



# **BOATING & WATER SAFETY AWARENESS COURSE BWSA INSTRUCTOR'S MANUAL**



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# **SECTION I**

## **Program Information**

### **PENNSYLVANIA BOATING AND WATER SAFETY AWARENESS COURSE**

The Boating and Water Safety Awareness Course was developed to provide a framework for instructing boating and water safety. It is a minimum of eight-hours in length and includes classroom and in-water instruction. The course provides students with basic skills and information on boating and water activities, making them safer boaters and enhancing their enjoyment of aquatic sports. The course format has been adapted for use with a variety of audiences, including school students as part of an existing curriculum, scouts, boat clubs or sportsmen's organizations. The course outline follows a logical progression for instructors to follow when teaching the course.

This program targets middle to high school level students. It contains fundamental information that can be used by these young boaters. It is recommended that the students be able to swim, however, ALL students must wear a life jacket, a Personal Flotation Device (PFD) during ALL water activities.

The PA Fish & Boat Commission provides this course as part of our efforts to make boating in Pennsylvania a safe, as well as an enjoyable, experience. Instructors in boating safety education assist us to meet this goal. While all students taking this course will not master every skill, their exposure to the material and hands-on experiences will ultimately make them safer in, on, or around the water

To successfully complete the course the student must:

1. Attend all sessions of the course.
2. Pass the final examination with a 70% minimum grade (maximum of 15 incorrect answers).

After completing the course with a passing score on the final examination, students may apply for a Pennsylvania Boating Safety Education Certificate. The certificate will be issued to the student once the Commission receives the application and fee. This certification is recognized by other states that require a National Association of State Boating Law Administrators (NASBLA) approved course to operate a boat.

### **COURSE GOALS**

The goals of the program are to:

3. Promote boating and water safety education.
4. Involve students in proper procedures used in recreational boating.
5. Have students demonstrate a proficiency in water safety relative to the individual's capability.
6. Provide an introduction to unpowered boating.
7. Instruct students on basic rescue and safety.

### **COURSE DESIGN**

The Boating and Water Safety Awareness teaching outline contains nine, 40 to 50-minute lesson plans. Five lessons are for classroom settings and four lessons cover in-water activities. Each lesson provides the instructor with the following information:

- Topics of lesson/time requirements
- Goals
- Learning objectives

- Materials/equipment
- Possible extension activities or information
- Content/teaching methods
- Test Questions--information directly relating to questions on the course exam is indicated by a **bold TQ** at the end of a sentence or section.

## **COURSE SET-UP**

Teaching options--Instructors may choose to:

1. Teach all nine lessons--five classroom lessons and the four in-water lessons. The limiting factor that instructors have in teaching in-water lessons is a safe, accessible water site and enough instructors to safely monitor in-water activities. Refer to the Guidelines for In-water Lessons. Students completing all nine lessons and passing the final test are eligible to apply for their Boating Safety Education Certificate.
2. Teach only lessons One through Seven. Students completing these seven lessons and passing the final test are eligible to apply for their Boating Safety Education Certificate.
3. Teach only selected lessons (**NOT** eligible for a Boating Safety Education Certificate).
4. Teach lesson 8 and 9 for canoe based instruction, **OR** lessons 10 and 11 for kayak based instruction.

**Note:** To apply for a Pennsylvania Boating Safety Education Certificate, a student must complete lessons One through Seven and pass the final test with a 70% score or better.

**Instructors may teach the course in any time periods they wish. Classroom lessons should be taught in a formal learning atmosphere whenever possible (see SECTION II- Teaching Techniques).**

**The use of videos is an important part of this course.** Videos as outlined in the lesson plan must be used by the instructor(s) where indicated

**Location** – Facilities that may be utilized with proper scheduling include schools, recreation centers or camps. Instructors should develop a working relationship with the people at the facility where the course will be taught.

**Co-sponsors** – Having an educational organization co-sponsor the course is an excellent way to obtain a facility and program support. Before committing to a facility, visit the sites (classroom and water sites) and determine if they will meet the needs of the course. Instructors having problems locating an appropriate location should contact their Regional Outreach and Education Coordinator (ROEC) for assistance.

**Timing** – The course should be set up well in advance of the first class so course materials can be requested on a timely basis. A minimum of three weeks notice is recommended for requesting forms or publications. The Boating and Water Safety Awareness course can be taught in any month of the year if there is an indoor pool available. If no indoor pool is available, summer is generally the best time to hold a course due to water and air temperatures. Schedule a facility early to avoid conflicts.

## **CLASS SIZE AND TEAM TEACHING**

Class size should be between 10 and 30 students. Instructors who teach a large number of students in one course should have at least one co-instructor in the classroom to assist. **There must be at least two instructors, or an instructor and a trained safety person for the in-water sessions.**

–Trained” means a Commission BWSA instructor, Commission certification in Water Rescue or an American Red Cross certification in Life guarding or W.S.I.

Team teaching is strongly recommended for the Boating and Water Safety Awareness Course. Instructors should provide a variety of teaching methods to better hold the interest of students. By working as a team, instructors not actively teaching can deal with any problems that occur in the classroom. Additional instructors can remind the teaching instructor of any topics that he/she may have overlooked, and can provide additional information.

## **COURSE CONTENT**

The content of the BWSA Course includes discussion of most topics in the textbook, and video segments from the –Boat America” DVD for each section taught. Optional videos and publications can be an excellent source of supplemental information to classroom discussion; however, they should not be used to replace actual instruction. The PA Fish & Boat Commission’s Bureau of Policy, Planning & Communications must approve audio-visual aids used in classes in advance. The Bureau of Policy, Planning & Communications has a variety of publications available to use as teaching aids. Publications and audio-visual aids are only available upon written request (**forms attached**).

## **FORMS**

Commission forms are revised on a regular basis to keep up with program changes. Current versions of these forms are available on the Education page of the Commission website at [www.fishandboat.com](http://www.fishandboat.com).

## **EQUIPMENT**

Equipment available to **certified** instructors includes canoes, paddles, throw bags and personal flotation devices. These are available upon verbal or written request. Instructors are responsible for picking up and returning all equipment, damage done to the equipment, and replacement of lost or stolen equipment while in the instructor’s care. Equipment can only be used as part of a Commission course, **not for float trips**.

## **STUDENT REQUIREMENTS**

To be eligible to apply for a Boating Safety Education Certificate, the student must:

1. Attend at least the first seven lessons--five classroom lessons, and two in-water lessons.
2. Pass the final examination with a minimum grade of 70%. (maximum 15 incorrect answers)
3. Send a check or money order for \$10.00 with the application received at the end of the course to the Commission in the envelope attached to the application. Students sending applications to the Commission with no check or money order, a check or money order for any amount other than \$10.00, or an application that does not contain the instructor’s signature and instructor number will not receive a certificate.

**NOTE:** Students who do not attend all parts of the course, or who are disruptive in class, should be terminated at the earliest convenient time.

## **COURSE DOCUMENTATION**

1. Examination
  - a. The PA Boating & Water Safety Awareness Course examination consists of fifty multiple-choice questions and will be given at the end of the course (attached).

- b. All answers will be written on the Application for Boating Safety Certificate. (Available on written request – use the Requisition for Boating Publications form). **No** marks should be made on the examination.
- c. Students should only use #2 pencils so they can make corrections.
- d. An Instructor's Answer Key is provided so instructors can grade the student test (attached).
- e. Students with reading problems may have the test read to them at their request. This option should be explained well in advance of starting the testing procedure to allow for preparation.
- f. The instructor is responsible for maintaining exam integrity. Take special care to prevent exam fraud by monitoring the test and separating possible problem students.
- g. Upon completion of the exam, each student's Application for Boating Safety Certificate is to be collected and graded by the instructor. Students are advised by the instructor of their grade. Instructors should use discretion in this process. People who fail the exam will often be upset.

## 2. **Application for Boating Safety Education Certification**

- a. After grading the answer sheet part of the application, the instructor **prints his/her name, instructor number** (assigned by the Commission in Harrisburg) and **signs each sheet of the application form**, and returns the application to the students. **The instructor must NOT allow the student to retain the completed answer sheet of the application form or any blank Application for Boating Safety Education Certificate forms.**
- b. The instructor is responsible to make certain that Application for Boating Safety Certificate forms are properly completed and legible. The students will then submit via mail the application and certificate fee to the Bureau of Planning, Policy & Communications at the Commission's headquarters in Harrisburg using the provided envelope. Instructors should NEVER collect the certificate fee from the student. It is the student's responsibility to submit the application and fee.
- c. Students should be advised to mail completed applications immediately after the completion of the course to avoid a delay in receiving their certificates.
- d. The applications are data entered in Harrisburg. Students will receive a Boating Safety Education Certificate in the mail (approximately 30 days after receipt in Harrisburg).

## 3. **Boating Education Course Summary Sheet** (attached)

- a. Both sides A and B must be completed by the head-instructor for the course.
- b. The Summary Sheet must be mailed to the Bureau of Policy, Planning & Communications in Harrisburg. This documents the course and results in instructors maintaining their certification.

NOTE: The answer sheet part of the Application for Boating Safety Education Certification is **not** to be mailed to Harrisburg. It is to be retained as part of the instructor's record and must not be returned to the student.

- c. Instructor numbers for all Commission certified instructors teaching any part of the course must be listed.
- d. Student names must be listed in the spaces provided on the back of the form. Use additional copies of the form for large classes.
- e. Summary sheets are used to cross-reference applications received by students.

## 4. **Student Course Evaluation Form** (attached)

Instructors may choose to have each student fill out a Student Course Evaluation Form at the end of the course. Instructors should review the forms to determine if there are any problems with the

course or their presentation. Evaluations have helped instructors improve their presentations. In addition, several changes have been made to Commission courses based on student comments. Evaluations are for your information only. Do NOT send them to anyone in the Commission.

**5. Temporary Boating Safety Certificates (attached)**

- a. Some students in your class may need certification to operate a personal watercraft (PWC) or a motorboat of 26 horsepower or more in Pennsylvania, or a boat in a state that has mandatory boating education requirements. Pennsylvania certification is recognized by all states.
- b. If there is a student in the class who needs a certificate to go boating before he/she receives certification from the Commission, the instructor may issue a Temporary Boating Safety Certificate to those students who successfully pass the examination.
- c. The Temporary Boating Safety Certificate is good for 60 days from the date of issue. It is not necessary for the instructor to keep a copy, or to send a copy to the Commission. Do NOT issue temporary certificates to all students, just those described in 5a.

**6. Certification Supplies** - Applications for Boating Safety Certificates, the Boating Education Course Cover Sheet, #2 pencils, Temporary Boating Safety Certificates, Student Course Evaluations, PA Boating Handbooks and all other mentioned supplies and forms are available from the PA Fish and Boat Commission's Bureau of Policy, Planning & Communications upon written request. Use the Requisition for Boating Publications form (attached).

**Note:** Many of the forms are changed on a regular basis to provide you with the most up-to-date information. They can be downloaded from the Commission website at [www.fish.state.pa.us](http://www.fish.state.pa.us). The most current versions of all forms mentioned are included in this manual.

### **INSTRUCTOR CODE OF CONDUCT**

Instructors represent the PA Fish & Boat Commission when teaching this course. As an instructor in the Boating and Water Safety Awareness Course, no person may:

1. Deliberately make false statements or any other comments that would degrade the boating safety education program, the PA Fish & Boat Commission, or the Commonwealth of Pennsylvania; or
2. Deliberately conduct themselves in any manner that will bring discredit to the Boating Safety Education Program, the PA Fish & Boat Commission, or the Commonwealth of Pennsylvania (Example: making an inappropriate remark about another instructor or student); or
3. Deliberately perform any demonstration or act in a manner that would place any student in an unsafe situation whether the demonstration resulted in injury or not (Example: immersing a student's hand in ice water for an extended period or allowing a student to enter the water without a PFD).

**Failure to conform to the Instructor's code of conduct while participating as an instructor in a Boating and Water Safety Awareness Course could result in the Commission revoking your certification as an instructor.**

### **COURSE TEXTBOOK**

The course textbook is the PA Boating Handbook. The PA Fish & Boat Commission will supply the Handbook free of charge to certified Boating and Water Safety Awareness Course instructors for use in their classes.

## CHECKLIST AND TIPS FOR INSTRUCTORS

The following checklist will help make sure your class goes smoothly.

- ✓ Double-check the time and location of the class.
- ✓ Complete and mail the Boating Course Report Card, at least four weeks prior to your class.
- ✓ Requisition all the boating publications (handbooks, certificate applications, handouts, etc) and videos you will need for the class.
- ✓ Check to make sure you have all the necessary materials, equipment, and instructional aids and make sure they are in good working order.
- ✓ Make arrangements for the audio-visual equipment.
- ✓ Check the classroom for equipment, heating and lighting.
- ✓ Eliminate any distracting influences in the classroom or the boating area.
- ✓ Get the help of co-instructor (See the section on class size and team teaching).
- ✓ Bring a first aid kit and other safety materials and make everyone aware of their location?

## COMMUNICATIONS

Instructors often have the need to communicate with Commission staff. This includes the Bureau of Policy, Planning & Communications' Regional Outreach and Education Coordinators and the Bureau office in Harrisburg. Instructors also may want to coordinate their course with Waterways Conservation Officers in the Bureau of Law Enforcement. The following listing provides information for instructors to contact the appropriate office.

**Bureau of Policy, Planning & Communications:** P.O. Box 67000, Harrisburg, PA 17106-7000; (717) 705-7833;

FAX: 705-7831; Commission World Wide Web: [www.fishandboat.com](http://www.fishandboat.com); E-mail: ra-be@state.pa.us

### **Regional Outreach and Education Coordinators:**

- **Northwest - 814-336-2426**, FAX 337-0579; Butler, Clarion, Crawford, Erie, Forest, Lawrence, Mercer, Venango, Warren
- **Southwest - 814-443-9841**, FAX 445-3497; Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland
- **Central - 814-359-5193**, FAX 359-5153; Adams, Bedford, Blair, Cameron, Centre, Clearfield, Clinton, Cumberland, Dauphin, Elk, Franklin, Fulton, Huntingdon, Jefferson, Juniata, Lebanon, Lycoming, McKean, Mifflin, Montour, Northumberland, Potter, Snyder, Tioga, Union, Perry, York
- **Northeast - 570-477-2206**, FAX 477-3221; Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Pike, Sullivan, Susquehanna, Wayne, Wyoming
- **Southeast - 717-626-9081**, FAX 626-0486; Berks, Bucks, Chester, Delaware, Lancaster, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill

### **Bureau of Law Enforcement Regional Offices:**

- **Northwest (814) 337-0444**; FAX 337-0579
- **Southwest (814) 445-8974**; FAX 445-3497
- **Northcentral (814) 359-5250**; FAX 359-5254
- **Southcentral (717) 486-7087**; FAX 486-8227
- **Northeast (570) 477-5717**; FAX 477-3221
- **Southeast (717) 626-0228**; FAX 626-0486

# SECTION II

## TEACHING TECHNIQUES

This section is designed to assist those with little or no formal training in teaching, training or education. It includes some of the basic concepts instructors must consider, understand and apply to be effective. This information is important, whether you've taught before, or taught 100 programs. As the saying goes... *Talking ain't teaching, and listening ain't learning.*

### ENVIRONMENT

The learning process is affected by whatever surrounds the student, whether it is good or bad. In order for the student to learn, the environment they are in must be positive. Factors to consider when preparing to teach a class include:

1. Time of day (best time is morning; worst is right after lunch and late in the evening).
2. Location of class (easy to find or well known facilities are best).
3. Size of class (10 to 20 students is ideal).
4. Interruptions or distractions (noise, weather, movement of people or objects).

### THE LEARNER

Creating the best learning situation requires the instructor to realize that students vary in individual characteristics. Students will differ in the following areas:

1. Health and fitness - Be alert to illness or fatigue.
2. Physical development - Some skills may be beyond the physical ability of some students (i.e. elderly or very young lifting equipment).
3. Intellectual development - The instructor may have to simplify and explain certain information to a student who learns at a low level. See the section information on the developmental needs of young people.
4. Personality - Emotional state, attention span, and attitude all affect learning.
5. Learning styles - People learn best in different ways, i.e., hands on, hearing, and visual learning. Incorporate all styles when teaching.

### Learning styles<sup>1</sup>

Learning styles have been categorized into four major types: Innovative, analytical, common sense, and dynamic. All four styles are equally valuable; each has its own strengths and weaknesses. Each of us is most comfortable in one of these styles, and if someone is teaching us in our most comfortable style, it is easier for us to learn!

#### Innovative learners

Learn by listening and sharing ideas  
Excel in viewing things from many perspectives  
Function through social interaction  
Have strong innovation and imagination  
Are idea people  
Get involved and attempt to bring unity to diversity  
Ask "why or why not?"

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<sup>1</sup> Adapted from *Effective Leading, Teaching and Coaching*, Douglas A. Hart, Extension Agent, 4-H Youth  
BWSA Lesson Plan – Rev12/23/2010

**Analytic learners**

Seek facts  
Learn by thinking through ideas  
Need to know what the experts think  
Focus more on ideas and concepts than people  
Have strength in creating concepts and models  
Seek self-satisfaction and intellectual recognition  
Ask "what?"

**Common sense learners**

Learn by testing theories in sensible ways  
Seek things that are useful  
Need to know how things work  
Have strength in practical application of ideas  
Seek to bring their view of present into line with the future  
Ask "does it work?"

**Dynamic learners**

Need to know what can be done with things  
Learn by trial-and-error and self-discovery  
Like variety and excel in situations calling for flexibility  
Can reach accurate conclusions in absence of logical data  
Have strength in action and carrying out plans  
Want to make things happen  
Ask "what can this become?"

Teaching to all four learning styles aids in reaching all participants. We need to capitalize on the personal experiences of innovative learners to demonstrate why they should spend the time learning the information. This satisfies their question, "Why should I learn this?" That helps to motivate them and get them involved in the subject. Analytical learners ("what do the experts say/do?") need to have the facts and expert opinions. Common sense learners need to have an early opportunity to use the information they have acquired in some useful way, satisfying their question of how it works really. Dynamic learners must have a chance to give input to the topic and share with others, developing a vision for what can develop and answering their "what can this become?" question.

Learning is not a destination, but a journey; and all learning is related either directly or indirectly. This applies to the things we do for recreation and those that are part of our vocations. With an expectation of learning continually and continuously, we build on previous experience to higher levels of understanding, application and conceptualization. We are also better able to relate concrete observations and experiences to concepts or other abstractions. Most of us learn better when the learning experience is experiential or when experiences provide mental "hooks" upon which to hang the new information. Although experiential learning is often depicted as a cyclic diagram of observing, analyzing, comparing and discussing and concluding or applying, it is really helical. Each experience produces a higher capacity for both learning and understanding.

*Tell me . . . I will forget*

*Show me . . . I will remember*

*Involve me . . . I will understand*

The simple statement above has merit. Most kids learn best when they are directly involved in an activity. This involvement is called experiential learning, hands-on learning, or learning by doing. Regardless of the label used, it is really minds-on learning with opportunities for all sorts of learning styles and sensory input. Whether it is learning a new skill, understanding a concept, or thinking about an attitude, involving the kids in the learning directly through hands-on activities is vital. For example, when learning to tie a knot, first show the kids how to tie one, demonstrating with oversize materials and so everyone can observe. Some learners will benefit from illustrated instructions. Next, let the learners try to tie the same knot for themselves. Instructors should have plenty of assistance available to give help where it is needed, but not before it is obvious that help is needed. Intervene before frustration sets in, but after some effort has been expended. (For many fishing knots, using rope or other extra larger materials can be helpful.) Critique the knots and procedures, positively reinforcing their efforts. Instructors should correct techniques by stating what to do and avoiding “you made this mistake” statements. Finally, have them show you or someone else how to tie the same knot. For some learners, stating the reasons for tying the particular knot and tying knots well will provide motivation to learn it. For others, simply learning the skill and being able to practice it will be motivation enough.

### **The seven developmental needs of young adolescents<sup>2</sup>**

The Center for Early Adolescence in North Carolina has identified seven developmental needs, which appear to be central in the growth of 10-15 year olds. Although they are not absolute or necessarily exhaustive in their description of young adolescents, the seven needs provide a very useful checklist framework for the analysis of youth programs.

**Physical activity** - Because they are growing faster than any other time in their lives except infancy, young adolescents need to move. They will squirm and fidget when they do try to sit still. Not being active is often interpreted as boredom. Giving them active things to do and excusing their inability to sit still are ways of recognizing the need for physical activity.

**Competence and achievement** - Young adolescents have a strong desire to do things well and to be recognized for their accomplishments. They are very self-conscious, so rewards mean everything, and embarrassment and failure are devastating. Making success too difficult is a problem. Providing opportunities for achievable success, especially situations in which everyone can succeed in his or her own unique way, can help to meet this need.

**Self-definition** - Because of the rapid changes that characterize the teen years, young adolescents spend a good deal of time trying to figure out who they are. They need opportunities to explore being an adolescent instead of a child, belonging to the gender, race, ethnic group, or other social category in which they fit, and what their new physical and mental abilities will allow them to do. Providing for the exploration of a variety of ideas, skills, crafts, volunteer activities, careers, and games will facilitate growth in this area and help young people avoid dangerous risk-taking as a means of self-definition.

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<sup>2</sup> Adapted from an article for **News and Views**, the official publication of the National Association of Extension 4-H Agents, by Judith Myers-Walls, extension Specialist, Human Development, Purdue University, 1998.

**Creative expression** - During adolescence, young people begin to identify what makes them unique as what an individual creates, whether it is written, played, grown, painted or performed. Although not all young people are artistic or musical, all young people can create something unique and special. Excellent youth programs help young people find that creative outlet in which each can shine.

**Positive social interactions with peers and adults** - Most adults recognize and accept the fact that young people need to have positive interaction and friendships with other young people, but they are skeptical about young people's desire to be with adults. But young people themselves admit their parents, families, and other adults remain of primary importance in setting values and giving affection. The best programs offer accessible and responsible adults with whom the young people can interact, and they provide interaction with peers that is support and builds social skills.

**Structure and clear limits** - Young people want to know what the expectations are for their behavior and what they may and may not do. If the structure is too loose, they will not know what to expect and will react out of a sense of insecurity. If the rules are clear, they may, and probably will, test them, but they want and expect consistent reinforcement of those rules. They are also under the influence of the "personal fable" that "it can't happen to me." At this age, however, they want and can handle participation in defining those limits and setting the structure.

**Meaningful participation** - Good youth programs are designed WITH young people, not for them. As they near adulthood, the experience of taking responsibility for programs in which they participate helps to develop adult skills and increases commitment to the programs. In addition, young people at this age begin to develop heartfelt commitments to causes and to social service. Although their commitments are likely to be short-term, allowing them a chance to participate meaningfully in their communities by doing social service projects, volunteering, or serving on advisory boards will help both the adolescents and their communities.

Programs for young people that have achieved national recognition have been shown to use these guidelines, either consciously or unconsciously. The best programs address a large number of the needs. The Center for Early Adolescence will define a program as "good" as long as it meets the needs of young people in at least four areas, with two of those areas Positive Social Interaction with Peers and Adults and Structure and Clear Limits be non-negotiable. "Excellent" programs take into account the other needs, although they may not meet them directly.

## **INSTRUCTOR CHARACTERISTICS**

The instructor's responsibility is to do everything possible to enhance the learning experience, making it as easy and enjoyable as possible. Fostering an informal atmosphere has been found to be best for teaching boating courses. The effectiveness of an instructor depends on the instructor possessing certain personal characteristics, which will make the learning experience more valuable to the students as well as making them as comfortable as possible.

### **1. Personal characteristics**

- a. Enthusiasm - Assume an upbeat attitude.
- b. Leadership - The instructor is the role model and in charge.
- c. Attitude - Maintain a professional attitude. Treat everyone fairly. If possible, learn their names and be patient.
- d. Accept other people's values. Learn new information.

- e. Personal appearance - Dress neatly and appropriately. Wear your uniform (if you have one). If this is not applicable, dress a step "up" from your students. Be on time.
2. **Responsible management** (Do **not** assume anything)
    - a. Class management
    - b. Check lighting, ventilation and temperature.
    - c. Make sure the instructor will be close enough to students to maintain good eye contact.
    - d. Check the teaching aids to be used in the class. Ensure the visual aids are the right size for the room and are placed where all the students can see them. Set up all equipment before class. Make sure it is ready. Do not forget extra bulbs.
    - e. When appropriate, set aside a section of the room for group practice.
    - f. Do not hold the lecture part of the class outside unless it is the only location available.
  3. **Supervision**
    - a. Plan the course with the PA Fish & Boat Commission. Let the Bureau of Policy, Planning & Communications know when and where your courses are scheduled by sending in your course information early.
    - b. Administer the course. Make sure all material is covered. Guest speakers for certain subjects may be appropriate, but their conduct is the responsibility of the instructor.
    - c. Use the Boating Course Evaluation Form to evaluate the course.

**Appropriate behavior: Putting the child first<sup>3</sup>**

Touching is a very important part of healthy human relationships. From the first moment of life, babies thrive when they feel the warmth of being near their mother's bodies. Little children like to roll around on the ground in playful roughhousing. Lonely and hurting children need to be held with caring.

Some adults have become confused and worried about appropriate touching and related behaviors to use when they are with and around children. Caring adults are aware of the expanded needs for personal space of children who approach puberty and enter adolescence. Those who understand the special needs of abused children are especially sensitive about asking for permission to offer a hug. Adults who put the needs of the children first are alert to the appropriateness of their own behaviors.

It is important to show caring and to encourage children by being warm and affectionate, especially when many of the children who come to youth groups do so to get away from their own troubled homes. An extra effort by a child deserves a friendly "pat on the back" or a "tousling of the hair." Being touched in positive and appropriate ways means "I like you" and "You belong here."

There are sensible ways for volunteers to continue to show warmth to children while still protecting their own integrity.

1. Make a point of showing affection to all your children in open places where others can see and share in the warmth. If you are comfortable with others watching what you are doing with children, you are probably OK.
2. Touch children in safe places on their bodies, avoiding private places. The back, the head and the shoulders are acceptable; the buttocks, the breasts, the thighs and the groin are not

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<sup>3</sup> Put the Child First, Canadian Council on Children and Youth, 1989  
BWSA Lesson Plan – Rev12/23/2010

acceptable. Consider cultural differences; here, for example, touching all people on their head would not be considered appropriate.

3. If a child is hurting or feeling ill and needs to be examined, ensure that another person of the same sex as the child is present in the room while you are carrying out the examination. If possible, leave an examination of private places to health professionals. Don't force the child to remove clothing for an examination.
4. If a child is sad and needs to be comforted, show affection by placing your arm around a shoulder and giving a gentle hug or a good squeeze from the side.
5. If the child needs to have a private conversation with you, remove yourselves the necessary distance from the others but stay in view of the group or leave a door slightly ajar.
6. It is impossible to avoid situations where you must be alone with the child. But if you are to be alone, be sure that you have considered some safeguards and that parents are aware of the nature of your activity with the child. For example, when doing bed checks at camp, bring a second counselor if one is available. When traveling by car, try to take a number of children or bring along another volunteer.
7. Respect the policy of your organization concerning camping or traveling alone with a child.
8. Don't be alone and naked with the child, anywhere. If you must change at public swimming pools, use the usual kind of discretion that is appropriate for such places.
9. Be cautious about any conversations with children that involve sex. It is understood that children ask honest questions about sexuality and teenagers might seek advice. Listening with respect for the child is appropriate; it is also appropriate to distribute and discuss agency-approved information that is part of a general educational program about sexuality. Joking around with kids in ways that encourage promiscuity or the acceptance of sexually explicit material is dangerous for you and the children.
10. In all things, respect the integrity of the child. Allow the child to back away from your well-intentioned affection if she/he wishes. Ask the child if they feel okay about being touched. Abused children are sometimes fearful or distrustful of any physical contact. Most of us sense the difference between positive and caring intentions and those which are meant to exploit us. Use your common sense and good judgment to guide you in protecting the personal space of the children in your care.

### **SUGGESTIONS FOR EFFECTIVE COMMUNICATION**

Communication is the act of transferring information between two or more people. Effective communication is the backbone of good instruction. To communicate effectively, an instructor should put the following into practice:

1. Establish and hold the attention of the entire group at the beginning of the first class.
2. Define clearly what the students can expect to get from the course. Explain what will be happening during the session, what will be discussed, what they will learn, and when the class will have breaks.
3. Involve all class members in the discussion, but keep it under control. Do not let one student dominate the conversation.
4. Give instructions in a conversational tone and keep them simple.
5. Limit instructions to as many as the students can handle at one time.
6. Relate the subject matter to common or universal experiences, but do not overdo "war stories."
7. Learn to think while "standing on your feet."

8. Use words everyone knows. Define new words in a class discussion. Write the key points in advance or write them on a large sheet of paper and post it in the classroom, referring to it when needed.
9. Do not read to the students unless you need to quote something to them.
10. Avoid annoying verbal and nonverbal distractions (i.e., jingling change, constant swaying, and verbal fillers such as "umms" and "you know").

## **VOICE**

One of the best teaching tools is the instructor's voice. Regardless of its quality, there are many ways the instructor's voice can be used to its best advantage.

1. **Volume** - Talk loud enough so all students can hear. A microphone should be used if the instructor's voice tends to be soft or there is a large group.
2. **Delivery** - Vary the rate of the delivery according to the difficulty of the subject and the learning ability of the students. Speak at a natural pace, not rapidly or too slowly. Avoid speaking in a monotone.
3. **Pronunciation** - Pronounce or accent each syllable clearly and distinctly. Pauses and raising and lowering the voice in much the same way we use punctuation in writing are effective techniques. Be especially careful to pronounce boating terms properly to protect your credibility as the instructor.
4. **Conversation** - Instructors should realize they are not making a speech or preaching. Instructors are talking with, not at, the students. Everyone should be involved in the discussion. Try not to talk longer than fifteen minutes without involving the students in some manner.
5. **Clarity** - Stay away from expressions such as "always," "never," "I say." Instead, cite legitimate, credible authorities to emphasize a point, such as "the textbook states" or "generally." Be as diplomatic as possible.

## **BODY LANGUAGE**

Body language refers to the way the body reveals feeling, intent, values, attitude, belief and motivation through the language of the eyes, facial expression, posture, and gesture.

### **1. Student's body language**

- a. Instructors should be alert to student reactions by letting their eyes travel around the room.
- b. Include students in the discussion who appear to be tired or bored.
- c. Direct eye contact may bring an inattentive student back to attention. If eye contact fails, take a step toward the student and direct a question to him/her.
- d. Check posture. Students slouched down in their seats may not be paying attention. A short break may be helpful.
- e. Do anything appropriate to hold the students' attention. An inattentive student will not learn.

### **2. Instructor's body language**

- a. Instructors must be aware of their own nonverbal communication.
- b. Show a willingness to listen by leaning the head or body forward.
- c. Show friendliness by smiling and making frequent eye contact.
- d. Refrain from making gestures that may confuse the student or indicate anger or frustration (i.e., clenched fist, frown).

## **How does learning happen? Teaching strategies**

### **Learning involves:**

**Individual differences** - Since people learn through different methods, plan to use a variety of teaching methods while being attentive to each individual in the group. Note that this requires a fairly low youth to adult ratio for best results!

**Personal meaning** - Helping learners discover a personal application for information makes learning easier. Build on the personal perceptions and knowledge of the learners to find those personal applications.

**Learning by doing** - Plan personal involvement into every lesson and activity (the lesson plans are only a suggestion) so the most effective learning can take place -- by involvement.

**Existing knowledge** - If you know what a person knows and what types of experiences they have, it is much easier to build upon that personal experience from the known to the unknown. Try to learn about the experiences of your learners to help them and you!

**Feedback** - Help the learner by providing feedback on their progress. Critical evaluation combined with positive reinforcement and emphasis on the positive things that must be done is essential. Remember the "Oreos!"

**Motivation** - Learning works best when the individual wants to learn. Remember to watch for and use those "teachable moments" as they occur. Please remember, too, that you can plan them into your teaching.

**Emersion** - Experiential learning requires individuals to first be immersed in the realm of discovery. They can then be led to focus on learning!! Johnson and Johnson (1991)<sup>4</sup> cite several authors on this topic.

*Knowing is not enough, we must apply. Willing is not enough, we must do.*  
-Goethe

*One learns by doing the thing, for though you think you know it, you have no certainty until you try.*  
-Sophocles

*The hand is the cutting edge of the mind*      -Jacob Bronowski, *Ascent of Man*

*For things we have to learn before we can do them, we learn by doing them.*  
-Aristotle

## **MISBEHAVIOR**

Ever have a kid do something negative at every event? This can be rather nerve-racking. This may be an indicator that they are upset with you or something else and are unable to talk about it. They are exhibiting this behavior out of revenge. Look for possible reasons for this behavior and try to talk with the participant. Some kids may be "complainers;" this may be a result of coming to the

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<sup>4</sup> Johnson, D. W. And F. P. Johnson. 1991. *Joining Together: Group Theory and Group Skills*. Allyn & Bacon: Boston

meeting upset over a family situation. The kid feels if he/she is not happy then no else should be happy either.

When kids feel inadequate or unable to perform a particular task they may misbehave. They may misbehave rather than admit to their fears. They are camouflaging their feelings of inadequacy.

### **Guidance techniques**

Guidance techniques are ways to guide behaviors. There are three types of techniques that have been found to be effective when working with kids:

1. **Direct guidance,**
2. **Indirect guidance,** and
3. **Positive guidance.**

Direct guidance means offering straightforward guidance. You deal specifically with the child and the behavior. Various types of direct guidance include:

1. **Demonstrate expected behaviors** - Show the kids the behavior you expect from them. If you want them to walk on paths, you should walk on paths. If you want the kids to talk versus yell, be sure you talk with them rather than yell at them.
2. **Physically restrain (if necessary)** - Sometimes you may need to physically restrain a child from a behavior. For example, you may have to stop a fight. Perhaps a child may not cease doing something that is dangerous, like hanging over the edge of a moving boat. This approach is used in extreme cases where safety is a concern. Just remember: physical restraint is only used as a last resort. Never abuse a child!
3. **Speak at eye level** - As you speak with the kids, place yourself at their eye level, squat down. When you speak at eye level, you are expressing concern and respect for the child. At times, it may be inconvenient to get at eye level. If so, look them in the eye as you speak with them. There is one word of caution as it relates to looking at others directly in the eyes when you speak. In some cultures, looking someone directly in the eye is disrespectful. Please be aware of this possible cultural norm and consider it in your situation.
4. **Use gestures** - Use gestures as you talk with the kids -- in other words, use your hands as you speak.
5. **Smile** - When you smile at the kids, generally they feel that you care about them and like them. Smile as you speak with them. But be sure your smile is sincere. A fake smile will not go far!
6. **Communicate in words** - Try to communicate your feelings in words. For example, if you aren't feeling well, tell the kids. Usually they will be more understanding and in fact even try harder to behave well.
7. **Keep instructions short** - As you speak with kids, keep your instructions simple and short. If it is time to clean up, simply "clean-up time." Avoid lengthy lectures or justification of why. Instructions should be limited to three requests at a time.
8. **Limit directions** - Give directions only when necessary. Remember -- coming to the program should be fun. If an adult is constantly talking and "teaching," it can become boring. If a child is having difficulty with a certain task or project, silently observe and then offer to "help" the child.
9. **Give choices** - Choices create situations in which kids are forced to think. Choices provide opportunities for kids to make mistakes and learn from the consequences. Choices help us to avoid getting into control battles with youngsters, and choices provide opportunities for kids to hear that we trust their thinking abilities.

### Rules for giving choices:

- Always be sure to select choices that you like. Never provide one you don't like because the child will usually select the one you don't like.
- Never give a choice unless you are willing to allow the child to experience the consequences of that choice.
- Never give choices when the child is in danger.
- Never give choices unless you are willing to make the choice for the child in the event he/she does not choose. "If you don't choose, I will." Give them 10 seconds to decide.

Caution!! It is very easy to turn your choices into threats: "You can either get to sleep immediately or lose your right to fish tomorrow." This is just a little like your boss giving you the choice, "Would you rather do that report today or get fired?"

10. Explain - If the child has a question, be willing to explain the answer to the individual. If you don't know the answer, try and find it. Answer all the questions and never shame or belittle a child for asking questions.

**Indirect guidance** means roundabout ways to offer guidance. This may involve arranging factors in the environment or using your knowledge to work with other people. Techniques you can use include:

1. **Timing** - Be sure to allow enough time for the kids to complete an activity without feeling rushed. In the same light, avoid times when the kids will get bored because of too much time allowed for an activity. When possible, avoid having kids wait. Bored waiting brews misbehavior.
2. **Number** - Be aware of the number of kids in your group activities. You may find it is better to split the group and have small groups. It may be helpful to split the group part of the time and at other times do activities as a whole unit. Too many or too few kids in a group can result in misbehavior.
3. **Age appropriate activities** - Be sure the chosen activity is appropriate for the age of the child. Are they interested in it? Can the kids understand the activity? Is it too difficult? Is it too simple? These questions can prove to be quite beneficial when planning for groups of mixed ages.
4. **Schedules** - In designing schedules (for meetings, day-long workshops, field trips, etc.) mix the type of activities you offer. Balance the active times with calm times. Consider the time of day, the impact of various weather conditions, the site, the ages of kids, and what you want them to learn.
5. **Behavior clues** - There are clues you give without using words to tell the kids the behaviors you expect. For example, tell the kids that when the radios and lights go out their talk is to end. The radio and lights become behavior clues to signal the time to stop talking and go to sleep.
6. **Be prepared** - Have the materials and supplies ready for activities. This is a behavior cue for "It is time to work." If you have materials ready, then kids do not have to wait. Being prepared reduces boredom.
7. **Out of sight** - "Out of sight--out of mind" goes the old, but true, phrase. Suppose the kids are not allowed to drink soda pop and the adult leaders are. Problems can be easily avoided by having the adults drink their pop out of the view of the campers.

8. **Cool, calm and collected** - If all else fails at least appear cool, calm, and collected with the kids. There may be times when you can't believe what is happening to you. Believe it, deal with it, and somehow calmly guide yourself and the campers through the situation. Sigh, take a deep breath, and proceed to guide the campers in the best way you know how.

**Positive guidance** means to offer the kids positiveness, to tell them what to do rather than what not to do. A few key points to keep in mind...

1. **State rules in a positive form** - State the rule as a **–do**” or an **–always**” rather than as a **–do not**” or a **–never**.”
2. **Keep smiling**
3. **Show genuine love and concern for the child** - This is the single most important feature of **–wizards**” - those who seem to be able to make programs work under difficult conditions.
4. **Use thinking words** - Thinking words tell the child what you will do or what they are free to do. Thinking words include: telling the child when he/she can do something or telling the child the conditions under which you will do something.
5. **Call –TME OUT” or –RENEWALTIME”** - In a cool and calm manner, call for "time out" or "renewal time." This gives a kid a chance to straighten out mixed-up feelings and get back a sense of personal control.
6. **Catch the child being good!!** - Rearrange the attention, which kids receive. Make it a habit to notice good behavior. Pay more attention to them when they are cooperating and sharing.

### **ADDITIONAL STRATEGIES**

1. **Climate setting (classroom lessons)** – Provide favorable conditions for learning to facilitate the involvement of individuals in a newly formed group.
  - a. Arrange tables and chairs in a way that aids learning and have them ready when student arrive.
  - b. Prepare nametags.
2. **Assigning tasks** – Assigning ambiguous tasks is one of the most frequent mistakes of instructors. Instructors should try to involve students in learning with clearly understood instructions so that objectives are accomplished.
  - a. Write out each task prior to the session (either an individual copy for each student or in large print in front of the whole group).
  - b. Review the task orally.
3. **Bridging** – Linking one section of training to the next one.
  - a. Review what has been learned in the prior session.
  - b. Relate what is going to be discussed to what has already been accomplished.
  - c. Sometimes training days are bridged by asking participants to discuss signification aspects of what they have already learned and by asking questions about unclear areas.

## SECTION III

### GUIDELINES FOR IN-WATER ACTIVITIES

These guidelines describe how to conduct the in-water-course work and factors to consider regarding sites and equipment. This part of the course is site dependent. Ideally, a protected water area away from crowds and other boaters is preferred. A pool is an excellent site for practicing in-water activities. **Do not teach the BWSA course at a moving water site.**

#### GOALS:

1. Ensure safety of instructors and students.
2. Introduce participants to new ideas with regard to flotation and water survival.
3. Stress the importance of proper procedures and proper fit in use of PFDs.
4. Demonstrate cold-water survival procedures.
5. Demonstrate basic rescue procedures.
6. Demonstrate basic boating procedures.

#### ATTIRE

1. Instructors teaching the in-water part must be prepared to enter the water. Swimming suits are appropriate attire for warm water. Wet or dry suits are more appropriate for water less than 70 degrees F.
2. Students must be told they will get wet ahead of time and should receive specific instructions on what to wear before the day of the program.
3. Foot protection (old sneakers), straps for glasses, additional warm clothing, towels, and sun screen are items that should be brought by the students to the water site if it is not an indoor pool.
4. **Everyone must wear an approved life jacket (PFD) during the in-water program.**

#### SITE REQUIREMENTS

1. The type of site required for the on-the-water training is dependent upon what is available, the time of year, and weather conditions.
2. Small lakes, ponds, or pools are suitable for training in warm weather. Water temperatures may not warm up until early summer.
3. Do **NOT** use moving water to conduct this course.
4. Facility managers are often leery of boats in their pools because of dirt brought in and the potential to crack or chip tiles.
  - a. To avoid problems, use plastic or ABS canoes.
  - b. Clean boats before pool sessions.
  - c. To lessen the impact of boats on the sides of a pool, boats can be tethered to be kept away from the pool sides. Students can be “spotters” and fend the boats off the pool sides.
  - d. Tape insulated pipe foam to the bow and stern of the canoes.

## EQUIPMENT REQUIRED

1. Wearable and properly sized **life jackets** for everyone in class.
2. Winter clothing outfit or snowmobile suit is optional.
3. One **rescue bag** (throw bag) per two students.
4. Items to demonstrate reaching or throwing assists – coolers, beach balls, ring buoys, Type IV (throwable) PFD, tackle box, duck decoys, fishing pole, paddle, etc.
5. (For optional Units 8 and 9) One **canoe** per two students. For swimming pools, limit canoes to two for the group. Canoes should have flotation sufficient to float the canoe and passengers when full of water. Aluminum canoes have built in flotation in the end chambers. Canoes made of Royalex, polyethylene, and advanced composites do not usually have built in flotation and must have it installed to be effectively used in this course. Several companies manufacture flotation bags and end chambers. An easy home remedy is to glue planks of ethafoam to the inside walls amidships of a canoe.
6. (For optional Units 8 and 9) Two **paddles** per canoe.
7. (For optional Units 10 and 11) One **kayak and paddle** per student.
8. BWSA Skills Assessment **Form**. The form in the back of the lesson plan is an excellent tool to keep track of the students' activities during the in-water sessions. It is designed so four students can be assessed on each form.

## SECTION IV

### LESSON PLANS UNIT 1 (CLASSROOM)

#### Topics (and anticipated teaching time)

Course Overview (*2 minutes*)

Boat Operator Responsibilities (*18 minutes*)

Pennsylvania State Boating Waters, PA Fish & Boat Commission (*10 minutes*)

Classification, Motors, Hull Types (*8 minutes*)

Preventive Boat Maintenance (*2 minutes*)

**Goal:** Boating on Pennsylvania waterways requires an understanding of the responsibilities, actions and consequences of boating.

#### Learning Objectives (Student Performance Objectives)

Students will:

1. Identify the four primary responsibilities of a boat operator.
2. Name three different types of boats.
3. Describe how boats are classified.
4. Identify three different types of motors and two hull types.
5. Identify at least four types of waterways open for recreational boating in Pennsylvania.
6. Cite the PA Fish and Boat Commission (PFBC) as the state agency responsible for regulating fishing and boating in Pennsylvania.

#### Materials/Equipment

- Boat America DVD video clips
- TV/DVD player and VCR or projector and screen
- PA Boating Handbook for each student
- Chalkboard or easel pad
- Optional: Actual boat to show boat terminology
- Optional video selections: —“Adventures in Boating with Bill Nye the Science Guy” (30 minutes), —“Boating the Starboard Way” (*29 minutes*).

#### Extensions

- Have students visit a popular boating area to view and record boating behaviors and practices. Record into good or bad behaviors. List any consequences, positive or negative, resulting from the boating activity.
- Interview a local Waterways Conservation Officer (WCO) to discover what boating is like on waterways in their jurisdiction.

### **Course Overview** (2 minutes)

The PA Fish & Boat Commission's (PFBC) **Boating and Water Safety Awareness Course** is an introductory course in boating safety. This course is designed to provide the student with basic boating and water safety information. Staying up-to-date with new developments in boating laws and safety information is the responsibility of all boat operators.

To successfully complete the course, the student must:

- Attend at least the five classroom lessons including the final examination.
- Pass the final examination with a minimum grade of 70% (maximum of 15 incorrect answers).

Students can apply for a Pennsylvania Boating Safety Education Certificate after completing the course with a passing score on the final examination. The certificate will be issued to the student once the Commission receives the application and fee. This certification is recognized by other states that require a National Association of State Boating Law Administrators (NASBLA) approved course to operate a boat.

### **Boat Operator Responsibilities** (18 minutes) **BH (Chapter 2, pg. 6)**

**Divide students into groups and have them brainstorm/list good and bad boating behaviors. Discuss.**

1. Boat operators are responsible for:
  - a. knowing the rules and regulations for boats in areas where they are boating;
  - b. knowing the safety equipment required for their boat;
  - c. the actions of all persons on board their boat;
  - d. knowing the waters where they are boating.
2. Boaters can protect themselves by taking a safe boating course
  - a. Accidents can be reduced drastically. Conflicts among different types of boaters are reduced.

### **Pennsylvania State Boating Waters – PA Fish and Boat Commission** (10 minutes)

**Give local examples for each and show on map.** **BH (Chapter 1, pg. 4)**

1. 83,261 miles of rivers and streams.
2. 76 natural lakes, which provide 5,266 acres of flat water.
3. 2,300 constructed impoundments provide another 200,000 acres of boatable waters.
4. Lake Erie has 63 miles of shoreline and 735 square miles of waters within Pennsylvania's boundaries.
5. Delaware River provides 56 miles of tidal waters within Pennsylvania giving access to the Atlantic Ocean.
6. Pennsylvania state boating statistics:
  - a. In 1982, less than 200,000 boats registered; in 2005, over 348,000 boats registered.
  - b. Estimated 300,000 non-registered unpowered boats.
  - c. 55% of registered boats are 16 feet or less in length; most boats are small and trailerable.

**Show agency patch/logo.**

7. Pennsylvania boating regulatory agency responsibilities.
  - a. PA Fish & Boat Commission, P.O. 67000, Harrisburg, PA 17106-7000; Phone (717) 705-7833.
  - b. Responsible for promoting, regulating, and enforcing fishing and boating regulations in Pennsylvania.
  - c. Established in 1866.

- d. Funded by Pennsylvania's boaters and fishermen through separate boat and fish funds (boat registration fees and fishing license revenues).
- e. PA Fish and Boat Commission often confused with the PA Game Commission, Department of Conservation and Natural Resources, Bureau of State Parks or Bureau of Forestry; these agencies work together.

**Classification, Boat Motors and Hull Types (8 minutes) BH (Chapter 1, pg. 4&5)**

**BA DVD Clips: Ch. 1: Boat Length (:10),  
Ch. 1: Hull Types (:56)**

1. Classification
  - a. Recreational boats range from personal watercraft, motorboats, sailboats, windsurfers, rowboats, canoes, kayaks, pontoon boats, inflatable boats and others.
  - b. Boats are classified according to their length. This classification determines the legal requirements for the boat. For example, boats less than 16 feet are not required to carry some of the equipment that is required on larger boats.
2. Boat hull types
  - a. Planing (flat bottom) – skims across water, best on calm water.
  - b. Displacement (round bottom) – plows through water not on top of it, slower but more stable than the planning hull.
  - c. Most boats are a compromise between planning and displacement hulls; deep-V, modified-V, cathedral, etc.  
Multiple hulls boats – catamarans and pontoons.

**BA DVD Clip: Ch. 1: Motor Types (1:16)**

**Discuss advantages/disadvantages of each BH (Chapter 1, pg. 4&5)**

3. Types of motors
  - a. Outboard –vary greatly in size, clamp onto transom, whole motors pivots on its mounting to aim the wash and steer the boat, boat turns in opposite direction tiller arm is pushed.
  - b. Inboard/Outboard (I/O) – bolted inboard at stern with drive unit through the transom.
  - c. Inboard – mounted lower in boat and further forward than I/O, rudder used to steer.
  - d. Jet – engine pumps water through a nozzle at stern, which pivots to steer the boat.
  - e. Certain lakes in the state require specific size limitations (ex: under 10 horsepower).

**Preventive Boat Maintenance (2 minutes) BH (Chapter 3, pg. 20)**

1. Many possible problems your boat may have can be prevented by regular maintenance. Regularly inspect and maintain everything in your boat such as:
  - a. Onboard safety equipment. (PFDs, fire extinguishers, bailers, anchors, etc.)
  - b. Motor, fuel, and electrical systems.
  - c. Through-hull fittings and accessory attachments.

## UNIT 2 (CLASSROOM)

### Eight (8) Test Questions

#### Topics (and anticipated teaching time)

Boat Terminology (*15 minutes*)

Numbering and Registration (*5 minutes*)

Hull Identification Numbers, Capacity plates (*10 minutes*)

Personal Flotation Devices (PFDs) (*10 minutes*)

**Goal:** Boats are classified by type, are powered and unpowered, have a HIN number, may be required to be registered, numbered, and have a capacity plate. Boat operators are required to know the rules and precautions for the boating activity.

#### Learning Objectives (Student Performance Objectives)

Students will:

1. Describe at least six parts of a boat.
2. Describe which boats must be numbered and registered.
3. Explain the purpose of a hull identification number.
4. Identify at least two types of information found on a capacity plate.
5. Cite the legal requirements for wearable and throwable PFDs.

#### Materials/Equipment

- Boat America DVD video clips
- TV/DVD player and VCR or projector and screen
- PA Boating Handbook for each student
- Sample capacity plate
- Variety of Type I, II, II IV, & V PFDs

## Boat Terminology (15 minutes)

**BH (Chapter 1, pg 5)**

**BA DVD Clips: Ch. 1: Boat Nautical Terms (:14),  
Ch. 1: PWC Nautical Terms (:29)**

1. Hull – structural body of the boat does not include superstructure, masts or rigging.
2. Bow – Forward part of a boat.
3. Stern – the after (back or rear) portion of the boat.
4. Port – left side of boat.
5. Starboard – right side of boat.
6. Transom – the transverse part of the stern (where an outboard motor is attached).
7. Keel – the main structural member of a boat, its backbone, the lateral area beneath the hull, which helps to provide stability and reduce the sideways drift of a boat.
8. Draft – the vertical distance from the waterline to the lowest point of the keel, the minimum depth of water in which a vessel will float.
9. Gunwale – (pronounced gun'l) the upper edge of the side of a boat.

## Numbering and Registration (5 minutes)

**BH (Chapter 2, pg. 11)**

1. All motorboats operated on Pennsylvania waters must be registered. **TQ #1**
2. Registered boats must be numbered: Exceptions: documented vessels, kayaks, sculls, sailboards (windsurfers).
  - a. Color-coded validation decals must be displayed within six inches of the boat number on the same level.
3. Owners of unpowered boats can launch their boats at Commission lakes and access areas if their boat displays a Commission launch permit, boat registration, or Pennsylvania State Parks launch permit. Pennsylvania State Parks recognize Commission boat registrations and launch permits. The Commission does not recognize launch permits from other states.
4. Boats must be registered in the state where the boat is most used.
5. Boats legally registered in another state may use Pennsylvania waters for up to 60 days.

## Hull Identification Numbers, Capacity Plates (10 min.)

**BA DVD Clip: Ch. 2: Boat Capacity (:49)**

1. Hull Identification Number (HIN)
  - a. Federally required, it's the boat's "social security" number.
  - b. Located on or near the transom's upper starboard side plus one hidden on vessel

### Show sample plate

2. Capacity Plates–No boat should ever be overloaded or over powered–capsizing more likely
  - a. Capacity plates protect boaters by providing important information about the boat. **TQ #2 & #3**
    - i. Maximum weight capacity in pounds
    - ii. Maximum horsepower.
    - iii. Maximum person's capacity in numbers.
    - iv. Maximum person's capacity in pounds. (*Some manufacturer plates may not have iii. and iv.*)
  - b. Capacity plates are required on all boats with a single hull that are less than 20 feet in length, designed to carry two or more people and propelled by machinery or oars.
  - c. Canoes, kayaks, inflatables, sailboats, pontoon boats, PWC and boats of unusual design are not required to have a capacity plate.
  - d. Must be located at a position where the operator can see it while operating the boat.

**BA DVD Clips: Ch. 4: PFDs (3:22),  
Ch. 5: Wearing PFDs (:45)**

**“Fashion Show” – Have students model various types. Show all types if possible. Discuss inflatable PFDs.**

1. Life jackets (PFDs, life preservers, vests) are the most important safety equipment on a boat; they are the best defense against drowning.
2. Two basic kinds of PFDs
  - a. Wearable types (Types I, II, III or V) – must be worn to work properly.
  - b. Throwable types (Type IV) – purpose is to be thrown to someone; includes seat cushion, ring buoys, and horseshoe types.

**Discuss, Q & A; Show USCG approval.**

3. Legal Requirements
  - a. All boats must have a USCG approved wearable PFD on board for each person. **TQ #8**
  - b. Boats 16 feet and over (except canoes and kayaks) must have one approved wearable device on board for each person, plus one throwable device. **TQ #7**
  - c. PFDs must be in good and serviceable condition and legibly marked showing USCG approval. Non-serviceable PFDs that exhibit excessive wear and damage and should be replaced. **TQ #4**
  - d. Wearable type PFDs must be “readily accessible”, which means easily reached and ready to wear.
  - e. Type IV PFDs (throwables) must be “immediately available”, meaning within arms reach of the operator or passenger while the boat is being operated.
  - f. Must be appropriate size for the person intended. **TQ #6**
4. Additional Pennsylvania Requirements
  - a. All waterskiers and anyone being towed behind vessels, personal watercraft operators and passengers, and sailboarders must wear a life jacket. **TQ #5**
  - b. Children 12-years of age and younger must wear an approved life jacket while underway on any boat 20 feet or less in length and all canoes and kayaks.

**Demonstrate proper fit.**

5. Use/care
  - a. Life jackets should be personalized, properly fitted, and tested in the water; everyone should know how to use them.
  - b. Extended sunlight may damage. Do not store wet.
  - c. It is highly advisable to wear life jackets at all times, especially in dangerous conditions. Life jackets can be extremely difficult to put on once a person is in the water.
  - d. Inflatable life jackets must be checked frequently and maintained according to the manufacturer’s recommendations to ensure correct operation when used.

## UNIT 3 (CLASSROOM)

### Thirteen (13) Test Questions

#### Topics (and anticipated teaching time)

Visual Distress Signals and Sound Producing Devices (*5 minutes*)

Fire Prevention (*15 minutes*)

Specific Water Activities (*20 minutes*)

Additional Recommended Equipment (*5 minutes*)

**Goal:** For safe boat operations, operators are required to carry specific safety equipment and are encouraged to carry additional recommended equipment.

#### Learning Objectives (Student Performance Objectives)

Students will:

1. Identify where visual distress signals are required.
2. Identify most important types of safety equipment onboard a boat.
3. Explain the "P.A.S.S." method for extinguishing a fire.
4. Describe purpose of a carburetor backfire flame arrestor.
5. List a minimum of three other types of water activities.
6. Define the term PWC.
7. Identify three special regulations for operating a PWC.
8. List a minimum of five recommended items that are not required by law.
9. Name the required safety equipment to be carried on a particular boat.
10. Cite the main cause of most boat explosions/fires.

#### Materials/Equipment

- Boat America DVD video clips
- TV/DVD player and VCR or projector and screen
- PA Boating Handbook for each student
- Various VDS (flag, hand-held, flare gun - **NOTE: only use inert flares, no live examples**)
- Fire extinguisher (**expended only**)
- Paddling Brochure
- Various sound producing devices (coach's whistle, air horn)
- Optional video selections: "It Smart" (30 minutes), "Judgment on the Water: A lesson in small boat safety (duck hunting clip\*)" (9 minutes) **WARNING:** This video clip contains footage of ducks being shot, which may be offensive to non-hunters. If this offends any students, substitute another video selection.

#### Extensions

- Arrange for a local fire company to give a live demonstration of fire extinguisher usage and the P.A.S.S. method or flare usage
- Arrange to observe a Vessel Safety Check by a member of the Coast Guard Auxiliary or the U.S. Power Squadron.

**BA DVD Clip: Ch. 4: Signaling Devices (:56)**

1. Visual distress signals
  - a. Used to signal distress and need for immediate assistance.
  - b. Must be USCG approved.
  - c. In Pennsylvania, only required on Lake Erie.
  - d. Types.
    - i. Day use (orange flag with black circle and square and orange smoke).
    - ii. Day and night use (aerial or hand held flares).
      - (a) 3 minimum – expiration date and USCG approval must be stamped on flares.
      - (b) Best-used only when another boat is in sight.
      - (c) Short duration.

**TQ #11**

**Explain hazard**

- (d) Do not hold or set off over or inside the boat.
- (e) Aerial flares should be fired downwind; hold hand-held flares over leeward (downwind) side.

**Show whistle and horn. Emphasize attaching to PFD.**

2. Sound producing devices – used to notify other boaters or people on shore.
  - a. Motorboats less than 40 ft. in length shall carry some mechanical means of making a sound signal. This device may be hand, mouth or power operated. An athletics coach whistle is an acceptable sound-producing device for small motorboats.
  - b. Unpowered boat operators are required to have some means of making an efficient oral (your voice) or mechanical sound signal that can be heard by another boat operator in time to avoid a collision.
  - c. Sound signaling devices must be readily accessible to the operator of the boat.

<b>BA DVD Clips: Ch. 2: Fueling</b>	<b>(2:16)</b>
<b>Ch. 4: Fire Extinguishers</b>	<b>(:43)</b>
<b>Ch. 5: Fire Emergencies</b>	<b>(:45)</b>
<b>Ch. 5: Carbon Monoxide Poisoning</b>	<b>(:42)</b>

1. Ventilation
  - a. To prevent a fire, boaters must make certain their boat is properly ventilated and know how to correctly fuel their boat.
    - i. Gasoline fumes are denser than air; an explosion could occur if leaking gas vapors collect in the boat’s bilge (lowest interior area). **TQ #13**
    - ii. Boats must be ventilated.
    - iii. It takes a precise combination of oxygen and gasoline vapors plus an ignition source to create an explosion.
    - iv. Keep bilge clean and dry, use nose to sniff bilge.
    - v. Run blower for at least 4 minutes, prior to starting engine. Routinely check for leaks in fuel lines and fittings, frayed wiring, and improperly rigged electrical systems. **TQ #12**
  - b. Carbon monoxide gas is another potentially dangerous byproduct of boat engine’s exhaust.

- i. Skiers and swimmers behind a boat can be overcome by carbon monoxide gas on the water, causing them to be overcome, suffocate, and drown.
- ii. Stay away from exhaust vents or shut your engine off to avoid this problem.
- iii. Keep air flowing through the boat

**TQ # 23**

2. Fueling **BH (Chapter 5, pg. 36)**

- a. Most boat explosions or fires result from improper fueling.

**TQ #19**

**“Balloon demo” - Blow up and pop a balloon showing expansion.**

- b. Do not fill tank to rim; gasoline will expand with increasing temperatures (same as in a car).
- c. Portable tanks.
  - i. Should be filled on dock or pier, not on board
  - ii. Close vent and pump gas carefully.
  - iii. Nozzle must maintain contact with tank’s rim (to prevent a static spark).
  - iv. Clean up any spills; secure tank in boat; open vent.
- d. Inboard tanks
  - i. Send everyone ashore.
  - ii. Close up boat; shut off electrical systems.
  - iv. After filling up and before starting engine, turn on blower for four minutes.
  - v. Lift the engine hatch and use your nose to smell for fumes inside the engine compartment. Do not start engine if fumes are detected.
- e. Check fuel line, clamps, and fittings.
- f. Fuel & other toxic substances must be disposed of properly. Noncompliance may result in fines.

**Show example. Illustrate with screen and lighter.**

3. Carburetor Backfire Flame Arrestors

**BH (Chapter 2, pg. 19)**

- a. Fire prevention device on boats with inboard motors. Disperses flame when engine backfires.
- b. All gasoline engines (except outboards) must have an approved backfire flame control on the carburetor to prevent ignition of gas vapors in case engine backfires.

**Show examples.**

**BH (Chapter 2, pg. 19)**

4. Fire Extinguishers

- a. Must be USCG approved and in good condition (fully charged, nozzle clear, good condition).
- b. Should be mounted away from fuel source. **TQ #10**
- c. Required on all boats that have any of following: closed compartments, permanently installed fuel tanks, closed living spaces, or double bottoms not sealed to hull or completely filled with flotation material.
- d. Must be within arm’s reach of at least one person on board who knows how to use it properly

**Give examples of types of fires: Ash, Boil, Current**

- e. Classification determined by letter, which designates type of fire they will put out.
  - i. A- Combustible Solids (wood, paper; Ash)
  - ii. B- Flammable Liquids (gasoline; type specified for boats -Boil) **TQ #9**
  - iii. C- Electrical fires (Current)
  - iv. Multiple –A/B/C” types are best because they put out a combination of fire types.
- f. Common violations or mistakes
  - i. Unit discharged.

- ii. Obstructed nozzle.
  - iii. Left on boat and subjected to summer heat and winter freezing.
  - iv. Unit not mounted, or mounted too close to fuel source.
- g. In case of fire:
- i. Stop boat, put on a life jacket.
  - ii. Turn off engine, blower, and main electrical switch if possible.
  - iii. Use extinguisher immediately; time of discharge is brief.
  - iv. Use P.A.S.S. technique; 4-6 feet from flames.

<b>Demonstrate P.A.S.S. BH (Chapter 5, pg. 36)</b>
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**P** – Pull pin

**A** – Aim at base of fire

**S** – Squeeze handle

**S** – Sweep side-to-side using short bursts, ½ - 1 second each; check flames after each sweep; watch for flare-ups.

**TQ #42**

- h. Know where unit is, how it operates, and how to release it from mount. Have a plan.
- i. Recommend inspecting yearly by a professional fire extinguisher recharging service.

### Specific Water Activities (20 minutes)

<b>BA DVD Clips: Ch. 3: Operating a PWC (5:09), Ch. 3: Sharing Your PWC (1:26)</b>
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<b>BH (Chapter 4, pg. 32-33)</b>
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1. Personal Watercraft
  - a. Many types: SeaDoo®, Jet Ski®, Wave Runner®, AquaTrax®, Tiger Shark®, and others.
  - b. Fast, maneuverable, and powered by jet drives.
    - i. Speeds in stock units range 40 to 60 mph.
    - ii. Propulsion
      - (1) Propelled through water by jet pump.
      - (2) Water is drawn through impeller, which forces it in a stream through nozzle.
      - (3) No propeller – pump intake can be dangerous.
      - (4) A cutoff switch attached to a safety lanyard stops the engine when the operator falls off.
      - (5) A fuel reserve allows rider to return to shore before running out of gas.
    - iii. Steering
      - (1) Designed to turn quickly.
      - (2) Handlebars control steerable nozzle at rear of pump housing.
      - (3) Steering control directs stream of water to left or right.
      - (4) To maneuver quickly, operator must use the throttle and give the boat power (thrust) to maintain steering control. On some models, completely releasing the throttle results in total loss of steering control.
      - (5) Some personal watercraft have reverse – not to be used as a brake – use only at idle speed.
  - c. Requires increased awareness and judgment for safe operation.
  - d. Failure to keep a proper lookout is the main reason for accidents on PWC (ex: PWC operator turns without looking and collides with overtaking boat).
  - e. Pennsylvania PWC legal requirements:

**TQ #49**

- i. A person under 12 years of age may not operate a personal watercraft. **TQ #48**
- ii. ALL PWC operators, no matter what age, must have in their possession a Boating Safety Education Certificate.
- iii. A person 12 to 15 years of age may not operate a personal watercraft carrying passengers who are less than 16 years of age.
- iv. Operators of PWC must obey same rules as other motorboats.
- v. Everyone on board must wear a life jacket (high impact rating of 50 mph or more recommended); inflatables are not approved for use on PWCs.
- vi. Illegal to rent to a person less than 16 years of age.
- vii. Illegal to operate from sunset to sunrise. **TQ #46**
- viii. When supplied with boat, safety lanyard for the kill switch must be attached to body, clothing, or life jacket.
- ix. Illegal to tow a water skier behind a PWC with a capacity of two people or less. May tow one skier only.
- x. Fire extinguishers, sound producing device, numbers and registration required to be carried on board.
- xi. Wake jumping - Stay away from other operating boats. It is unlawful to cause a boat to become airborne or completely leave the water while crossing the wake of another boat when within 100 feet of boat creating the wake.
- xii. PWC noise is the largest public complaint - PWC must be equipped with an efficient muffling system or device in good working order. As with all motorboats, no altered mufflers, muffler cutout, or bypasses are permitted.

<b>Demonstrate hand signals</b>	<b>BH (Chapter 4, pg. 34)</b>
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2. Water Skiing

- a. Requires some athletic ability and is best learned from an experienced instructor. A knowledgeable boat operator is essential.
- b. USCG approved wearable life jacket must be worn by all skiers and/or anyone being towed by a boat. Recommended PFD have a minimum 50 mph impact rating.
- c. In addition to boat operator, a competent observer must be in boat to observe person(s) being towed. Observer must have ability to assess when a skier may be in trouble, know hand signals, and be capable of helping a skier. **TQ #50**
- d. Water skiing is illegal from sunset to sunrise.
- e. Normal water skiing tow ropes may not exceed 80 feet in length.
- f. Operating within 100 feet of a water-skier being towed by another boat is unlawful.

3. Swimming and Diving

- a. Swimming from boats on waters where other boats are operating may be dangerous because swimmers are difficult to see in the water.

<b>Show actual flags or refer to BH p. ____</b>	<b>BH (Chapter 4, pg. 35)</b>
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- b. A Diver Down Flag is displayed from a float during diving operations. The flag is red and rectangular with a white diagonal stripe. **TQ #47**
- c. A Code Flag Alpha is displayed from a boat during dive operations when restricted in its ability to maneuver. This flag is a blue and white pennant.
- d. Boats that are not part of the diving operations must remain at least 100 feet away from these diver flags.

**Hand out Paddling Brochure, refer students to water trails on Commission web site.**

4. Canoeing and Kayaking

**BH (Chapter 4, pg. 33)**

- a. Paddling is a –get wet” sport. Best learned from experienced instructors.
- b. Paddling sports are very popular recreational water sports in Pennsylvania.
- c. Knowledge, preparation and practice can minimize dangers.
- d. Primary hazards include capsizing, falling overboard or swamping.
- e. Never paddle alone. There is safety in numbers.

5. Sailing

**BH (Chapter 4, pg. 35)**

- a. Can be another –get wet” sport, requires specific skills best learned from an experienced instructor.
- b. Have the right of way in most operating circumstances, except when overtaking another boat. Can be very difficult to learn.

**Optional Video Clip: Judgment on the Water: “Duck Hunting” \*See warning**

6. Hunting and Fishing

**BH (Chapter 4, pg. 35)**

- a. Hunters and anglers often do not consider themselves to be boaters and are unaware of safe boating concepts.
- b. At high risk for hypothermia or cold water shock (sudden immersion into cold water) due to cold weather boating.
- c. Often are the victims in boating fatalities.

**Additional Recommended Equipment (5 minutes)**

**BH (Chapter 2, pg. 18)**

**Show examples**

Not required by law, but could be very beneficial to have on board:

- √ Paddles or oars
- √ Anchors with plenty of line
- √ Extra clothing, food & water
- √ Marine radio or cell phone
- √ Tool kit
- √ Extra fuses and bulbs
- √ Flashlight
- √ Bailer
- √ First aid kit
- √ Sunscreen and sunglasses
- √ Charts and compass
- √ Fenders
- √ Throw (or rescue) bag

## UNIT 4 (CLASSROOM)

### Nine (9) Test Questions

#### Topics (and anticipated teaching time)

Navigation Rules (30 minutes)

Lights (10 minutes)

Pennsylvania Operation Requirements (10 minutes)

**Goal:** The Navigation Rules provide uniform standards for safe boat operations.

#### Learning Objectives (Student Performance Objectives)

Students will:

1. Define the purpose of Navigation Rules.
2. Identify and describe at least four proper operating requirements in Pennsylvania.
3. Identify minimum requirements for lights on a boat.
4. Describe three nautical rules of the road scenarios and each operator's responsibilities.

#### Materials/Equipment:

- Boat America DVD video clips
- TV/DVD and VCR or projector and screen
- PA Boating Handbook for each student
- Portable lights (red, green, white)
- Optional video selections: Navigation Rules clip from —**S** Power Squadron's Boating Course for Power and Sail" (10 minutes)

#### Extensions

- Have student visit a popular, local boating area to observe and record the actions of boats (positive and negative) involving Navigation Rules.
- Visit a popular boating area at night to observe the usage of lights.
- Record the variety of water activities taking place at a popular, local boating area.

**Navigation Rules** (also known as nautical —Rules of the Road”) (30 minutes)

**BA DVD Clip: Ch. 3: Navigation Rules (3:58)**

**BH (Chapter 3, pg. 24-28)**

1. Boat operator’s responsibilities
  - a. Safety of all passengers.
  - b. A boat’s wake and any damage that it may cause.
  - c. Maintaining a proper lookout and a safe speed.
  - d. Using good seamanship (making good decisions – using sound judgment).
2. Collision avoidance is purpose of Navigational Rules.
  - a. Requires boaters to make choices.
  - b. There are few signs or traffic lights and no white lines on the water.
  - c. Common sense required but is not enough; boaters must know rules.
3. Basic navigation rules that apply to all boaters.
  - a. Keep a proper lookout.
    - i. Avoid being surprised; utilize all your senses to remain alert.
    - ii. Look all around constantly for swimmers, obstructions, anchored boats, etc.
    - iii. Look on both sides to be sure there is room before turning.
    - iv. Listening for dangerous situations is also a part of maintaining a proper lookout.
    - v. Most collisions occur because someone didn’t keep a proper lookout.
  - b. Maintain safe speed at all times.
    - i. –Safe” depends on several factors; the boater, boat, traffic density, and environmental conditions (i.e., weather, time of day or night, water conditions) **TQ #29**
    - ii. Always maintain control so the ability to avoid a collision is never in doubt.

**Have students simulate.**

4. Risk of Collision
  - a. Risk of collision begins when you decide that your boat and another boat are likely to reach same place at same time.
  - b. A constant bearing (direction of an object from observer) with a decreasing range (distance) means a risk of collision exists; a change in bearing reduces risk of collision.
  - c. Ends when both boats are clear and moving apart.
5. Stand-on Vessel
  - a. Boat with right of way.
  - b. Maintain course and speed.
  - c. If other boat is not doing its job, take action to avoid a collision or immediate danger; you are still stand on vessel, but you are making the choice.
6. Give-way Vessel **TQ #28**
  - a. Must take early and substantial (obvious) action to keep clear of other boats. Pass astern (behind) other vessel, when applicable; slow down or stop if necessary.
  - b. All boat operators are required to avoid a collision no matter who has –right of way.”

**Have students simulate.**

7. Navigation Rules (scenarios)

- a. A boat's danger zone is area from straight (dead) ahead to starboard 112.5 degrees (from 12 o'clock to 4 o'clock). Any boat approaching your boat in your danger zone is stand-on (has right of way). **TQ #26**
  - b. Meeting - When two boats are meeting head on, neither has right of way. Both are give-way. Both boats turn to the right (starboard) and pass on the left (port). **TQ #27**  
Note: On rivers, downbound vessels (those following the current) have the right of way over upbound vessels (those traveling upstream against the current).
  - c. Overtaking – When overtaking another boat, stay clear, you are give-way vessel. Boat being passed is stand-on (has right of way). Boat being passed must maintain its course and speed. **TQ #30**
  - d. Crossing – When approaching a boat at right angles, boat on right is stand-on (has right of way). Other boat (give-way) must slow down, stop or change course and pass astern (behind) other boat.  
Note: On rivers, vessel crossing a river gives way to both upbound and downbound vessels
8. Sailing and Other Important Rules of Road
- a. Sailboats (under sail only) and other unpowered boats have right-of-way over powerboats unless overtaking powerboats or if powerboat is at anchor. (Powered boats must steer clear of unpowered boats so their wake does not swamp or capsize them).
  - b. Sailboats approaching each other with wind on different sides—sailboat with wind on port side is give-way.
  - c. Sailboats approaching each other with wind on same side—sailboat to windward is give-way
9. Narrow channels
- a. Stay as far to the right as safely possible.
  - b. Boats less than 20 meters in length and sailboats under sail must give way to vessels that can only operate within the deepest part of a channel (freighters, barges, other large craft)
  - c. Do not anchor in a channel.
10. Sound Signals
- a. Boats less than 40 feet long must carry a hand, mouth, or power generated whistle or horn
  - b. Boats from 40 feet to 65 feet must carry a whistle and bell audible for ½ mile
  - c. Sound signaling device must be readily accessible to operator and passengers.

**Lights** (10 minutes)

**BA DVD Clip: Ch. 3: Night Boating (2:54)**

**BH (Chapter 2, pg. 14-16)**

**Demonstrate lights. Review Colors and Location.**

1. Light Definitions
  - a. All-round light—white light visible for 360 degrees – can be a combination masthead light and stern light.
  - b. Masthead light –white light located at the top or highest point of a boat.
  - c. Side lights – red and green lights on the sides of a boat.
  - d. Stern light – white light located on the transom visible for 360 degrees.

2. Lights are required so boats can be seen and to indicate the direction that boats are traveling when underway.
3. Lights are required from sunset to sunrise and during times of restricted visibility (e.g. fog or heavy rain). **TQ #33**
4. Limited to red, green and white.)
5. All boats must display one all-round white light when at anchor. **TQ #34**
6. Unpowered boats, including small sailboats under 7 meters, must display a white light (hand-held or installed) in time to avoid collision.

**Pennsylvania Operation Requirements (10 minutes)**

**BH (Chapter 2, pg. 7)**

1. Some (**not all**) Pennsylvania requirements

**Explain that Slow No Wake means the slowest throttle speed required to maintain control (steerage). Stress how often the No Wake law is ignored. Demonstrate by showing how far 100 feet actually is.**

- a. Boats must maintain a slow no wake speed when operating within 100 feet of the shoreline, floats, docks, launching ramps, swimmers or downed skiers, anchored, moored or drifting boats, or areas marked with –Slow – No Wake” buoys. **TQ #32**
- b. Operating a motorboat less than 20 ft. in length at greater than slow-no wake speed while a person is standing on/in the boat is an illegal and unsafe behavior. **TQ #36**
- c. It is unlawful to operate a motorboat not equipped with railings or other safeguards at greater than slow no wake speed while a person is riding on bow decking, gunwales, transom, or motor cover (some exceptions, i.e., seat built into motor cover).
- d. It is unlawful to weave through congested traffic.
- e. It is unlawful to operate within 100 feet of anyone being towed behind a boat.
- f. Operation of a boat faster than slow no-wake when within 100 feet to the rear or 50 feet to the side of another boat underway (except in narrow channels) is illegal.
- g. It is unlawful to cause a boat to become airborne or completely leave the water while crossing the wake of another boat when within 100 feet of that boat.
- h. It is unlawful to operate a pontoon boat at greater than slow no-wake speed while a person is riding outside the passenger carrying area.
- i. It is unlawful to operate within 100 **yards** of any U.S. Navy vessel. You must operate at slow no wake speed when within 500 **yards** of any U.S. Navy vessel.

**Provide examples to illustrate each age requirement.**

2. Minimum age for operation of motorboats
  - a. A person eleven years of age or younger may not operate a motorboat propelled by a motor greater than 25 horsepower.
  - b. No person born on or after January 1, 1982 may operate a motorboat propelled by a motor of 26 horsepower or greater without first obtaining a Boating Safety Education Certificate.

## UNIT 5 (CLASSROOM)

Twenty (20) test questions

### Topics (and anticipated teaching time)

Aids to Navigation – (ATON) –Buoys (5 minutes)

Accidents – (5 minutes)

Hazards to Boaters (27 minutes)

Alcohol and Boating (3 minutes)

Float Plans (5 minutes)

**Goal:** Proper planning is required to prepare for a safe boating trip and identify and react to emergency situations while on the water.

### Learning Objectives: (Student Performance Objectives)

Students will:

1. Correctly identify four buoys of the U.S. Aids to Navigation system.
2. Identify five types of accidents and cite contributing factors for each.
3. Compile a list of four main hazards to boaters.
4. Describe two reasons why dams are dangerous.
5. Name two types of boating accidents that account for the most fatalities.
6. Identify three ways to indicate changing weather.
7. Describe the importance of understanding tidal currents.
8. Describe symptoms, first aid treatment and prevention techniques for hypothermia.
9. Name three cold-water survival techniques.
10. Explain three reasons why alcohol and boating do not mix.
11. Correctly complete a hypothetical float plan.

### Materials/Equipment

- Boat America DVD video clips
- TV/DVD player and VCR or projector and screen
- PA Boating Handbook for each student
- Toy buoy set
- ATON decals
- Sample float plans
- Optional video selections: –Judgment on the Water: A lesson in Small Boat Safety” (24 minutes), –Cold, Wet and Alive” (23 minutes), National Livery Safety System – –You’re In Control: A Guide to Safe Paddling” (8 minutes).

### Extensions

- **Hypothermia tank** – Create a –hypothermia tank” using a five gallon bucket or tank filled with water and ice and a registering thermometer. Have volunteer place both hands into the water above the wrist. Time the immersion to determine how long the volunteer can keep his hands in the water before he begins to feel cold. Do not let the volunteer keep his hands in the water for more than one (1) minute. To further demonstrate the effects of cold water, drop a few

coins or an old life jacket buckle in the bucket and ask the volunteer to pick up the coins or fasten the buckle without looking.

- **—Captain Alcohol” skit**

This skit illustrates to boaters that alcohol affects thought processes, reaction time, dexterity, etc. A good-natured volunteer is chosen to portray the simulated effects of drinking too much.

First, a tight fitting hood such as a wet suit hood or removable coat hood is placed on the volunteer to represent the effects on the thought process. This action should dull the thinking process and the volunteer should have trouble hearing and may feel closed in. Dark sunglasses are placed on the volunteer to illustrate that a drinker cannot see as well. Large cards are then taped to the sides of the sunglasses to act as blinders to demonstrate the loss of peripheral vision.

Large mittens or gloves are placed on the individual to portray the loss of dexterity. Aerobic wrist weights or SCUBA weights are placed around the volunteer’s wrist to slow their reaction time. The victim is then asked to put on a life jacket, which is very difficult at this point. —Captain Alcohol” drowns because he was too drunk to put on his life jacket!

**BA DVD Clip: Ch. 3: Navigation Aids (2:22)**

**Show sample buoys-hand out ATON decals**

1. Purpose of ATON is to help boaters navigate safely and avoid problems.
2. U.S. Aids to Navigation System
  - a. Regulatory markers (white with orange symbols)
    - i. Restricted area – Boats Keep Out -- diamond with a cross (swim area, dams, etc.) **TQ #31**
    - ii. Danger or Hazard – diamond (rocks, rapids, dam, shoal, stump, etc.)
    - iii. Controlled Area – circle (Caution: slow no wake, speed limit, ski area, etc.) **TQ #35**
    - iv. Information – square (marina entrance, gas dock ahead, etc.)
  - b. Channel markers
    - i. Red buoy – right (starboard) side of channel, have even numbers, keep marker to right of your boat when going upstream (remember the slogan –Red, Right, Returning”).
    - ii. Green buoy – left (port) side of channel, have odd numbers, keep marker to left of your boat when upstream.
    - iii. Mid-channel buoy – red and white vertical stripes. Pass close on either side.
  - c. Mooring buoys
    - i. Not an aid-to-navigation (example: a parking meter vs. a stop sign or speed limit.)
    - ii. White with a blue horizontal band.
    - iii. Boats use to moor, rather than a dock.

**BA DVD Clip: Ch. 2: Trailering (2:20),  
Ch. 3: Casting Off and Docking (3:00),  
Ch. 3: Anchoring (1:26)**

**Boating Accidents** **BH (Chapter 5, pg. 43)**

**Hand out sample Boating Accident Report**

**Read a current PA accident recap. Ask students to identify mistakes that caused the accident. CAUTION: The victim in the recap may have friends or family in the class. Provide scenarios of accidents and let the group decide if the accident report should be filed. Show a Boating Accident Report.**

1. Boating accidents are avoidable; they happen because someone made a mistake.
2. Requirements.
  - a. The operator of any boat involved in a boating accident is required to stop, render assistance, and offer identification if doing so would not endanger your own boat or passengers. **TQ #43**
  - b. Accidents are required to be reported to Fish and Boat Commission under these circumstances:
    - i. Death or disappearance, or
    - ii. Injury requiring medical treatment more than first aid, or
    - iii. Total damage \$2,000 or more, or the complete loss of the vessel. **TQ # 44**

**Group may share short personal “war stories.”** **BH (Chapter 5, pg. 39-41)**

3. Types of accidents and contributing factors
  - a. Capsizing – Results in most fatalities.
    - i. Caused by overloading and improper loading, sudden and sharp high speed turns, boating in bad weather.

- ii. Avoid carrying anything onboard. Load items one at a time by handing them to someone already on board. Keep all weight centered in the boat, both side to side and bow to stern, and as low in the boat as possible to maximize stability. Secure anything taken on board.
  - iii. Keep shoulders inside gunwales. When retrieving an object from the water use a paddle to pull the object close to the boat or move the boat close to the object before reaching for it.
  - iv. If a capsizing occurs, respond by staying with the craft, putting on PFDs, accounting for passengers, and signaling for assistance.
- b. Falling overboard. Second most common type of fatality
- i. Often caused by: standing up in a boat, riding on gunwale or bow decking, not maintaining three points of contact while moving around, or not keeping shoulders inside gunwales while retrieving something from the water (i.e. overboard object, landing a fish).
- Note: Capsizings and Falls Overboard together are the leading cause of boating fatalities nationwide.** **TQ #37**
- c. Collisions
- i. Commonly caused by not keeping a proper lookout or not observing rules of the road.
  - ii. Most common accident; rarely results in a fatality but injuries and property damage far outnumber other types of accidents.
- d. Fires and Explosions
- i. Most commonly caused by improper ventilation, improper fueling practices, and wiring not properly maintained.
  - ii. Often results in severe injuries and property damage.
- e. Swamping and Flooding
- i. Most commonly caused by overloading or improper loading, operating in hazardous waters or under adverse weather conditions, and anchoring from the stern instead of from the bow.
- TQ # 24**
- ii. Boats often capsize after swamping or flooding.
  - iii. REACH – THROW – ROW – GO **TQ #40**

### Hazards to Boaters (27 minutes)

**BH (Chapter 5, pg. 37-39)**

Safety on water is dependent upon developing respect for the power of water.

1. Moving Water
  - a. Current – its power is very deceptive and should be taken into account by all boaters. **TQ #14**  
Avoid fast current conditions—especially flood waters. Don't exceed your skill level!
  - b. Strainer – any obstruction that allows water to pass through, but will hold and trap boats and boaters (examples: trees, fences).

**Provide examples of how classified waters may change, based on weather and water condition.**

- c. Rapids – Rivers and rapids are rated with International Scale of River Difficulty which is a guide established by American White Water Affiliation; parts of rivers could have a different rating than overall rating. (Classes I-VI) Rating may change with flow increases or decreases.
- d. Dams – very dangerous manmade hazard **BH (Chapter 5, pg. 38)**
  - i. Current draws boats into water going over dams.
  - ii. Below dam, currents pull boats into “recycling” currents and turbulent waters.
  - iii. Low head dams are dangerous because they do not look as menacing as larger dams and are very difficult to see from upstream; hydraulics below dam can pull, trap and hold boats or boaters. Hazards exist from going over the dam and approaching it from downstream. **TQ #16**

- iv. Many dams are unmarked and impossible to see from upstream.
- v. What is the best way to avoid dams? Look at a map and know the water you are boating.

**BA DVD Clip: Ch. 5: Severe Weather (1:00)**

**BH (Chapter 5, pg. 38-39)**

- 2. Weather
  - a. Affects condition of open water and can change suddenly.
  - b. Weather-determining factors: temperature, barometric pressure, and wind.
  - c. Two Types of weather
    - i. Movement of large air masses across the world.
    - ii. Weather caused by local, seasonal conditions (most unpredictable type of weather).
  - d. Obtain local forecast night before and in morning before going boating.
  - e. National Weather Service issues a new marine forecast every six hours on designated VHF radio channels or telephone National Weather Service for latest forecast.
  - f. Obtain other local information from national, state, and county parks, state agencies, and websites such as the USGS at <http://water.usgs.gov/realtime.html>
  - g. Signs of weather change
    - i. Clouds gather, darken, and increase in size (the faster clouds develop, greater chance of high winds, storms, and lighting.) **TQ #17**
    - ii. Sudden temperature drop and/or a rapid wind shift or change in wind's speed usually indicates a front coming through.
    - iii. Static on AM band of radio indicates a thunderstorm.
  - h. If a storm is near, or the water starts getting rough, everyone should be wearing a life jacket. In a small boat get off the water; head to the nearest shore. **TQ#15**
- 3. Large bodies of water
  - a. Large bodies of water such as oceans or Lake Erie provide different challenges and dangers than rivers or smaller inland lakes.
  - b. Waves
    - i. When boating in waves or crossing another boat's wake, quarter waves at an angle; this reduces pounding.
  - c. Tides and tidal currents
    - i. The vertical rise and fall of ocean water and waters affected by the ocean, caused by gravitational forces of moon and sun.
    - ii. Can affect where a boater can travel or anchor safely.
    - iii. Affects how long it takes to get to a destination, speed needed to arrive at a given time, and heading that must be maintained.
    - iv. Consult tide tables for times of high and low tides (2 each per day).

**Optional Video: "Cold, Wet and Alive"**

**BA DVD Clip: Ch. 4: Rendering Aid (:44),  
Ch. 5: Cold Water Immersion (1:16)**

**Hypothermia tank demo.**

**BH (Chapter 5, pg. 42)**

- 4. Hypothermia
  - a. Lowering of body's core temperature. **TQ# 38**
  - b. Heat loss can be caused from exposure to elements (water cools body 25 times faster than air of same temperature).
  - c. Heat loss areas: head, underarm and groin.

5. Signs and symptoms
  - a. Shivering.
  - b. Cold, blue skin.
  - c. Decreased mental skills/loss of judgment.
  - d. Slurred speech.
  - e. Slow heart rate.
  - f. Muscle stiffness.
  - g. Unconsciousness.

### Clothing demonstration

6. Prevention
  - a. Eat high-energy goods to keep producing heat in body.
  - b. Dress properly; wear a hat, and layer your clothing.
  - c. Cotton is a poor insulator when wet; polypropylene, silk, polyester pile, neoprene, and/or wool with a water and wind repellent outer layer is best.
7. Basic first aid
  - a. Get person out of water or weather as quickly as possible.
  - b. Take off wet clothes and put on dry ones.
  - c. Wrap in blankets and warm person slowly. **TQ #45**
  - d. Do not give anything by mouth if unconscious.
  - e. Get medical treatment as soon as possible.
8. Cold water shock
  - a. Rapid development of a number of shock responses that can result in sudden drowning.
  - b. One of the first responses by the body upon sudden immersion in cold water is an involuntary gasp (torso reflex).
    - i. Covering mouth and nose with your hands when falling into cold water reduces the chance of inhaling water.
  - c. Hyperventilation (rapid breathing) and breathlessness follow. Victim may feel claustrophobic and panicked.
  - d. Hyperventilation can reduce blood flow to the brain, causing confusion in the victim.
  - e. Cold water vastly reduces the victim's ability to hold his breath.
  - f. Loss of breathing control and reduced breath-holding ability will impair a victim's ability to swim.
9. Cold water survival
  - a. Wear a life jacket.
  - b. Do not remove clothing; keep clothes on.
  - c. Get back into or climb on top of boat. **TQ #41**
  - d. If you can't get out of water, or shore is too far, protect yourself with the Heat Escape Lessening Posture (HELP) or Huddle position if more than one person. **TQ #39**
  - e. Unless safety (shoreline) is very near, do not try to swim.

### Alcohol and Boating (2 minutes)

**BH (Chapter 5, pg. 43-44)**

1. Drinking and boating do not mix.
  - a. Alcohol is a depressant; affects balance, vision, and coordination (physical reactions); increases heat loss by dilating blood vessels so hypothermia occurs faster.
  - b. Alcohol combined with engine noise/vibration, and environmental factors fatigues boaters.
  - c. Reduces judgment causing higher risk-taking.
  - d. Drinking alcohol while operating a boat can result in the arrest of the operator.
  - e. A blood alcohol content of .08 percent or more is considered to be over the legal limit (0.02% b.a.c. for minors).
2. Additional Pennsylvania Requirements

- It is illegal to operate a boat on all waters in PA while under the influence of alcohol or a controlled substance. Officers can stop a boat and arrest the operator for being under the influence. **TQ #25**
- Alcohol is illegal at all State Parks and at many Corps of Engineer parks.
- Officers can stop boats when someone is drinking and can give a breath test.
- Violators convicted of drinking and boating can receive large fines, imprisonment up to two years, and may not be allowed to boat for one year.

**Optional: Conduct “Captain Alcohol” skit**

Float Plan (5 minutes)

**BH (Chapter 3, pg. 21)**

**Show completed float plan, students may fill out sample float plan**

- Essential information regarding your boat, vehicle, and destination in the event of an emergency or an overdue trip.
- Boaters should always tell someone when and where they will be boating and date and time of return.
- For longer trips a detailed float plan (dates, trip itinerary, persons aboard, individuals to contact if late, etc.) should be filed with a responsible person; do not file with USCG or Commission. **TQ #18**
- Once returned, cancel plan.

**Check List and Passenger Safety (5 minutes)**

**BH (Chapter 3, pg. 20)**

- Before any boat trip, check boat and equipment to prevent problems
- Make a list of items to check and keep it on the boat for use prior to each trip
- Inform all passengers on your boat where all safety equipment is located—life jackets, fire extinguishers, flares, first-aid kit, etc.) **TQ #20**
- Discuss with all passengers any procedures you might encounter—docking and line handling, anchoring, falls overboard, emergency boat operation, storm/rough weather situations, radio operation, discharge/management of any wastes.

**Law Enforcement (1 minute)**

**BH (Chapter 6, pg. 44)**

- Boating laws and regulations are enforced by Waterways Conservation Officers (WCOs or DWCOs).
- Boaters approached by a patrol boat with blue light flashing should reduce speed or stop and wait for instructions.

**Pollution (2 minutes)**

**BH (Chapter 6, pg. 45-46)**

- Unlawful for any person to litter.
- Operator is responsible for all litter originating from his/her boat.  
If something blows out of your boat, go back and remove the object(s) from the water. **TQ #22**
- Properly dispose of all litter. Ex. plastic bags, fishing line, six pack rings (cut them)
- Report water pollution to Dept. of Environmental Protection at 1-800-541-2050 (after hours number 717-787-4343), or the nearest PFBC region law enforcement office. Dead fish are a good clue.
- Boating on Federal waters requires vessels over 26 feet to display a placard in an easy to see location to notify passengers and crew about discharge regulations.

**Aquatic Nuisance Species (1-3 minutes)**

**BH (Chapter 6, pg. 46-47)**

- Remove weeds and other “tag along” debris from boat, motor, trailer.
- Wash all boat/motor/trailer surfaces with hot water or high-pressure spray. **TQ #21**
- Drain live wells, bilges, and other compartments of all standing water before using a different lake.
- Dispose of all unused baits properly—NOT into the water.

## UNIT 6 (IN WATER)

### Topics (and anticipated teaching time)

PFDs and Safe Water Entry (*15 minutes*)

Swimming with a PFD (*10 minutes*)

Cold Water Survival Techniques (*20 minutes*)

**Goal:** Accident prevention requires boaters to practice personal water safety and self-rescue techniques.

### Learning Objectives: (Student Performance Objectives)

Students will:

1. Choose and properly adjust an appropriate PFD (life jacket)
2. Demonstrate safe water entry.
3. Swim wearing a life jacket using one of three survival strokes.
4. Demonstrate and explain the HELP position.
5. Demonstrate and explain the Huddle position.

### Materials/Equipment

Appropriate type and size life jackets for each student and instructor

### Extension

- Wader Safety
  1. Waders and hip boots are not dangerous if correct action is taken quickly. Waders and hip boots will provide buoyancy by trapping air for varying periods of time.
  2. Demonstrate by having someone put on a life jacket and a pair of waders or hip boots then step off or fall back from a dock, pier or pool deck. Bend knees to trap air and remain motionless on back for a few minutes.
  3. Expel all air from waders or hip boots and swim to shore.

## INSTRUCTION

### **PFDs and Safe Water Entry** (15 minutes)

**Prior to activity:** Instructor must make certain the water is at least 7 feet deep and free from underwater obstructions of any kind.

1. On land, have students put on and adjust their life jackets and check to make certain they are in good working order, properly sized and fitted.
  - a. Check for fit by pulling up on the shoulders of the life jacket.
  - b. There should be little or no movement.
  - c. Life jackets, which ride up to the ears, should be tightened or replaced with a smaller unit.
2. The instructor should demonstrate the proper procedure for entering water wearing a life jacket.
  - a. The instructor may get out of the water to properly supervise the activity.
  - b. Keep a close watch on each student as they enter the water.
  - c. Have students cover their mouths and nostrils with both hands, clamping down on the PFD with their elbows before entering the water.
  - d. If done properly, this will keep the student from inhaling water and at the same time keep their life jacket in place.
  - e. Have the students enter the water feet first – **NO DIVING!**
  - f. Panic among non-swimmers is common during this exercise.
  - g. Great caution needs to be exercised by the instructor in this part.
  - h. It may be helpful to have students stand in waist-deep water and lie back until they feel the life jacket support their weight. Some non-swimmers may even need support in the water from the instructor before they will lie back in the water. Let them know they are in control and safe.

### **Swimming with a PFD** (30 minutes)

Students swim a prescribed distance set by the instructor using a survival stroke.

1. Common swimming strokes used when wearing a PFD
  - a. Breast stroke
  - b. Side stroke
  - c. Elementary backstroke (self-rescue – defensive swimming position)
  - d. Crawl stroke or free style (self-rescue – aggressive swimming position)
2. One lap in a pool is a good distance.
3. When using a lake, a safety person must be in the water during this activity.
4. Instructors should be prepared to demonstrate all strokes.
5. Simulate or discuss river current and how to self rescue swim.
6. The self rescue swim technique:
  - a. Inform students that this position allows the swimmer to evaluate downstream hazards and where they want to be positioned.
  - b. Have students spread out in the pool area.
  - c. Have swimmers roll onto their backs so they are floating face up.
  - d. Instruct them to have their feet pointed ~~downstream~~ (designate one end of the pool to be the downstream side) near the surface of the water. Check to make sure their toes are breaking the surface of the water.
  - e. Swimmers will now be able to see downstream obstructions and they can use their feet and legs as shock absorbers to push off of obstructions in the water. Have students practice the back stroke and have them kick hard. Explain that they can use this position to ferry away from obstructions and get safely to a shore.

- f. When swimmers are going over a vertical drop, form a ball (pull knees to chest) to reduce the risk of an entrapment.
- g. Inform students that they will need to take a breath before encountering any standing waves to avoid a mouthful of water.
- h. ATTEMPTING TO STAND IN MOVING WATER CAN LEAD TO FOOT ENTRAPMENT.

**Cold Water Survival Techniques** (20 minutes)

- 1. Describe, and then demonstrate, the Heat Escape Lessening Posture (HELP).
  - a. HELP is done with the knees drawn up to the chest, ankles crossed, arms crossed over the chest and the head out of the water.
  - b. When done properly, the high heat loss areas of the groin, armpits, and back of the neck are covered.
  - c. Have students enter the water and assume the HELP position.
  - d. Students should remain in the HELP position for at least a minute, floating silently.
  - e. Students ~~break~~ "break" out of the position slowly so they can feel the temperature change.
- 2. Describe then demonstrate the Huddle position.
  - a. Huddle position requires three or more participants to link up in a circle with their arms around each others shoulders or waists with their legs tightly crossed to reduce heat loss from the groin.
  - b. Three or more students practice the Huddle position.
  - c. Have the students ~~break~~ "break" out of the huddle slowly so they can feel the temperature change.

## UNIT 7 (IN-WATER)

### Topics (and anticipated teaching time)

Rescue Priorities and Procedures (*10 minutes*)

Rescue Techniques (*35 minutes*)

**Goal:** Shore-based rescue techniques are the safest form of water rescue, and combined with a basic understanding of canoe safety skills, will improve boater and water safety.

### Learning Objectives: (Student Performance Objectives)

Students will:

1. Explain four steps involved in the rescue sequence **Reach – Throw – Row – Go (ReThRoG)**.
2. Demonstrate reaching rescues using a variety of objects.
3. Demonstrate throwing rescues using a variety of objects, including a rescue (throw) bag.

### Materials/Equipment

- Appropriate type and size life jackets for each student and instructor
- One (1) rescue (throw) bag for every two students.
- Various everyday items for throwing and reaching rescues (suggested items include: paddles, oars, boat hook, branch, belts, fishing pole, towel, shirt, coolers, beach balls, tackle boxes, duck decoys, rafts, ring buoys and Type IV PFDs).

### Extensions

- Students research phone numbers for accessing EMS or fire and rescue squads in their area. Find out if these organizations have had training in water rescue.
- Students make a list of objects they own and typically have with them around water that could be used as rescue aids.

## INSTRUCTION

### Rescue Priorities and Procedures (10 minutes)

1. Discuss rescue priorities with students.
  - a. Priorities are: self first, people second, and boats, paddles and other equipment last.
  - b. Always make sure people are safe before recovering equipment.
2. Discuss the rescue sequence.
  - a. The mnemonic **–ReThRoG**” will help students remember the rescue sequence Reach, Throw, Row, Go for help.
  - b. Remind students they should talk to the person in trouble.
  - c. This will help to calm them down and they may actually be able to save themselves.
  - d. Emphasize that no one should ever attempt a swimming rescue of an actively drowning person unless skilled in proper techniques and it’s absolutely necessary.

### Rescue Technique (35 minutes)

1. Have reachable and throwable items scattered around the pool area for students to choose from for the rescue activities. Establish stations for larger groups.
2. Reaching Rescues
  - a. Explain and demonstrate a reaching rescue with a student volunteer.
  - b. Students look around them for items that could enable them to reach out to rescue someone.
  - c. In the water, have a few students demonstrate how the items they found could be used for reaching a person.
3. Throwing Rescues
  - a. Students look around for items they could throw out to rescue someone.
  - b. Explain how a rescue or throw bag works.
  - c. Demonstrate underhand, side arm and overhand throwing techniques on land with a rescue bag.
  - d. Demonstrate how to properly pack a rescue bag.
  - e. Students practice (c) and (d) with a partner. They try to accurately toss a distance of 35 feet.
  - f. Demonstrate throwing a coiled line.
  - g. Students practice (f) with a partner, then reload rescue (stuff) bags.
  - h. Demonstrate a throwing rescue in water with a student volunteer. Emphasize steps involved.
    - i. Get victim’s attention.
    - ii. Instruct victim to grab the **rope, not the bag** and hold the rope to their chest.
    - iii. Students practice (h) with a partner.
  - i. Identify common items that may be scattered around the pool area that could be used in a throwing rescue.
  - j. **DO NOT** allow students to throw solid objects to students in the water. An inaccurate toss or missed reception could result in facial and/or dental injuries.

## UNIT 8 (CANOE IN WATER—OPTIONAL)

### Topics (and anticipated teaching time)

Canoe and Paddle Terms (*5 minutes*)

Boat Procedures (*15 minutes*)

Swamping and Hand Paddling Canoes/Self Rescue (*25 minutes*)

**Goal:** Basic practice of simple self-rescue and assisted-rescue techniques with canoes will provide greater small boat self-confidence.

### Learning Objectives: (Student Performance Objectives)

Students will:

1. Name at least four parts of a canoe.
2. Name at least two parts of a paddle.
3. Properly board and launch a canoe.
4. Change places in a canoe.
5. Swamp a canoe and fill it with water without capsizing.
6. Hand-paddle a swamped canoe.

### Materials/Equipment

- Appropriate type and size PFDs for each student and instructor
- Two canoes or as many as the site and supervisory logistics will allow
- Two paddles per canoe.

### **Canoe and Paddle Terms** (5 minutes)

1. Briefly identify parts of a canoe (bow, stern, thwarts, keel, gunwale) and paddle (blade, throat, shaft, handle).

### **Boat Procedures** (15 minutes)

1. Introduce and briefly explain skills covered in each session. Demonstrate skills as session progresses.
2. Boarding/launching/loading canoes and small boats
  - a. One student will hold and secure canoe while other student steps in, keeping low and to the center while maintaining three points of contact (hands on gunwales, foot in center of the bottom of the canoe).
  - b. Once first student is in and kneeling (for maximum control and stability) and holding onto pool deck or dock, other student enters same way.
  - c. Avoid carrying anything onboard. Load items one at a time by handing them to someone already on board. Keep all weight centered in the boat, side to side and bow to stern and as low in the boat as possible to maximize stability. Secure anything taken on board.
  - d. When retrieving objects from the water, keep shoulders inside gunwales. Use a paddle to pull the object close to the boat or move the boat close to the object before reaching for it.
3. Changing Places
  - a. The students will utilize the “leap frog” technique.
  - b. Movements must be slow and deliberate.
  - c. Students stow their paddles on bottom of canoe.
  - d. One student will move to middle and go into tuck position
  - e. After student is in that position, the other student approaches, keeping hands on gunwales, goes up and over, straddling student in tucked position.
  - f. Student gets into paddling position, kneels and picks up a paddle and stabilizes canoe.
  - g. Student in tucked position then moves into kneeling position.
  - h. Repeat process so both students do both procedures.

### **Swamping and Hand Paddling Canoes (Self Rescue)** (25 minutes)

1. Controlled Swamping
  - a. Once in canoe, students should move to deep water away from swimming pool or dock edge.
  - b. Assign a spotter to watch each canoe.
  - c. Both students sit on bottom of canoe and hang their feet over same side.
  - d. Each places a hand on each gunwale.
  - e. Slowly lean (don't rock) canoe over until a gunwale is under water.
  - f. Maintain this position and slowly lean back as canoe fills up with water and is swamped.

**Note: Students and spotter must be careful so the gunwale doesn't hit someone on the head.**

2. Hand-Paddling a Swamped Canoe
  - a. After canoe has been swamped, students re-enter canoe and sit cross-legged in the two center sections. This can be tricky; the canoe now has less buoyancy and will capsize very quickly. (Optional: Have one student stand up to show how quickly the canoe will sink. Once they sit back down, the canoe's flotation will allow it to again float to the surface.)
  - b. Once balance is achieved, hand-paddle the canoe to shore or side of the pool.
  - c. On shore, empty the canoe by flipping it upside down, letting it drain, and then flipping it right side up without dropping it back into water.

**(At this point, if time permits, skip draining the canoes and move on to assisted rescues with a canoe.)**

## UNIT 9 (CANOE IN-WATER—OPTIONAL)

### Topics (and anticipated teaching time)

Assisted Rescues with a Canoe (*45 minutes*)

**Goal:** Learn and practice simple assisted rescue techniques with canoes.

### Learning Objectives: (Student Performance Objectives)

Students will:

1. Demonstrate a canoe-over-canoe rescue.
2. Re-enter a canoe from the water.

### Materials/Equipment

- Appropriate type and size PFDs for each student and instructor.
- Two canoes, or as many as the site and supervisory logistics will allow.
- Two paddles for each canoe.

### Extensions

- **Canoeing Practice** – If time permits, offer the students some practical experience paddling a canoe. Demonstrate strokes (forward, reverse, sweeps, pry, draw, J). Keep it simple – this is NOT a recreational, skill improvement-canoeing course. If at a pool, have students kneel or sit on pool deck facing the end of the pool to practice strokes.
- **Relay Race** – Upon completion of the in-water units, instructor may choose to summarize skills by running a relay race. Students should be in pairs, with three or four pairs competing against each other at the same time (depending on space, equipment and supervision)
  1. With life jackets on, first of the two partners enters the water using safe water entry technique.
  2. First partner must swim using one of the three survival strokes to a designated point.
  3. At designated point, student demonstrates HELP position.
  4. Partner on shore/dock throws rescue bag to partner in the water and pulls him/her to shore.
  5. Once first partner is on shore, second partner starts sequence by entering water using safe water technique and performing #2 through #4.
  6. When second partner has completed sequence, pair must enter a canoe, paddle to a designated point and perform a controlled swamping.
  7. After swamping (and without capsizing), pair must remain in canoe and hand-paddle back to shore.
  8. The pair should empty water from canoe by flipping it over and return it to starting point.

Optional: Canoe-over-canoe rescue with two teams of four. First team to get back after completing all steps in relay sequence wins!

## INSTRUCTION

### Assisted Rescues with a Canoe (45 minutes)

1. Canoe-Over Canoe Rescue
  - a. Activity requires an on-water demonstration while someone on shore explains steps.
  - b. Rescue canoe paddles into position perpendicular to a swamped canoe (forming a “T”). Both victims in the water are instructed to hang onto rescuer’s canoe to help balance it and stay out of the rescuer’s way.
  - c. Rescuers move toward center of canoe one at a time and turn to face each other. In windy or strong current conditions, one victim maintains “F” while the other victim swims to far end of swamped canoe and pushes down on canoe while rescuers lift up, **or** one victim maintains “T” while the other victim helps lift swamped boat onto gunwale of rescue boat).
  - d. Swamped canoe is then put on its side and slowly pulled across the gunwales.
  - e. Once it is pulled approximately 1/2 of the way out of water, flip it completely upside down and continue to drag it over the gunwales until it is perpendicular, watching hands so that they do not get pinched between both canoes’ gunwales.
  - f. Canoe is then rolled upright and slid back into water, without letting it go.
  - g. Re-entry
    - i. The victim’s canoe is placed parallel to rescue canoe and victims reenter canoe one at a time.
    - ii. Rescuers can prevent canoe from tipping by clamping gunwales of both canoes together with hands.
    - iii. Victim grabs the gunwale or thwart of their canoe with both hands and pulls himself up.
    - iv. Victim grabs the opposite gunwale with one or both hands, kicks hard to propel himself and drops into canoe rear first.
    - v. First victim to re-enter can steady the canoe for second victim to enter.
  - h. Alternate Re-entry Technique – This technique works well for those who have less upper body strength.
    - i. People in the assisting canoe have to keep canoes together for this method to work.
    - ii. Student swims in between the canoes.
    - iii. Lying on back with feet toward the middle of canoes, student in water reaches up and grabs gunwales of both canoes. Right hand grabs gunwale of right canoe and left hand grabs gunwale of left canoe.
    - iv. Student in water then places right leg over gunwale of right canoe and left leg over gunwale of left canoe.
    - v. Using arms and legs, the student pulls themselves up into a sitting position straddling both canoes and slides over into one of the canoes.

## UNIT 10 (KAYAKING IN WATER—OPTIONAL)

### Topics:

- Equipment (5 minutes)
- Boat Fit (5 minutes)
- Paddle Handling (2 minutes)
- Launching (3 minutes)
- Wet Exit Demonstration, Edging & Leaning (10 minutes)
- Paddling Strokes (10 minutes)
- Paddling Practice (10 minutes)

### Goal:

Kayaking can be done in a wide variety of places and requires a wide variety of specific equipment. Before ever leaving the classroom, students should familiarize themselves with the equipment. When on the water, students need to minimize conflicts between themselves and other resource users.

### Learning Objectives

Students will:

1. Identify the equipment needed to safely paddle
2. Identify additional equipment highly recommended to have while kayaking.
3. Safely launch a kayak
4. Observe the safe exit of a kayak when it capsizes
5. Demonstrate proper paddle handling
6. Be able to properly fit themselves in a kayak
7. Demonstrate proper paddle handling
8. Demonstrate the basic flat water paddling strokes

### Materials/Equipment:

- Recreational Kayaks (at least 1 per four students)
- Paddles (at least 1 per four students)
- PFDs (1 per student)
- Helmets (optional)
- Additional Recommended Equipment

### **Equipment (5 Minutes)**

1. The kayak
  - a. Cockpit
    - i. Foot pegs
    - ii. Knee/thigh bracing
  - b. Bulkheads & hatches
2. Boat equipment
  - a. Spray skirt
  - b. Paddles
    - i. Parts, length
  - c. Deck cords
3. Safety Equipment
  - a. PFDs
    - i. Fit
    - ii. Regulations
  - b. Helmets
  - c. Footgear
  - d. Appropriate Clothing - wetsuits/drysuits
  - e. Throw bag
4. Other recommended equipment
  - a. Paddling jackets
  - b. Water bottle
  - c. Dry bag
  - d. Sponge/bailer
  - e. Eyeglass strap

### **Boat Fit (5 Minutes)**

1. Boat Fit 

<b>Demonstrate boat fit</b>
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  - a. It is important to correctly fit into the kayak.
  - b. The more you can lock yourself and become a part of the kayak, the easier it will be to paddle and control the boat.
  - c. Use your feet, legs, torso, back, arms, and shoulders to paddle.
  - d. Enter your kayak on land
  - e. Adjust kayak foot braces
  - f. Check knee and thigh supports for optimum fit.

### **Paddle Handling (2 Minutes)**

1. Paddle handling:
  - a. Keep hands spaced a bit wider than your shoulder width
  - b. Keep knuckles in line with the blade of the paddle
  - c. Keep hands loose on the return stroke to minimize fatigue

### **Launching (3 minutes)**

1. Enter the water in the kayak 

<b>Demonstrate entering the water</b>
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  - a. Using a paddle, support and enter kayaks at the shoreline
  - b. Position the kayak perpendicular to the water.

- i. Enter the kayak on the land
- ii. Slide the boat into the water
- c. Kayak trim

**Wet Exit Demonstration, Edging & Leaning** (10 minutes)

1. Demonstrate Wet Exit
  - a. Ensure student comfort
  - b. Instructor should capsize boat and exit boat in safe manner
  - c. Empty boat and reenter from land
2. Edging and Leaning
  - a. Gain confidence and control while putting the boat on it's edge
  - b. Bend at the hips and brace yourself with your knees
  - c. Practice balancing at an angle

**Paddling Strokes** (10 Minutes)

**Demonstrate all strokes**

1. Forward stroke
  - a. Put paddle in water by foot and lift out at hip
  - b. Push straight out from shoulder with top arm while pulling back with the other
  - c. Push with your feet
  - d. Brace with thighs while using back, torso, arms and shoulders in concert
2. Reverse stroke
  - a. Rotate back and turn head to look behind boat
  - b. Put paddle in at stern and lift out at hip
  - c. Complete same on opposite side
3. Sweep stroke
  - a. This is a turning stroke
  - b. Keep outboard arm straight
  - c. Press opposite knee against the inside of the boat to brace yourself while reaching and pulling
  - d. As you pull the paddle back, twist with your torso and follow the paddle with your body.
  - e. Keep the paddle flatter than normal to give some support to allow the boat to lean or edge.
  - f. Practice the sweep stroke on both sides
  - g. use the sweep stroke with the forward stroke to adjust the boat direction while moving forward

**Paddling Practice** (10 Minutes)

1. On the water practice – students should demonstrate
  - a. Using the three basic strokes.
    - i. Forward
    - ii. Sweep
    - iii. Draw
  - b. Students should practice
    - i. Paddling in a straight line
    - ii. Turning where directed
    - iii. Proper paddling posture

## **IF TIME ALLOWS**

### **Additional On-The-Water Strokes**

1. Rudder
  - a. Extend paddle toward stern of boat with blade vertically in water
  - b. Use to steer boat while momentum or current carries the boat forward
2. Draw (out-of-water)
  - a. Rotate body to face the side you will be paddling on.
  - b. With upper hand at eye level, keep the paddle vertical.
  - c. With the forward elbow down, draw the blade toward the boat
  - d. Edge boat away from stroke
  - e. Stop the blade 6 inches away from the boat.
  - f. Lift the blade of the paddle out of the water toward the stern
3. Draw (in-water)
  - a. Same body and arm position as above
  - b. When finishing the draw, rotate the paddle with bottom hand
  - c. The blade should be perpendicular to the boat
  - d. Move the paddle away from the boat to either remove from the water or draw again
4. High brace
  - a. Place paddle horizontally at chest level
  - b. Hold elbows down and paddle blade face down
  - c. Edge boat to starboard side as if about to capsize the boat
  - d. Slap the water with the starboard paddle blade and re-center in the boat with a hip thrust
  - e. Repeat this on the port side of the boat
5. Sculling draw (optional if time allows)
  - a. Same basic body position as above
  - b. Do figure 8 with paddle- icing on a cake
  - c. Sculling draw/brace

## UNIT 11 (KAYAKING IN WATER—OPTIONAL)

### Topics:

Wet Exit Practice (*15 minutes*)

Rescue Practice (*30 minutes*)

### Goal:

Practice safely exiting the kayak and reentering. Practice kayak rescue procedures.

### Learning Objectives

Students will:

1. Safely exit their kayak in the water
2. Safely exit a kayak when it capsizes
3. Demonstrate proper paddle handling
4. Demonstrate the three basic flat water paddling strokes

### Materials/Equipment:

- Kayaks (at least 1 per four students)
- Paddles (at least 1 per four students)
- PFDs (1 per student)

### **Wet Exit Practice (20 minutes)**

1. The wet exit
  - a. Practice in an area with appropriate depth allowing enough clearance for students to avoid injury (not too shallow or too deep)
    - i. Lean over until boat capsizes
    - ii. Tuck head and chest toward deck of boat to avoid injury
    - iii. Exhale through your nose while capsizing – or use nose clips
    - iv. Relax underwater prior to exiting
  - b. One kayak per two students – other student in water for assistance and safety
  - c. Students practice emptying the kayaks and reentering from shore
2. Life without a paddle
  - a. Students practice hand paddling the kayak

### **Rescue Practice (25 minutes)**

1. Kayak-over kayak rescue
  - b. Activity requires an on-water demonstration while someone on shore explains steps.
  - c. Rescue kayak paddles into position perpendicular to a swamped kayak (forming a “T”).
  - d. Victim maintains “T” and pushes down on kayak while rescuer lifts up the boat.
  - e. Swamped kayak is then put on its side and slowly pulled across the gunwales.
  - f. Once it is pulled approximately 1/2 of the way out of water, flip it completely upside down and continue to drag it over the gunwales until it is perpendicular, watching hands so that they do not get pinched between both kayaks’ gunwales.
  - g. Kayak is then rolled upright and slid back into water, without letting it go.
  - h. Re-entry
    - i. The victim’s kayak is placed parallel to rescue kayak and victims reenter kayak one at a time.
    - ii. The rescuer can prevent kayak from tipping by clamping gunwales of both kayaks together with hands.
    - iii. Victim grabs the gunwale of their kayak with both hands and pulls himself up.
    - iv. Victim grabs the opposite gunwale with one or both hands, kicks hard to propel himself and drops into kayak rear first.
  - i. Alternate Re-entry Technique – This technique works well for those who have less upper body strength.
    - i. Rescuer must keep kayaks together for this method to work.
    - ii. Student swims in between the kayaks.
    - iii. Lying on back with feet toward the middle of kayaks, student in water reaches up and grabs gunwales of both kayaks. Right hand grabs gunwale of right kayak and left hand grabs gunwale of left kayak.
    - iv. Student in water then places right leg over gunwale of right kayak and left leg over gunwale of left kayak.
    - v. Using arms and legs, the student pulls themselves up into a sitting position straddling both kayaks and slides over into their kayak.
3. Rescue demonstrations
  - a. Observe a rolling demonstration
  - b. Observe a paddle float rescue demonstration



## BWSA SKILLS ASSESSMENT FORM

*PLEASE CODE*

*(A) = Excellent*

*(B) = Good*

*(C) = Needs Work*

*(D) = Not Observed*

<b>LESSON OR SKILL</b>	<b>STUDENT NAME</b>	<b>STUDENT NAME</b>	<b>STUDENT NAME</b>	<b>STUDENT NAME</b>
<b>UNIT #6</b>				
<b>Properly chooses and adjusts PFD</b>				
<b>Swims with PFD using survival strokes</b>				
<b>Explains HELP position</b>				
<b>Demonstrates HELP position</b>				
<b>Explains Huddle position</b>				
<b>Demonstrates Huddle position</b>				
<b>UNIT #7</b>				
<b>Explain Rescue Sequence</b>				
<b>Demonstrates reaching rescue</b>				
<b>Demonstrates throwing rescue</b>				
<b>Throw bag accuracy reaching victim at 35 feet</b>				
<b>Re-packs throw bag</b>				
<b>UNIT #8/UNIT #10</b>				
<b>Identify 4 parts of a canoe/kayak</b>				
<b>Identify 2 parts of a paddle</b>				
<b>Boards canoe/kayak safely</b>				
<b>Changes places w/partner (Unit #8 only)</b>				
<b>Controlled swamping Unit #8 only)</b>				
<b>Hand paddles swamped canoe/kayak</b>				
<b>UNIT #9/UNIT #11</b>				
<b>Boat over boat rescue</b>				
<b>Re-enters boat</b>				



## PA Fish & Boat Commission

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### PA Education Standards Correlation – Health, Safety and Physical Education PA Boating & Water Safety Awareness

Unit	Concepts of Health 10.1	Healthful Living 10.2	Safety & Injury Prevention 10.3	Physical Activity 10.4	Concepts, Principles, & Strategies of Movement 10.5
<b>Unit 1</b> Boat Operator Responsibilities, PA Boating Waters, the PFBC, Boat Types & Classification, Boat Maintenance			10.3.6A,D 10.3.9A 10.3.12A		
<b>Unit 2</b> Boat Terminology, Registration, PFDs			10.3.6A,D 10.3.9A 10.3.12A		
<b>Unit 3</b> Distress Signals, Fire Prevention, Other Boating Activities			10.3.6A,C,D 10.3.9A,C 10.3.12A,C,D		
<b>Unit 4</b> Navigation Rules, Lights, PA operation Requirements			10.3.6A 10.3.9A 10.3.12A		
<b>Unit 5</b> ATON, Accidents, Alcohol, Hazards, Float Plans			10.3.6A,D 10.3.9A,D 10.3.12A,D	10.4.6F 10.4.9C,F 10.4.12F	
<b>Unit 6</b> In-Water PFD Use, Cold Water Survival			10.3.6D 10.3.9B,D 10.3.12D	10.4.6A 10.4.9A,C	
<b>Unit 7</b> Rescue Priorities, Procedures & Techniques			10.3.6D 10.3.9B,D	10.4.6A 10.4.9A	
<b>Unit 8</b> Canoe Terms, Procedures, & Self Rescue			10.3.6D 10.3.9B	10.4.6A 10.4.9A	10.5.6A 10.5.9A 10.5.12A
<b>Unit 9</b> Assisted Canoe Rescue			10.3.6D 10.3.9B,D	10.4.6A 10.4.9A	