control of a PWC, what must you never do?
Answer: allow the engine to return to idle or turn off
16. What happens if a PWC passes too closely behind other vessels?
Answer: It creates blind spots.
17. Where should PWC operators especially avoid making excessive noise?
Answer: near shore
18. What safety device shuts off the engine if the operator falls off the PWC or out of the powerboat?
Answer: ignition safety switch
19. How can a vessel operator avoid propeller strike accidents when passengers are boarding or disembarking a boat?
Answer: make sure the engine is turned off

Summary

- ◆ When docking a vessel, if possible approach the dock into the wind or current, whichever is stronger.
- ◆ Even though there are navigation rules for encountering another vessel, it is still the responsibility of both vessel operators to take action to avoid collision.
- ◆ Always give way if you see a red and a white light or a single red, green, or white light while boating at night.
- ◆ The “Red Right Returning” rule applies to buoys, lights, and daymarks.
- ◆ Regulatory markers indicate “Controlled,” “Exclusion,” or “Danger” areas and give information.
- ◆ Anchor from the bow, and make sure the length of the anchor line is 7-10 times the depth of the water.
- ◆ Avoid low-head dams—they can trap your vessel against the face of the dam.
- ◆ On PWC, if you turn off the engine or allow it to return to idle, you will lose all steering control.
- ◆ Always attach the lanyard of the ignition safety switch to your wrist or PFD.

Objectives
The students should be able to...

- ◆ Tell which vessels need to be registered and how to do so.
- ◆ Place certificate numbers and validation decals on a vessel correctly.
- ◆ Find the HIN on a vessel.
- ◆ Explain the age and education restrictions on vessel or PWC operation.
- ◆ List the reckless or negligent behaviors that should be avoided when operating a vessel.
- ◆ Explain the dangers of consuming alcohol or drugs while boating and the penalties for doing so.
- ◆ Identify the classifications and uses of personal flotation devices, and state the legal requirements.
- ◆ Tell the legal requirements for fire extinguishers, backfire flame arrestors, ventilation systems, and mufflers.
- ◆ Tell the legal requirements for navigation lights, visual distress signals, and sound-producing devices.
- ◆ List the legal requirements specific to PWCs.
- ◆ List the legal requirements for towing a person behind a vessel.
- ◆ Tell the requirements for other equipment such as diver-down flags or state-required equipment.
- ◆ Explain how to dispose of waste, trash, and oil properly and how to use MSDs properly.
- ◆ Tell when and how to report a boating accident.

Suggested Props:

- ◆ *Boat America* classroom video (13 minutes)
- ◆ Sample Certificate of Number (registration card)
- ◆ Sample validation decal or copy of a decal
- ◆ Handout with information on how to register a vessel in your state – be sure to include where to get a registration application (or the actual application), where to register a vessel, and current vessel registration fees (Note: This information usually can be found online or in your state's Boating Handbook.)
- ◆ Examples of different types of PFDs (life jackets)
- ◆ Type B-I fire extinguisher or a picture of a Type B-I fire extinguisher label
- ◆ Picture of a backfire flame arrestor
- ◆ Red and green sidelights
- ◆ All-around white light, and/or masthead light and sternlight
- ◆ Lantern or flashlight with a white light
- ◆ Non-pyrotechnic visual distress signals—electric light and orange flag
- ◆ Chart showing various combinations of visual distress signals that matches the PowerPoint presentation—this is to be completed by the students
- ◆ Blue-and-white Alfa flag and red-and-white divers flag
- ◆ Pictures of the aquatic nuisance species that may be found in your area
- ◆ Boating Accident Report form for each student
- ◆ Copy of the review questions from pages 40-42 of this Teaching Guide for each student


Your Vessel's Certificate of Number and Decal

Topic: Operators must have a Certificate of Number (registration card) and validation decal(s) to operate a vessel legally on public waters.

Suggested Method of Presentation:

- ◆ Show the “Boat Registration” segment from the classroom video.
- ◆ Show the students a Certificate of Number (registration card). Explain some of the information on it.
- ◆ Show the students a validation decal. Show them how to find the expiration date.
- ◆ On a flip chart or transparency, list the types of boats that do not require registration as you discuss each one.
- ◆ Pass out the handout on how to register a vessel. Explain:
 - How to obtain a Certificate of Number and validation decals.
 - That the registration card must be carried on board whenever the vessel is being operated.

- ◆ Discuss the requirements for displaying a registration number and validation decal.
- ◆ On a flip chart or transparency, draw the side of a boat. Ask a student to show where the registration number and decal should be displayed.



Other Facts About Titling and Registering Your Vessel

Topic: Operators need to know additional information that applies to vessel registration and titling.

Suggested Method of Presentation: Discuss how each of the following applies in your state:

- ◆ Whether or not a title is required for a vessel
- ◆ Whether or not a title is required for an outboard motor
- ◆ How long a Certificate of Number and decal are valid
- ◆ What to do if a vessel is transferred, destroyed, abandoned, lost, stolen, or recovered
- ◆ What to do if a Certificate of Number or validation decal is lost or destroyed
- ◆ What to do if the owner's address changes
- ◆ How to apply for a U.S. Coast Guard "Certificate of Documentation" for larger recreational vessels



Hull Identification Number

Topic: All vessels manufactured after 1972 are required to have a Hull Identification Number.

Suggested Method of Presentation:

- ◆ Using the PowerPoint presentation, show where the HIN is located and explain the 12- or 17-digit number.
- ◆ Show where the HIN is on the registration card.
- ◆ Tell the students that they should write down the HIN for their vessel and store it away from the boat.



Who May Operate a Vessel

Topic: Operators may have to meet age and education requirements to operate a boat and/or PWC.

Suggested Method of Presentation:

- ◆ Explain the requirements for boat and PWC operators in your state. Include information such as:
 - How old a person must be to operate a boat, PWC, or vessel with a specific horsepower
 - Which persons must take a boating safety education course
 - Which persons must have an adult on board the vessel
 - Whether or not operators must carry the boater education certificate on board
 - Whether or not anyone is exempt from the boating safety education course requirement
- ◆ Mention an age and ask what the requirements would be for that person to operate a:
 - Boat
 - PWC



Unlawful Operation of a Vessel

Topic: Negligent and reckless operation of a vessel is prohibited by law.

Suggested Method of Presentation:

- ◆ Using the PowerPoint presentation, give the definition of reckless operation.
- ◆ Show the "Negligent and Reckless Operation" segment from the classroom video.
- ◆ List examples of illegal operating practices in your state such as:
 - Operating recklessly which may include:
 - Weaving through congested traffic
 - Operating in swimming areas or other restricted areas
 - Jumping wakes close to another vessel
 - Swerving at the last moment to avoid collision
 - Chasing or harassing wildlife
 - Operating at an improper speed or distance, including the definition of "slow, no wake speed"
 - Overloading a vessel
 - Allowing passengers to sit in dangerous locations
 - Failing to carry the proper equipment on board



Obstructing Navigation

Topic: Vessel operators should know which operating practices would be illegal because they obstruct navigation.

Suggested Method of Presentation: Using the PowerPoint presentation, list the actions that are illegal because they obstruct other vessels on the waterway.



Homeland Security Restrictions

Topic: All recreational boaters have a role in keeping our waterways safe and secure.

Suggested Method of Presentation: Using the PowerPoint presentation and/or the “Homeland Security” segment from the classroom video, list the homeland security rules. Explain that these rules must be obeyed.



Alcohol and Drugs

Topic: Alcohol and drugs affect balance, vision, coordination, judgment, and reaction time.

Suggested Method of Presentation:

- ◆ Using the PowerPoint presentation, tell the students your state’s laws regarding alcohol and drugs. Topics may include:
 - How your state defines boating while intoxicated (BWI)
 - How your state determines if a person is intoxicated, including the blood alcohol concentration percentage
 - Your state’s BWI penalties
 - Implied consent to be tested
- ◆ Mention a few combinations of age and blood alcohol concentration percentage (such as 22 years old with a BAC of 0.10%). Ask students if your state would consider the person to be “under the influence.”



Personal Flotation Devices (Life Jackets)

Topic: All vessels must have at least one wearable, USCG–approved life jacket of the proper size for each person on board.

Suggested Method of Presentation:

- ◆ Using the PowerPoint presentation, give your state’s laws regarding PFDs. Topics may include:
 - What types must be carried on board, including which vessels must have a Type IV throwable device on board
 - Requirements for children
 - Requirements for persons on PWCs
 - Requirements for persons being towed behind a vessel
- ◆ **PFD Descriptions:** Show different types of PFDs or the pictures of the PFDs in the PowerPoint presentation.
 - Discuss the features of the PFDs.
 - Show where to find the USCG–approved label and any restrictions given.
 - Emphasize the importance of wearing life jackets.
- ◆ To review, show the “Personal Flotation Devices” segment from the classroom video.



Fire Extinguishers

Topic: Operators of certain vessels are required to carry one or more Type B, UCSG–approved fire extinguishers on board.

Suggested Method of Presentation:

- ◆ Show the “Fire Extinguishers” segment from the classroom video to emphasize the importance of having a fire extinguisher on board a vessel.
- ◆ Using the PowerPoint presentation, explain how fires are classified.
- ◆ Explain how fire extinguishers are identified. Show the students the letter and number identifiers on an actual fire extinguisher or on a picture of the label.
- ◆ On a flip chart or overhead projector, list which types of vessels are required to have one or more fire extinguishers on board.
- ◆ Using the PowerPoint presentation, discuss:
 - The chart that shows how to determine the type and quantity of fire extinguishers that are required
 - Where you should keep a fire extinguisher on a vessel
 - How to check that fire extinguishers are in good working condition



Backfire Flame Arrestors

Topic: To prevent the ignition of gasoline vapors if there is a backfire, all powerboats (except outboards) must have a backfire flame arrestor(s).

Suggested Method of Presentation:

- ◆ Show the students a picture of a backfire flame arrestor.
- ◆ Using the PowerPoint presentation, discuss the following information about backfire flame arrestors:
 - What they do and where they are located
 - Requirements
 - Maintenance



Ventilation Systems

Topic: Ventilation systems remove gas fumes to reduce the risk of life-threatening explosions.

Suggested Method of Presentation: Using the PowerPoint presentation, discuss natural and power ventilation systems.

- ◆ With the illustration in the PowerPoint presentation, explain how a natural ventilation system works.
- ◆ Explain when and how to use a power ventilation system.



Mufflers

Topic: Vessel operators may not hear sound signals or voices if the engine is not adequately muffled.

Suggested Method of Presentation: Using the PowerPoint presentation, discuss the muffling system requirements for your state. Topics may include:

- ◆ The type of muffling system that is required
- ◆ Noise level limits that apply
- ◆ Prohibited modifications such as cut-outs



Navigation Lights

Topic: Vessels must be equipped with proper navigation lights.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation and/or the “Navigation Lights” segment from the classroom video to explain when navigation lights must be used.
- ◆ Show the students the lights used on recreational vessels: red and green sidelights, all-around white light, masthead light, and sternlight.
- ◆ Ask the students to explain the lighting requirements for different types of vessels using the illustrations in the PowerPoint presentation. Include:
 - Power-driven vessels less than 39.4 feet long only
 - Power-driven vessels less than 65.6 feet long
 - Unpowered vessels less than 65.6 feet long
 - Unpowered vessels less than 23 feet long
 - All vessels when not underway
- ◆ Show how to display the light from a flashlight or lantern so that it is visible in all directions.



Visual Distress Signals

Topic: Vessel operators use visual distress signals to signal for help in an emergency.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation to:
 - Discuss the requirements for VDSs on federally controlled waters.
 - Explain which waters in your state are federally controlled.
- ◆ Explain the requirements for VDSs on state waters.
- ◆ Show the PowerPoint illustrations for the different types of VDSs as you explain the two types and tell whether each one is a day or night signal.
 - Pyrotechnic—orange smoke, red meteor, and red flare
 - Non-pyrotechnic—electric light and orange flag

- ◆ Demonstrate how non-pyrotechnic signals work. Show them how:
 - The electric light flashes the international SOS distress signal automatically
 - A boater waves the orange flag to signal for help
 - Boaters wave their arms to signal for help if they do not have other VDSs on board
- ◆ Pass out the chart and show the PowerPoint examples with various combinations of VDSs. Have the students fill in the chart as you ask them how each combination satisfies the requirements for day signals, night signals, or both.



Sound-Producing Devices

Topic: Sound-producing devices are essential when visibility is limited or when vessel operators need to signal other boaters.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation as you discuss:
 - When sound signals are used
 - The types of sound-producing devices
 - The requirements on federally controlled and state waters
- ◆ To review visual distress signals and sound-producing devices, show the “Signaling Devices” segment from the classroom video.



Requirements Specific to Personal Watercraft (PWCs)

Topic: PWC operators must follow all boating laws plus those laws that are specific to their vessel.

Suggested Method of Presentation: Use the PowerPoint presentation to discuss the PWC requirements for your state. Topics may include:

- ◆ Life jackets
- ◆ Lanyard-type ignition safety switch and/or self-circling feature
- ◆ Hours of operation
- ◆ Age restrictions
- ◆ Illegal operation, such as:
 - Jumping another vessel’s wake
 - Weaving through traffic
 - Operating above “slow, no wake speed” in certain areas
 - Chasing, harassing, or disturbing wildlife



Towing a Person Behind a Vessel

Topic: When towing a person on water skis or a similar device, vessel operators must follow all boating laws plus any additional laws that apply.

Suggested Method of Presentation: Use the PowerPoint presentation as you discuss your state’s requirements for towing a person behind a vessel. Topics may include:

- ◆ Life jackets
- ◆ Hours when towing is permitted
- ◆ Observer and/or wide-angle rearview mirror on board
- ◆ Illegal operation
- ◆ Skier-down flag



Other Equipment and Local Regulations

Topic: Vessel operators should know about any additional equipment requirements or regulations on state or local waterways.

Suggested Method of Presentation: Use the PowerPoint presentation as you discuss additional equipment requirements or regulations in your state. Topics may include:

- ◆ Diver-down flags
 - Show the two types of flags, and discuss when each must be used.
 - Explain the requirements for keeping a specific distance from a flag.
- ◆ Marine events (races, regattas, and tournaments)
- ◆ Trailers
- ◆ Local regulations



Discharge of Sewage and Waste

Topic: Recreational vessels with an installed toilet must have a marine sanitation device to prevent the illegal discharge of waste into federally controlled or state waters.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation to discuss:
 - The three types of MSDs
 - How a vessel's length determines the type that must be used
 - Requirement for U.S. Coast Guard certification
- ◆ Explain any additional requirements for your state.



Protection of the Environment

Topic: Introducing non-native species into a waterway can upset the ecosystem and hurt the environment.

Suggested Method of Presentation:

- ◆ Show pictures of the types of nuisance species found in your state, and explain why they are harmful.
- ◆ On a vessel, show what to do to prevent the spread aquatic nuisance species. If a boat is not available, use the PowerPoint presentation and/or the "Protecting the Environment" segment from the classroom video to explain how to prevent the spread of aquatic nuisance species.



Discharge of Trash

Topic: Dumping trash into state or federally controlled waters is illegal.

Suggested Method of Presentation: Use the PowerPoint presentation to:

- ◆ Tell the students that they are required by law to bring all of their trash back to shore to throw it away.
- ◆ Explain how litter can kill birds, fish, and marine mammals. For example, turtles and ducks can become tangled in discarded fishing line or plastic, six-pack rings.
- ◆ Discuss the garbage disposal placard.



Discharge of Oil and Other Hazardous Substances

Topic: Discharging oil, fuel, cleaning products, or other hazardous substances into any U.S. waters is illegal.

Suggested Method of Presentation: Use the PowerPoint presentation to:

- ◆ Tell the students that they can be fined for discharging hazardous substances into U.S. waters.
- ◆ Explain when it is illegal to dump oil into the bilge of a vessel.
- ◆ Explain how to store and dispose of oil waste.
- ◆ Describe what to do if a vessel discharges hazardous substances into the water.
 - Provide the contact information for the U.S. Coast Guard.
 - Provide the contact information for the state authorities.
- ◆ Discuss the oil discharge placard.



Waste Management Plan

Topic: Certain vessels are required to have a written Waste Management Plan.

Suggested Method of Presentation: Use the PowerPoint presentation to discuss:

- ◆ Which vessels must have a written Waste Management Plan
- ◆ Who is responsible for implementing the plan
- ◆ What instructions should be included in the plan



Boating Accidents and Casualties ... What the Law Requires You To Do

Topic: Vessel operators and owners must know the requirements for reporting accidents and rendering aid.

Suggested Method of Presentation:

- ◆ Show the “Rendering Aid and Boating Accidents” segment of the classroom video.
- ◆ Use the PowerPoint presentation to list an operator’s requirements for rendering aid. Also explain your state’s requirements regarding:
 - What types of accidents must be reported
 - When and where accidents must be reported
 - How accidents must be reported
- ◆ Pass out a copy of your state’s Boating Accident Report form. Discuss:
 - How to complete it
 - When and where it must be filed
 - How to get more copies



Enforcement

Topic: Vessel operators should know who enforces the boating laws and their requirements for compliance.

Suggested Method of Presentation: Use the PowerPoint presentation to:

- ◆ List the law enforcement officers who have the right to stop a vessel on state or federally controlled waters.
- ◆ Explain what boaters must do if they are signaled to stop.

Review

- ◆ Give the students time to answer the Chapter Review Exercises for Chapter 4.
- ◆ Use the PowerPoint presentation to complete the Chapter 4 exercises (see below).
 - Display each question.
 - Have a student answer the question.
 - Display the answer, and ask the students if they have any questions about the correct answer.

Review Questions

1. What number is marked on the transom and is unique to each vessel?
Answer: Hull Identification Number
2. Because it is considered reckless operation, where should you not allow passengers to ride while underway?
Answer: on the bow or gunwale
3. What activity is illegal if your blood alcohol concentration (BAC) is above the legal limit?
Answer: operating a vessel
4. What are three requirements for a PFD to be legal?
Answer: be U.S. Coast Guard–approved, in good condition, and readily accessible
5. Name the five types of PFDs.
Answer: offshore life jacket, near-shore vest, flotation aid, throwable device, and special-use device
6. In addition to a Type I, II, or III PFD, what type of PFD do most states require to be on board a vessel 16 feet in length or longer?
Answer: Type IV throwable device
7. What must all PWC operators, regardless of age, wear whenever they are underway?
Answer: life jacket
8. Where should a fire extinguisher be placed on a vessel?
Answer: in an area that is accessible
9. If your vessel has a power ventilation system, how long should you let it run before starting your engine?
Answer: at least four minutes

10. What navigation lights are required for an 18-foot powerboat?

Answer: red light on the left side, green light on the right side, and a white light

11. What must a 16-foot canoe away from dock after dark have on hand?

Answer: at least a flashlight or lantern

12. What are two visual distress signals (VDSs) that can be used at night?

Answer: may include:

- red flares
- red meteors
- electric light

13. If an observer is on board when pulling a skier behind a vessel, how many people should the vessel be rated to carry?

Answer: at least three

14. May a water-skier(s) be towed at night with proper lighting?

Answer: No

15. What does a divers flag look like?

Answer: red flag with a white diagonal stripe

16. In addition to a displayed diver-down flag, what indicates that a diver may be below the water's surface?

Answer: bubbles

17. What is illegal to discharge into federally controlled or state waters?

Answer: waste, trash, or hazardous substances

18. When are you required to report a boating accident?

Answer: if the accident results in death, serious injury, or significant property damage

Summary

- ◆ Always have your certificate of number (registration) on board.
- ◆ Reckless operating practices, such as excessive speed, are not only dangerous but are also illegal.
- ◆ Operating a vessel while intoxicated is illegal and dangerous.
- ◆ All PFDs must be U.S. Coast Guard–approved, in good condition, the proper size for the intended wearer, and readily accessible.
- ◆ All vessels must have at least one Type I, II, or III (or, in some states, also a Type V) PFD for each person on board.
- ◆ Most vessels are required to have a Type B fire extinguisher(s) on board.
- ◆ Vessels operated between sunset and sunrise must have and use the specified navigation lights.
- ◆ Vessels also are required to have a sound-producing device.
- ◆ Each person riding on a PWC must wear a PFD.
- ◆ It is illegal to operate a PWC or tow a skier after dark.
- ◆ It is illegal to discharge waste, trash, or hazardous substances into federally controlled or state waters.
- ◆ You are required to report serious boating accidents.

Objectives

The students should be able to...

- ◆ Find the PFD that is the proper size for the wearer and check a PFD's condition.
- ◆ Explain how to handle situations involving capsizing, swamping, or falling overboard.
- ◆ Explain the increased effects of alcohol on the body when on the water.
- ◆ Take the proper steps if a vessel runs aground.
- ◆ Respond properly to a fire emergency.
- ◆ Explain the danger and stages of cold water immersion and what to do to survive.
 - ◆ Recognize the symptoms of carbon monoxide poisoning and explain how to prevent it.
 - ◆ Obtain weather forecasts, recognize weather warnings, and explain what to do if caught in severe weather.
 - ◆ Summon help quickly if a serious boating emergency occurs.
 - ◆ List items to include in a first-aid kit.

Suggested Props:

- ◆ *Boat America* classroom video (9 minutes)
- ◆ Top down view of the inside of a boat or a model of a boat
- ◆ Life jackets that are different sizes
- ◆ One or more life jackets that are not in good condition
- ◆ Inflatable life jacket
- ◆ Oar
- ◆ Cooler (ice chest)
- ◆ Fire extinguisher
- ◆ Model of a fire made from paper
- ◆ Bowl of ice water
- ◆ Portable radio (a weather radio, if possible)
- ◆ VHF marine radio
- ◆ Emergency position indicating radio beacon (EPIRB)
- ◆ Personal locator beacon (PLB)
- ◆ Sample script to show how to issue a MAYDAY call
- ◆ List of places to take a first-aid and/or CPR course
- ◆ First-aid kit
- ◆ Copy of the Chapter Review Exercises from pages 40-42 of this Teaching Guide for each student



Minimize Risk of Drownings—Wear Life Jackets

Topic: Boaters should remember and follow the laws regarding life jackets.

Suggested Method of Presentation:

- ◆ Show the “Risk Management” segment from the classroom video.
- ◆ **Important Rules for PFDs:** Use the PowerPoint presentation to list each of the three rules as you discuss them.
 - *Readily Accessible:*
 - Show the “Wearing PFDs” segment from the classroom video.
 - Using a picture of the inside of a boat or a model of a boat, ask students to tell where they think life jackets would be readily accessible. Discuss why their choices are correct or incorrect.
 - Explain that a better choice is to wear a life jacket at all times.
 - *Proper Size:* Have students try on life jackets to determine whether the jackets fit properly.
 - *Good and Serviceable Condition:*
 - Show at least one life jacket that is not in good condition, and discuss what's wrong with it.
 - Explain additional ways to make sure life jackets are in good condition.
- ◆ **Inflatable Life Jackets:** Show the students an inflatable life jacket, and use the PowerPoint presentation to discuss this type of PFD.



Boating Accidents

Topic: Operators should know how to handle boating accidents involving capsizing, swamping, falling overboard, running aground, and catching on fire. They also should know why it is important to avoid alcohol.

Suggested Method of Presentation:

- ◆ **Capsizing, Swamping, or Falling Overboard:** Use the PowerPoint presentation as you discuss:
 - How to prevent and prepare for capsizing, swamping, or falling overboard (also show the “Capsizing, Swamping, or Falling Overboard” segment from the classroom video)
 - What to do if you capsize, swamp, or fall overboard—show the students various items, including an oar and a cooler, and discuss which ones someone in the water could hold onto for support
 - What to do if someone on your boat falls overboard
- ◆ **Avoiding Alcohol:** Use the PowerPoint presentation and/or the “Alcohol” segment from the classroom video as you discuss the reasons why it is important to avoid drinking while boating.
- ◆ **Running Aground:** Use the PowerPoint presentation as you discuss:
 - How to prevent running aground
 - What to do if you run aground
- ◆ **Dealing With Fire Emergencies:**
 - Use the PowerPoint presentation as you discuss:
 - How to prevent a fire
 - What to do if a fire starts while a boat is underway (also show the “Fire Emergencies” segment from the classroom video)
 - Have a student demonstrate how to use a fire extinguisher, but don't let them actually pull the pin or squeeze the handle.



Cold Water Immersion and Hypothermia

Topic: Boaters should know the risks from cold water immersion, including death, that occur when a vessel capsizes or someone falls overboard.

Suggested Method of Presentation:

- ◆ Have a student place one hand in a bowl of ice water for about 30 seconds and then try to pick up a pencil or book with that hand.
- ◆ Use the PowerPoint presentation as you list and explain the four stages of cold water immersion.
 - Stage 1: initial “cold shock”
 - Stage 2: short-term “swim failure”
 - Stage 3: long-term immersion hypothermia
 - Stage 4: post-immersion collapse
- ◆ Using the PowerPoint presentation, explain how boaters can protect themselves from cold water immersion.
- ◆ Use the PowerPoint presentation to list the steps a person should take if he or she falls into cold water.
- ◆ Using the PowerPoint illustrations as examples, have students demonstrate the positions to use to reduce heat loss while in the water.
 - One person (H.E.L.P.)
 - Two or more people
- ◆ To review, show the “Cold Water Immersion” segment from the classroom video.



Carbon Monoxide Poisoning

Topic: Carbon monoxide is an invisible, odorless, tasteless gas that can make you sick in seconds and even kill you.

Suggested Method of Presentation:

- ◆ Show the “Carbon Monoxide Poisoning” segment from the classroom video.
- ◆ Use the PowerPoint presentation as you discuss:
 - The symptoms and treatment of CO poisoning
 - How to prevent CO poisoning while boating
 - Steps to take before each outing, monthly, and annually to prevent CO poisoning
 - CO poisoning situations



Weather Emergencies

Topic: Weather can change very rapidly and create unexpected emergencies for vessel operators.

Suggested Method of Presentation:

◆ **How To Avoid Severe Weather:**

- Use the PowerPoint presentation to list the ways to watch out for and avoid bad weather as you discuss each one.
- If you have a portable or weather radio, show it to the students and tune into a weather forecast for your area.
 - Discuss the forecast and whether or not boating would be safe in the current conditions.
 - Share any guidelines you use to decide when it is safe to go boating.

◆ **What To Do If Severe Weather Strikes:** Use the PowerPoint presentation and/or the “Severe Weather” segment from the classroom video to discuss the steps operators should take if severe weather occurs while out on the water.



Summoning Help

Topic: Having various items on board a vessel can help operators get help quickly if an emergency happens.

Suggested Method of Presentation:

- ◆ With the PowerPoint presentation, list the items that can be used to get help quickly as you discuss each one. Show examples of any of these items that you have:
 - Visual distress signals
 - VHF marine radio
 - EPIRB
 - PLB
- ◆ Use the PowerPoint presentation to explain how to issue a MAYDAY call.
- ◆ Have two students come up and role-play issuing a MAYDAY call using the script you provide. (Be sure to give them the vessel’s name and call letters, the location, the type of emergency, etc.)



First-Aid Kit

Topic: Knowing first aid and CPR and having a first-aid kit on board enable a vessel operator to respond quickly in an emergency.

Suggested Method of Presentation:

- ◆ Pass out a list of local classes where the student can learn basic first aid and CPR.
- ◆ Use the PowerPoint presentation to discuss why learning first aid and CPR is important.
- ◆ Show the students some of the items that should be included in a first-aid kit that is kept on board a vessel.

Review

- ◆ Give the students time to answer the Chapter Review Exercises for Chapter 5.
- ◆ Use the PowerPoint presentation to answer the Chapter 5 exercises (see below).
 - Display each question.
 - Have a student answer the question.
 - Display the answer, and ask the students if they have any questions about the correct answer.

Review Questions

1. What is true about drowning victims in a typical boating fatality?
Answer: They are not wearing a life jacket.
2. If you capsize, should you immediately swim to shore to ensure your safety?
Answer: no
3. Name three boating stressors that make you tire more rapidly when on the water.
Answer:
 - glare and heat of the sun
 - motion from the wind and waves
 - noise and vibration of the engine

4. How much of the amount of alcohol that makes a person legally intoxicated on land does it take to make a boater equally intoxicated on the water?
Answer: one-third
5. What increases the likelihood of accidents?
Answer: drinking alcohol while boating
6. What are four things you should do if a fire starts on your vessel while underway?
Answer:
- Stop the boat.
 - Keep the fire downwind.
 - Shut off the fuel supply.
 - Aim the extinguisher at the base of the flames.
7. What is the condition that occurs when the body's core temperature drops?
Answer: hypothermia
8. What is the primary danger that occurs immediately upon being immersed in cold water?
Answer: involuntary gasping, resulting in water inhalation and drowning
9. If you are trapped in cold water, what do the letters "HELP" stand for?
Answer: Heat Escape Lessening Posture
10. Name four symptoms of carbon monoxide poisoning.
Answer: may include:
- irritated eyes
 - headache
 - nausea
 - weakness
 - dizziness
11. If severe weather strikes, what should you do if you can do so safely?
Answer: head for the nearest shoreline

Summary

- ◆ Nearly all accidents are preventable if you learn to recognize the warning signs, stay sober, and wear PFDs.
- ◆ If your boat capsizes, stay with the boat.
- ◆ One-third of the amount of alcohol that it takes to make a person legally intoxicated on land can make a boater equally intoxicated.
- ◆ Cold water immersion can kill, and it is critical that you know how to prevent it by reducing the likelihood of capsizing as well as how to respond if the vessel does capsize.
- ◆ Carbon monoxide is an odorless, tasteless gas that can make you sick in seconds, and it is important to know how to recognize signs of carbon monoxide poisoning as well as how to prevent it by keeping fresh air on the boat.
- ◆ Be alert to changing weather conditions, and head for shore if a thunderstorm is approaching.

Objectives
The students should be able to...

- ◆ Explain a vessel operator's responsibility to his or her passengers.
- ◆ Explain a vessel operator's responsibility to others using the waterways.
- ◆ List the guidelines for paddling safely.
- ◆ Properly tow a skier and recognize skier hand signals.
- ◆ Explain how to fish or hunt safely from a boat.

Suggested Props:

- ◆ *Boat America* classroom video (5 minutes)
- ◆ Pre-departure checklist for each student (use page 45 of the Student Manual to create this)
- ◆ Life jacket
- ◆ Box
- ◆ List of places that offer a hands-on paddling course
- ◆ Slips of paper with a different skier hand signal written on each one
- ◆ Water ski (or an item, such as a yardstick, that can substitute for a water ski)
- ◆ Copy of the Chapter Review Exercises from pages 40-42 of this Teaching Guide for each student


Responsibilities of a Vessel Operator

Topic: Vessel operators have responsibilities to their passengers and to others using the waterways.

Suggested Method of Presentation:
◆ Responsibility to Your Passengers:

- Using the PowerPoint presentation, list the items that should be on a pre-departure checklist as you discuss each one.
- Pass out checklists for the students to take with them.
- Pretend that you are taking the students on an outing. Using the questions in the PowerPoint presentation, go over the information that they need to know:
 - Before casting off
 - When conducting an emergency drill
 - Before letting another person operate their boat or PWC

◆ **How To Put on a Life Jacket:** Have a student follow the steps in the PowerPoint presentation to demonstrate how to put on life jacket.

◆ **Responsibility to Others Using the Waterways:** Use the PowerPoint presentation as you discuss how to share the public waterways with others.


Paddlesports—Canoes, Kayaks, and Rafts

Topic: Paddlers must follow safe boating practices and be aware of hazards that are unique to paddlesports.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation to list the safe paddling guidelines as you discuss each one.
- ◆ Using the box to represent a paddlecraft, have a student get in the box and demonstrate two different ways to keep three points of contact with the craft.
- ◆ **Increase Your Safety and Fun With Paddling Instruction:** Pass out a list of hands-on paddling courses that are available in your area, and list the topics that may be included in a hands-on course.


Water-Skiing and Wakeboarding

Topic: Operators who are towing a person on water skis, an inner tube, a wakeboard, or another similar device should follow certain safety guidelines.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation and/or the "Water-skiing and Wakeboarding" segment from the classroom video to present the guidelines for towing a person safely as you discuss each one.

- ◆ Play the animation in the PowerPoint presentation to show why it is dangerous to tow someone incorrectly.
- ◆ To practice the hand signals for skiers:
 - Have different students draw a slip of paper and then demonstrate the hand signal written on the paper *or* ...
 - Do the different hand signals—stop, speed up, slow down, etc.—as a group as you display each one on the PowerPoint presentation.



Fishing and Hunting

Topic: Anyone using a vessel to fish or hunt must obey all boating laws and should follow all safe boating practices.

Suggested Method of Presentation:

- ◆ Use the PowerPoint presentation as you discuss safety practices that are important for anglers and hunters using a vessel.
- ◆ With the PowerPoint presentation, discuss the risks of fishing or hunting from a vessel in cold weather and the precautions to take to avoid hypothermia.
- ◆ To review, show the “Hunting” and “Fishing” segments from the classroom video.

Review

- ◆ Give the students time to answer the Chapter Review Exercises for Chapter 6.
- ◆ Use the PowerPoint presentation to answer the Chapter 6 exercises (see below).
 - Display each question.
 - Have a student answer the question.
 - Display the answer, and ask the students if they have any questions about the correct answer.

Review Questions

1. As the operator of a vessel, what are you responsible for ensuring that your passengers understand?
Answer: basic safety practices
2. To make sure everyone knows what to do in an emergency, what should you do with your passengers?
Answer: conduct emergency drills
3. What are three river hazards that paddlers should avoid?
Answer: low-head dams, rapids, and strainers
4. If you capsize in a canoe, kayak, or raft, on which side of the craft should you stay?
Answer: upstream
5. Where should you keep a fallen skier while you are picking him/her up?
Answer: in view and on the operator’s side of the boat
6. Demonstrate the following hand signals for skiers:
 - Skier down
 - Speed OK
 - Slow down
 - Stop
7. What should hunters in vessels always wear?
Answer: life jackets (PFDs)

Summary

- ◆ As an operator of a vessel, you have responsibilities to your passengers and to others using the waterways.
- ◆ Wear a life jacket (PFD) when involved in any sport or activity on or near the water.
- ◆ If you fall in the water while on a river in a paddlecraft, float on your back with your feet pointed downstream.
- ◆ Always shut off the engine before dropping off or picking up a skier.

Chapter Review Questions

Chapter 1

- The port side of a vessel is the _____ side.
- The stern of a vessel is the _____ of the vessel.
- Basic types of vessel hulls can be described as _____.
 - moving and non-moving.
 - displacement and planing.
 - rough and smooth.
 - narrow and wide.
- Name three basic hull shapes.
 - _____
 - _____
 - _____
- What are the four length classes of vessels?
 - _____
 - _____
 - _____
 - _____
- List the four basic types of engines.
 - _____
 - _____
 - _____
 - _____
- Inboard engines are _____.
 - marinized outboard engines.
 - specially designed and built engines.
 - automotive engines adapted for marine use.
 - jet drive engines.
- A personal watercraft uses an _____ jet drive.
- Personal watercraft are not subject to the laws and requirements of other vessels.
 True False
- An _____ is a device used to pump water and force it through a steering nozzle at the rear of the vessel.

Chapter 2

- What information is displayed on the capacity plate of an outboard boat?
 - _____
 - _____

- List four things that should be included on your float plan before you embark on an extended outing.
 - _____
 - _____
 - _____
 - _____
- Name three things that you should do while filling the fuel tank of your vessel.
 - _____
 - _____
 - _____
- “Tongue weight” is the amount of the loaded trailer’s weight that _____.
- Two strong safety chains should be _____ to support the trailer’s coupler in case the hitch fails.
- Where should you prepare your vessel before launching it from the trailer?

- Name three engine maintenance tips.
 - _____
 - _____
 - _____

Chapter 3

- When docking in good weather, approach the dock by heading into the wind or current—whichever is _____.
- The _____ must take early and substantial action to stay well clear of the other vessel.
- The stand-on vessel must _____, unless _____.
- If you are driving a powerboat or PWC and meet another powerboat or PWC head-on, you should keep to the _____.
- If you are overtaking another vessel, you are the stand-on vessel.
 True False
- If you see a red and a white light ahead when boating at night, you should maintain course and speed.
 True False

7. If you see only a green light while boating at night, you may be approaching a _____ and you must _____.



8. The U.S. Aids to Navigation System uses _____ to guide vessels along some waterways.

9. The phrase “R_____, R_____, R_____” reminds you how to use lateral markers to help you navigate.

10. This buoy marks the edge of the channel on a boater’s _____ side when entering from the open sea or heading upstream.



11. This regulatory marker indicates _____.



12. This regulatory marker indicates areas that are _____ to vessels.

13. The anchor line should be at least _____ times the depth of the water.

14. You should never anchor from the _____ of the vessel as that can make the vessel unstable.

15. To maintain steering control of a PWC, you must never allow the engine to _____ or _____.

16. When riding a PWC, passing too closely behind other vessels creates _____.

17. PWC operators should avoid making excessive noise, especially near _____.

18. Name a safety device that shuts the engine off if the operator falls off the PWC or out of the powerboat.

19. To avoid propeller strike accidents, make sure _____ when passengers are boarding or disembarking a boat.

Chapter 4

1. The _____ is a number marked on the transom and is unique to your vessel.

2. Allowing passengers to ride on the _____ or _____ while underway is reckless operation.

3. If your blood alcohol concentration (BAC) is above the legal limit, it is illegal to _____ a vessel.

4. In order for a PFD to be legal, it must be _____-approved, in _____ condition, and _____ accessible.

5. Name the five types of PFDs.

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

6. These Type _____ PFDs are _____ devices, and most states require at least one of these to be on board vessels 16 feet in length or longer.



7. PWC operators, no matter what age, must wear an approved _____ whenever underway.

8. Fire extinguishers should be placed in an area that is _____.

9. If your vessel has a power ventilation system, you should let it run for at least _____ minutes before starting the engine.

10. For an 18-foot powerboat, required navigation lights include a red light on the _____, a green light on the _____, and _____.

11. A 16-foot canoe away from dock after dark must have on hand at least a _____ or _____.

12. Name two visual distress signals (VDSs) for use at night.

- i. _____
- ii. _____

13. If an observer is on board when pulling a skier behind a vessel, the vessel should be rated to carry at least _____ people.

14. Water-skier(s) may be towed at night with proper lighting.
___ True ___ False

15. Describe the appearance of a divers flag.

16. In addition to a displayed diver-down flag, what indicates that a diver may be below the water’s surface?

17. It is illegal to discharge _____, _____, or _____ into federally controlled or state waters.

18. You must report any accident you are involved in if it results in _____, _____, or _____.

Chapter 5

1. In a typical boating fatality, drowning victims are _____.
2. If you capsize, immediately swim to shore to ensure your safety.
___ True ___ False
3. Name three boating stressors that make you tire more rapidly when on the water.
 - i. _____
 - ii. _____
 - iii. _____
4. One-_____ of the amount of alcohol that makes a person legally intoxicated on land can make a boater equally intoxicated on the water.
5. _____ increases the likelihood of accidents.
6. What are four things you should do if a fire starts on your vessel while underway?
 - i. _____
 - ii. _____
 - iii. _____
 - iv. _____
7. The condition called _____ occurs when the body's core temperature drops.
8. The primary danger that occurs immediately upon being immersed in cold water is _____.
9. The position you should assume if trapped in cold water, "HELP," stands for:
H - _____
E - _____
L - _____
P - _____

10. Name four symptoms of carbon monoxide poisoning.
 - i. _____
 - ii. _____
 - iii. _____
 - iv. _____
11. If severe weather strikes, you should head for _____ if you can do so safely.

Chapter 6

1. As the operator of a vessel, you are responsible for ensuring that your passengers understand _____.
2. To make sure everyone knows what to do in an emergency, you should conduct _____ with your passengers.
3. What are three river hazards that paddlers should avoid?
 - i. _____
 - ii. _____
 - iii. _____
4. If you capsize in a canoe, kayak, or raft, you should stay on the _____ side of the craft.
5. When picking up a skier, always keep them in view and on the _____ side of the boat.
6. Identify the following hand signals for skiers.
 - i.  _____
 - ii.  _____
 - iii.  _____
 - iv.  _____
7. Hunters who use vessels to get to their hunting spot should always wear their _____.

Answers to Chapter Review Questions

Chapter 1

- left
- rear
- b. displacement and planing.
- i. Round bottom
ii. Flat bottom
iii. Vee bottom
- i. Less than 16 feet
ii. 16 to less than 26 feet
iii. 26 to less than 40 feet
iv. 40 to less than 65 feet
- i. Outboard
ii. Inboard
iii. Stern drive
iv. Jet drive
- c. automotive engines adapted for marine use.
- inboard.
- False
- impeller

Chapter 2

- i. Capacity in pounds or number of people
ii. Maximum horsepower rating
- i. Who is going
ii. Where you are going
iii. What boat you are in
iv. When you are leaving and returning
- i. Keep the nozzle in contact with the tank opening
ii. Fill tank slowly and avoid spilling fuel
iii. Never fill to the top
- presses down on the towing hitch.
- crisscrossed
- Well away from the boat ramp
- Keep well tuned
 - Check oil levels
 - Change oil
 - Check batteries
 - Check for anything loose
 - Use marine parts

Chapter 3

- stronger.
- give-way vessel
- Keep the same speed and course, unless the give-way vessel does not take action.
- right.
- False
- False
- sailing vessel and you must give way.
- buoys and markers
- Red, Right, Returning
- left
- danger.
- off-limits
- 7-10
- stern
- return to idle or turn off.
- blind spots.
- shore
- Ignition safety switch
- the engine is turned off

Chapter 4

- Hull Identification Number
- bow or gunwale
- operate
- U.S. Coast Guard-approved, in good and serviceable condition, and readily accessible.
- i. Offshore life jacket
ii. Near-shore vest
iii. Flotation aid
iv. Throwable device
v. Special-use device
- Type IV PFDs are throwable devices
- life jacket
- accessible.
- four

- red light on the left, a green light on the right, and a white light.
- flashlight or lantern.
- Red flares
 - Red meteors
 - Electric light
- three
- False
- Red flag with white diagonal stripe
- Bubbles
- waste, trash, or hazardous substances
- death, serious injury, or significant property damage.

Chapter 5

- not wearing a life jacket.
- False
- i. Glare and heat of the sun
ii. Motion from the wind and waves
iii. Noise and vibration of the engine
- third
- Drinking alcohol while boating
- i. Stop the boat
ii. Keep fire downwind
iii. Shut off fuel supply
iv. Aim extinguisher at base of flames
- hypothermia
- involuntary gasping, resulting in water inhalation and drowning.
- Heat Escape Lessening Posture
- Irritated eyes
 - Headache
 - Nausea
 - Weakness
 - Dizziness
- the nearest shoreline

Chapter 6

- basic safety practices.
- emergency drills
- i. Low-head dams
ii. Rapids
iii. Strainers
- upstream
- operator's
- i. Skier down
ii. Speed OK
iii. Slow down
iv. Stop
- life jackets (PFDs).

