Paddle Safe Paddle Smart PS²



A Paddlesport Education Program for Grades 6 through 8 Teacher Curriculum

American Canoe Association
In partnership with
American Association for Physical Activity and Recreation
An association of the American Alliance for Health, Physical Education, Recreation, and Dance

Produced under a grant from the Aquatic Resources (Wallop-Breaux) Trust Fund administered by the U.S. Coast Guard

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Paddle Safe Paddle Smart PS^2

A Paddlesport Education Program for Youth









PS^2 is a new national research-based educational curriculum designed to introduce middle and high school age youth to the joys and skills of paddling a canoe and/or kayak. The curriculum emphasizes safety and skills and is designed for teachers and youth leaders who want to include paddle sport instruction in their programs. The focus of the program is on risk assessment and risk management. PS^2 will help students recognize potential risk and take steps to avoid, reduce, or eliminate them. A factor that must be emphasized is that this curriculum prepares them only to paddle in protected flat water venues. Students completing this curriculum are not prepared to paddle in venues with swift currents, rapids, white water, waves, or heavy boat traffic. To do this they need further instruction. Our goal is to encourage youth to participate in paddle sports as a lifelong physical-recreational activity, and to do so in a safe manner.

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How To Use This Curriculum

This curriculum is focused on 20 objectives that are essential for students to achieve in order for them to paddle safely in a flat water environment. Each objective on the following pages includes the content (skills and knowledge) which students need to learn in order to achieve the objective. They are organized into six units. Also included are a number of learning activities that can be used to enable students to achieve the objective. In planning lessons, teachers decide the objective(s) to include. From the activities provided, they may select those which they believe will help their students learn the content, or they may devise activities of their own. This feature makes the curriculum is "teacher friendly", providing everything teachers need to plan lessons, and flexible, enabling them to devise activities that may be better suited to their students.



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Objective 1

STATE THE PURPOSES OF A LIFE JACKET AND LIST THE CRITERIA FOR SELECTION; DESCRIBE AND DEMONSTRATE HOW TO PUT IT ON AND ADJUST IT; AND EXPLAIN WHEN TO WEAR IT IN A WATER CRAFT.





Content

Purpose:

An inherently buoyant life jacket, or personal floatation device (PFD), keeps you afloat, provides some warmth, and offers some protection against obstacles, such as rocks or pilings in the water.

Criteria for selection:

- A life jacket must have a legible label indicating it is approved by the U.S. Coast Guard.
- PFDs must be in serviceable condition: no tears; zippers, buckles, and straps operate properly, and are not sun faded.
- Life jackets should fit snugly, but should be comfortable and not limit maneuverability. Life jackets come in various sizes (e.g. adult:90 pounds and up; child: 20-50 pounds; youth:50 to 90 pounds. Adult: S, M, L, XL, XXL chest size) Sizing information will vary with manufacturer.
- There are several types of PFDs that could be used for paddling sports. Types are marked in Roman numerals on the PFD. A Type III, inherently buoyant vest is recommended for paddling as it is more comfortable and allows for better maneuverability.

Putting it on and adjusting it to fit.

- How to put it on depends on the type.
- When putting on a life jacket, adjust all straps and fasten buckles starting from the bottom and work up.
- Be sure to test if it is adjusted to fit by lifting it at the shoulders. Shoulder straps should not slide over ears.

When to wear it.

- A life jacket should always be worn when paddling, even if not required by law. Wearing a PFD is required in this class.

Remember, "Don't just pack it, wear your jacket!"

Learning Activities

Purpose of life jacket

Display a life jacket. Tell students there are several ways a PFD can protect you. What is one? (Keeps you afloat or prevents drowning.) How else might it help if you fell in cold water? (Provides some warmth.) How might it help if there were rocks or pilings in the water? (Provides some protection if you hit them.) Reinforce: these are why we always wear a PFD when in a boat. We never know when we might be in the water.

Purpose of life jacket

Give one of each type of life jacket (I, II, & III) to three different students. Help them put them on properly. Ask each if they feel warm wearing it. Ask each to strike themselves on their exposed arm so they can feel it and repeat the blow with equal force on the padded part of the jacket. What does this tell us about life jackets? (It can protect us from contact with something.) Ask them how well they can move their arms and body. Compare the three types on this. Explain that Type III is recommended for paddlers as it is comfortable and allows best maneuverability.

Criteria for selection

Display life jackets (one of each type if possible). Point out the Coast Guard approval label and read it to class. Point out sizing information and read it to class. Mention other sizes and how this will vary with the manufacturer.

Criteria for selection

Display a damaged life jacket. It should have a tear, be sun faded, and have a broken buckle, strap, and/or zipper. Point these out and state that this is not a serviceable jacket. OR Display a damaged life jacket and ask students why it would not be safe to wear. Keep asking until they spot all the problems.

Criteria for selection

Show a couple of life jackets with different sizing codes (e.g. Adult, XXL). Explain that these vary with the manufacturer.

Sizing the life jacket

Divide group into pairs of the same gender. Give each pair a string about 50" long. One person places the string around the other's body about chest high and marks the place where one end crosses the string in the back. Measure this distance on the string (i.e. chest circumference). Record this along with body weight. Reverse roles and repeat. Spread out life jackets and have students seek the best one for them using these two numbers.

Putting on life jacket

Make a chart for the type PFD you are using with a digital camera and computer illustrating putting it on. Each student gets a life jacket of appropriate size. Describe and demonstrate the first step in putting it on. Students perform first step. Give corrective or reinforcing feedback where needed. Then, describe and demonstrate next step followed by student performance and feedback. Continue through all steps until everyone has life jacket on correctly and properly adjusted. Repeat as often as needed using short clues.

Putting on life jacket

Make a chart for the type PFD you are using with a digital camera and computer illustrating putting it on. Each student gets a life jacket of appropriate size and a copy of the chart. They follow the steps in the chart and put on the life jacket. Circulate, giving feedback and help to individuals as needed. An option is for the instructor to describe and demonstrate it first so students know what it will look like. This activity may be used as one station in a circuit of several activities, particularly if there are not many life jackets.

Putting on life jacket

Make a chart on putting on a life jacket for the type you have using a digital camera and computer. Divide the group into pairs of approximately the same size. Each pair gets a life jacket of appropriate size and a copy of the chart. One person (A) reads the directions of the first step to the other (B) and shows her/him the picture. B performs first step; A observes B's performance, checks it against the chart, and gives corrective or reinforcing feedback. Continue through all steps. Then A and B exchange roles and repeat activity. An option is for the instructor to describe and demonstrate it with a student first so everyone knows what to do. This activity may be used as one station in a circuit of several activities, particularly if there are not many life jackets.

Is it on correctly?

Have students jump in chest deep, protected water with PFD on properly. If PFD stays below mouth, it's OK. If not, either adjust straps or get a smaller one.

Putting on life jacket

Conduct a Life Jacket Relay. Keep teams small (2 or 4). In a shuttle relay, put one or two people on opposite ends of the course. One person puts on PFD, runs to opposite end and takes it off, giving it to next person to put on. Continue until all have run course.

Another alternative is to have two or three players in a line and a mark at the opposite end. First player puts on PFD, runs to mark and back, taking off PFD and giving it to next person. A desirable feature would be to have next player in line lift PFD on runner to be sure it doesn't come over nose before the runner may leave.

Is it on correctly?

Demonstrate ways not to wear a life jacket (e.g. too big, not fully buckled, loose straps, on backward). Ask students if it is on correctly. If not, explain whats wrong and how to fix it. Start by showing only one thing wrong at a time.

When to wear it

Tell students that 85% of people killed while boating were not wearing a life jacket. What does this mean to you? (Wear it at all times.)

When to wear it

Ask students when they would not wear a life jacket. Give some silly choices such as "to bed?", "to the movies?", "at breakfast?", etc. Then say "while paddling a canoe or kayak". Yes, always!

How to wear it

Ask students the most important thing to do with a life jacket. (Typical answers: wear it or put it on.) Start to step into it to put it on lower body. (Students will typically say "No, put it on right"). Conclude: "Wear it correctly" or "Put it on properly."

Objective 2

NAME AND IDENTIFY THE PARTS OF A CANOE AND/OR KAYAK, AND PADDLES



Content

CANOE: bow, stern, deck plates, gunwales, thwart, seats (stern seat closer to end than bow seat), centerline, end line, port, starboard.

KAYAK: bow, stern, deck, hull, grab loops/carry handles, cockpit, seat, floatation, foot pegs, port, starboard.

CANOE PADDLE: grip, shaft, throat, blade, tip, powerface, backface.

KAYAK PADDLE: shaft, throat, blade, tip, powerface, backface.

Learning Activities

PARTS OF A CRAFT

Place craft on saw horses or some other raised platform so all can see and the craft can be turned on its side to show interior parts. Tape the centerline inside the craft. Point to and name each part. Ask students to repeat name.

PARTS OF A CRAFT

Ask who has been canoeing or kayaking. Have students tell stories about their experience. Ask them to describe the canoe or kayak they paddled. Pass out blank paper and ask them to draw the craft and label the parts they know in their own words. Call on a student to name one part; record it on the board or a chart. Go around the class asking for a different part from each student who has one.

PARTS OF A PADDLE

Display a paddle. Ask students what part they think goes in water. (wide part) Why? (more surface to water, couldn't hold that part, etc.) Tell them that is the blade that cuts through the water. What do they think the end of the blade is called? (tip) Where might they hold the paddle (hold grip at end of long thin stick part — the shaft). Point out the other parts, name them, and have students repeat names.

CRAFT AND PADDLE CARDS

Place a card with the name on appropriate parts of the craft or paddle. State the name and define it (e.g. bow: front; gunwales [pronounced gunnels]: rails along top sides of canoe; blade: part of paddle that goes in water).

Remove cards and give one to each student who must place it on the corresponding part.

Card game for craft and paddle

Form teams (3 or 4 people) and line them up in one area; pile cards in another area; and place craft and/or paddle in another. One student from each team runs to cards, picks one and runs to appropriate piece of equipment, placing card on that part. Player returns to team and tags next player to run and do the same. Continue until all cards are placed. Team placing most cards correctly wins.

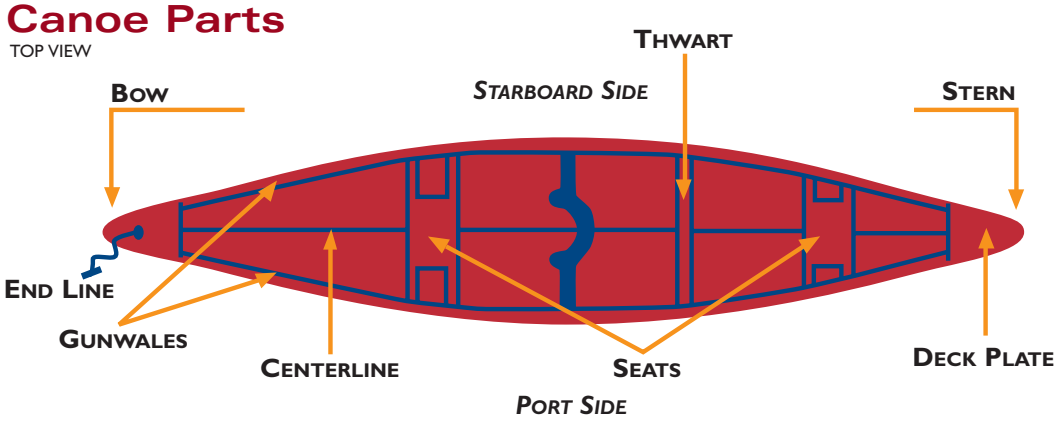
Card game for craft and paddle

Same team lines up, but each team gets a pack of cards. Teacher calls out part name, points to a part, or defines it. Each team finds the name in their pack and one person runs to place card on correct part. First team to get card on correct part earns a point. Play until all cards are placed. A different person runs each time until all have run.

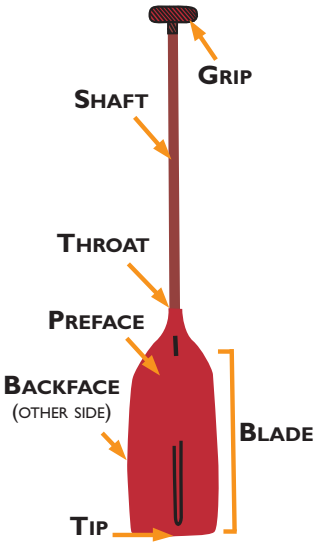
True or false

Mark a "safe" line at each end of gym and two "toe" lines in the center two feet apart. Divide group in half naming one "Team True" and the other "Team False". Place them on opposite "toe" lines. Each player must have one toe on their "toe" line to start. Teacher makes a statement about a part (e.g. The long skinny part of the paddle is the shaft. or The bow seat of a canoe is closer to an end than the stern). If the statement is true, members of the "Team True" run to their safe line behind them while members of "Team False" chase and try to tag them. Players tagged must join "Team False" for the next round. If the answer is false, "Team False" runs for the safe line and "Team True" pursues. Play until everyone is on the same team (or until players get tired).

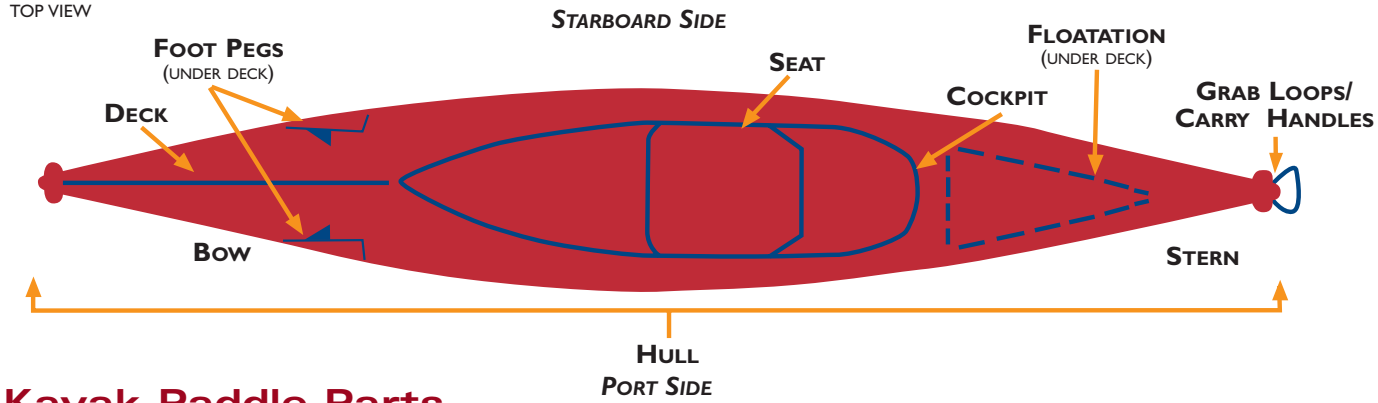
Canoe Parts



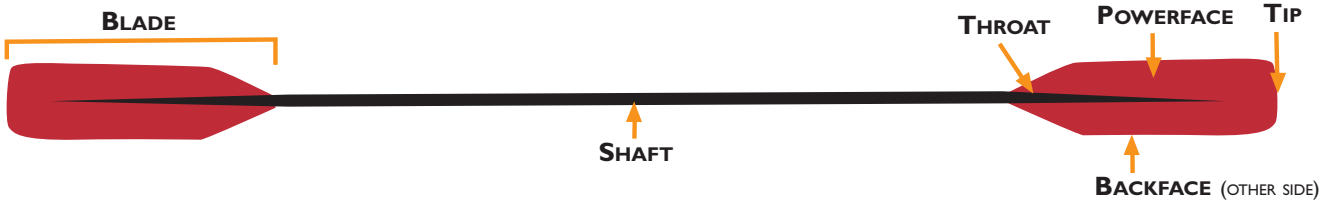
Canoe Paddle Parts



Kayak Parts



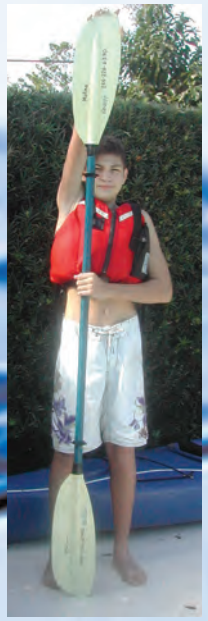
Kayak Paddle Parts



Objective 3

Describe and demonstrate how to select and size a canoe and/or kayak paddle.





Content

There are several ways to size paddles. Some are:

Canoe: Fit paddle shaft to your size. Blade will always be in the water.

- Sitting on a stool or similar platform which is about the height you would be from the water when sitting in a canoe, place the grip on the ground holding the shaft straight up. The throat of the paddle should be about nose level.
- Sitting in canoe with blade completely immersed in water, the throat should be about level with waterline and grip nearly level with your nose.
- Stand up, put tip on toe; grip should fall between nose and chin.
- Hold paddle overhead, elbows bent at right angles. One hand on grip, other about throat.

Kayak:

- Many factors influence paddle length.
  - Width of the kayak (wide kayak, long paddle).
  - Blade size (shorter blade, shorter paddle).
  - Your size (taller, longer paddle).
- Trial and error is best way to find length that is most comfortable for you.
- Hold paddle overhead, elbows bent at right angles. Hands should be 6"-8" from throat.
- Extend arm overhead and stand with blade on ground at side; fingers should just curl over blade.



Learning Activities

Sizing canoe paddle

Have students select a paddle that they think may fit them. Have benches or boxes about the height they would be above the water when sitting in a canoe. Tell them to sit on the bench and place the grip on the floor while holding the shaft straight up. If the throat is about nose level, it should be O.K. If the throat is significantly above nose, trade in for a shorter paddle. If it is significantly lower than nose, trade for a longer one.

Sizing canoe paddle

When students are sitting in the canoe, tell them to put the paddle in the water so the blade is vertical and fully immersed in water (throat just out of water). If the throat is about even with the waterline and the grip about level with the nose, the paddle should be the correct height. If the grip is significantly above the nose, trade for a shorter paddle. If it's too low, get a longer one.

Sizing the kayak paddle

Have paddles lined up against wall standing vertically. Tell students to extend one arm directly overhead and walk down the line looking for a paddle that is slightly shorter than their reach.
Stand paddle straight up and try to curl finger tips over tip of the paddle blade. If they can do this, select this paddle.



Sizing the kayak paddle

Sit in a kayak and try to paddle. Do you have to lean to the side to get the blade completely in the water? If so, try a longer paddle. Can you get the blade in the water within about a foot of the boat without raising the offside arm above the head? If not, try a shorter paddle.

Instructor Note: You may not have the ideal paddle for every student. Get the best possible fit from your inventory.

Objective 4

DESCRIBE AND DEMONSTRATE HOW TO PROPERLY HOLD A CANOE AND/OR KAYAK PADDLE AND DEFINE USEFUL STROKE TERMINOLOGY.





Content

CANOE:

Terminology In tandem canoes (two paddlers) the onside is the side on which the bow person is paddling; the offside is the side on which the stern person is paddling. For a individual, the onside is the side on which the person is paddling, the offside is the opposite side. Top (control hand) bottom (shaft hand).

- ❖ Hand placement. Control (top) hand on grip; onside (bottom) hand on shaft.
- ❖ How far apart? Put grip under arm, shaft at 45 degree angle with blade on ground. Where fingers and hand join is about where bottom hand grips paddle.
- ❖ OR Hands slightly wider than shoulder width.
- ❖ Holding paddle: Top control hand fingers wrap over grip, thumb wraps under grip. Bottom shaft hand wraps around shaft, like holding a water glass.
- ❖ Extend arms to onside; hold paddle vertically with top hand "stacked" directly above bottom hand.

KAYAK:

Terminology Working blade (the blade in the water)

- ❖ Hand placement. Long edge of blade up. This is for paddles with both blades in same plane (non-feathered). Fingers wrap over shaft, thumb under shaft. Line top row of knuckles with top of blade.
- ❖ How far apart? Arms bent at right angles, hands over head. Grip shaft so center is over your head and hands are equal distance from both ends.
- ❖ Hands relaxed, not too tight a grip.
- ❖ Arms partially bent, paddle held in front of chest.

Distance between hands is approximate for both canoe and kayak paddles. Adjust to suit individual comfort and efficiency.

PHASES OF ALL STROKES: Catch: paddle in water; Power: moving craft to paddle; Recovery: prepare for next stroke (may include exiting paddle from water).

Learning Activities

Canoe

Distance between hands

Have students place tip of paddle on ground at side. Holding onto shaft, shuffle to side away from paddle until it can be tucked under armpit. Have a partner mark place where palm of hand reaches on paddle. Wrap a piece of tape around paddle at that point. That is about where the bottom hand should grip the shaft. Adjust this position to suit individual comfort and efficiency.

Holding the paddle

Every student gets a paddle and stands so they can see instructor.

Describe and demonstrate how bottom (shaft) hand grips shaft (thumb on top, fingers and thumb wrapped around shaft like holding a glass of water). Students mimic grip. Give corrective or reinforcing feedback.

Describe and demonstrate how top (control) hand holds the grip (fingers wrapped over grip, thumb wrapped under grip). Students mimic grip. Give corrective or reinforcing feedback.

Describe and demonstrate how to hold paddle vertically to onside, arms extended and top hand stacked over bottom hand. Students mimic position. Give corrective or reinforcing feedback.

Repeat as needed using shorter "cue" words.

Distance between hands

Have students sit in a canoe in water. Tell them to hold paddle correctly and place blade completely in water. If necessary, slide bottom hand up or down so arm just clears gunwale.
Note: if top hand is above head, paddle is too long; if below arm pit, it's too short.

Onside-Offside

If canoe is available, sit in stern seat holding paddle to onside. Explain difference between onside (side on which paddling) and offside (opposite onside). Have a student sit in bow seat and hold paddle on side opposite instructor. Explain that onside for this person (side on which person is paddling) is opposite that of instructor. In tandem canoeing (two people), they paddle on opposite sides.

Kayak

Holding paddle

Describe and demonstrate how to orient a paddle (long edge of blade up). Students orient their paddle. Give corrective or reinforcing feedback.

Describe and demonstrate how to grip paddle (Fingers wrap over shaft, thumb under shaft; line top row of knuckles with top of blade; keep grip loose). Students grip paddle. Give feedback.



Distance between hands

Mark center of paddle with tape. Have students grip paddle correctly and lift over head with paddle centered above head.

Adjust position of hands so arms are bent at right angles at the elbow and hands equal distant from both ends. This is about the correct distance between hands.

However, paddler may adjust distance to suit individual comfort and efficiency.

Holding paddle

Tell students, while griping paddle correctly, extend arms straight out in front of chest. Students perform this movement.

Tell them to slowly bend arms and bring paddle back toward chest until position feels comfortable. Students perform movement. Paddle should be 6"-12" in front of chest.
Give corrective or reinforcing feedback.

Working blade

Tell students, while holding paddle correctly, dip one blade down so it enters the water.
This is the "working blade". It's the one that moves the kayak. Notice, other blade rises up.

Canoe & Kayak

Phases of strokes

Each student gets a paddle and sits on a bench or table.

Describe and demonstrate how to reach forward and put blade in water. Students perform movement. Explain this is the "catch"; it is when the paddle first catches the water.

Describe and demonstrate how to pull the paddle back to about the hip. Students perform movement. Explain this is called "power"; it propels craft through water.

Describe and demonstrate the "recovery" including water exit. Explain this is called the recovery because it recovers paddle to start the next stroke.

Ask students to repeat movements and say name of phase when performing it.

A way to remember is CPR.
Note: The purpose is not to teach the stroke, only to teach the three phases of a stroke.

Objective 5

DESCRIBE HOW TO DRESS APPROPRIATELY FOR PADDLING IN VARIOUS WEATHER CONDITIONS.



Content

- Dress for water temperature. Always be prepared for immersion in water.
- Dress in layers for cooler water
  Inner layer: Wicking (wicks water away from skin) e.g. polypropylene
  Middle layer: Warming (keeps body heat in and cold air out) e.g. fleece
  Outer layer: Weather (protects from sun, wind, and/or water) e.g. nylon
- Fabrics: Synthetics-good (dry quickly), cotton-bad (holds water)
- Fit: allow freedom of movement.
- Light weight, non-slip, closed toe footwear that stay on feet in water.
- Hat and sun screen for sun protection.
- Bring extra layers in waterproof bag.
- Use wet suit/dry suit when water temperature is under 65 degrees.

Learning Activities

Clothing

Display clothing for a cool fall day with water temperature 65 degrees, air 55 degrees, and hot sun (e.g. shorts, light weight long sleeve shirt, sun hat, sneakers).

Display clothing for a cool fall day with water temperature 65 degrees, air 60, and overcast sky (e.g. long sleeve polypropylene shirt, fleece vest, nylon windbreaker, nylon sweat pants, sneakers).

Display clothing for cold spring day, with water temperature 50 degrees, air 55, and cloudy sky. (a wet or dry suit).

Explain that synthetic fabrics are best. Cotton is not good because it holds water.

Layers

Put on a polypropylene shirt next to your skin. Explain the purpose of this material is to wick perspiration away from your skin. It's called the "wicking layer".

Next put on a fleece jacket. Explain that the purpose of this is to insulate the body to keep in the heat. This is called the "warming" layer.

Then put on a nylon windbreaker. Explain that this is to repel water and wind. It is called the "weather" layer.

Ask what should go on top of this? (life jacket) Put on a PFD. You are now dressed for cool water temperature.



Fashion show

Display a pile of clothing that includes items that could be worn in various types of weather including a wet or dry suit. Ask for six volunteers. Divide them into three pairs. Give each pair a weather scenario (e.g. water temperature 70 degrees, air 80 degrees, and hot sun; water temperature 60, degrees, air 65, and overcast sky; water temperature 50 degrees, air 55, and cloudy sky. Each pair selects clothing appropriate for their scenario. One person puts on the clothing. Each person displays their clothing while the other person describes what is worn and explains why.

Footwear

Explain the purpose of footwear: to prevent slipping; to protect feet, particularly toes, from injury; and to prevent feet from dragging one down in the water (light weight). Display a number of types of footwear one at a time (e.g. sneakers, sandals, rubber soled street shoes, hiking boots). Ask students to decide if each one would be appropriate for paddling, and why or why not?

Relay race

Form teams of three. Give each team a wicking garment, a warming one, and a weather one. On a signal, one person puts on the three layers, calling out the name of each while doing it. When all garments are on properly, the person runs to a turning line, returns, and takes off each garment giving it to another person. This action is repeated until all three have completed a turn.

OR Form teams of four and run a shuttle relay.

Extra Clothing

Display a water proof bag. Put in a wicking, warming, and weather item and seal bag. Ask why one would take this on trip? (To use if clothing worn got wet; to store layers one might take off if too warm.)

Objective 6

DESCRIBE AND DEMONSTRATE HOW TO SAFELY LIFT, CARRY, AND LAUNCH INTO THE WATER A CANOE AND/OR KAYAK.



Content

LIFTING AND CARRYING

- Get help. Don't lift alone. (2,4, or more people)
- Before lifting make sure you have a clear path to destination. Look out for obstacles and uneven ground.
- Lift and lower by bending legs keeping back relatively straight.
- Communicate when lifting, carrying, and lowering so everyone does it at same time.
- Lifting Canoe
  Two people: one at each end on opposite sides; grasp by deck plates or gunwales.
  Four people: Opposite sides at seats; grasp seats or gunwales.
  Six people: Opposite sides at seats and thwart; grasp seats and thwart, or gunwales.
- Lifting Kayak
  Two people: one at each end lift by grab loops.
  Four people: one on each end plus two people on opposite sides who grip cockpit edge.

LAUNCHING CANOE OR KAYAK INTO WATER

- Put bow end in water.
- Holding gunwales (canoe) or cockpit edge (kayak) move craft out hand over hand.
- Turn craft parallel to dock or to shoreline (if possible). Hold onto it.
- A line tied to the bow of the craft may be held to keep it from floating away.



Learning Activities

Lifting technique

Use a brief case, suit case or similar object with handle. Describe and demonstrate how to lift it. (Back relatively straight and head up, bend at knees and lower self until you can grasp handle. Straighten knees lifting object from floor.) Have students mimic movement without an object. Have students lift the object properly. Give feedback.

Lifting technique and communication

Place a student on either side of a chair. Tell them to bend knees with back straight and head up, grasping side of chair at seat or a cross brace. On teacher's signal, both people straighten knees and lift chair. On another signal, both lower chair by bending knees and keeping back straight.
Repeat, but students decide which of them will give the signals.

Lifting a craft with two

Select two students to lift craft. Place one at each end on opposite sides. Stern person will give signals. On signal both bend knees keeping back straight and heads up, and grasp deck handles, gunwales, or deck plates. On next signal both lift. On third signal they walk a few steps. On fourth signal they bend legs and lower craft to floor.

Lifting a canoe with four

Select four students. Place two on each side opposite each other near thwart. One person in rear will give signal. On signal, all bend knees keeping back straight and head up and grasp seats on gunwales. On next signal all straighten legs lifting canoe. On third signal they walk a few steps. On fourth signal they bend legs and lower craft to floor.

Lifting a kayak with four

Select four students. Put one at each end and two on opposite sides of cockpit. Stern person will give signals. On signal all bend knees; end people grasp deck handles and those in between grasp cockpit edge. On next signal all will straighten legs and lift. On third signal they walk a few steps. On fourth signal they bend legs and lower kayak to floor.

Selecting a path

Place a number of "obstacles" in area (e.g. shoes, life jackets, paddles) but have one clear curved path through them. Have people (2 or 4) pick up craft and move it to a mark on other side of obstacles without stepping on any of them. Bow person will pick path and give verbal directions if needed. Stern person will give lifting and lowering signals.

Hand over hand

Line group up in two facing parallel lines about three feet apart with craft at one end. Two people at one end pick up craft by gunwales (canoe) or cockpit edge (kayak). Hand over hand the craft is passed to the other end of the line where it is lowered to ground.

Launching (no water)

Hook a bungee cord on one side of a gym scooter, pass it over the top of a craft at the bow and connect to the other side of the scooter so it is held firmly in place. Do the same at the stern. Draw a line to represent the shore. Two or four people lift craft and place bow scooter on floor over line (in the water). Hand over hand the craft until stern is over line. Pivot craft to bring it parallel to shoreline.

Launching (water)

Two or four people lift craft and place bow in water. Hand over hand the craft until stern is in the water. Pivot craft to bring it parallel to shoreline. Hold on to craft.

Note: a line may be tied to one end to hold the craft when it is in the water.

Objective 7

DESCRIBE AND DEMONSTRATE HOW TO BOARD AND EXIT A CANOE AND/OR KAYAK FROM A DOCK AND FROM A SHORELINE.



Content

CANOE

- Parallel boarding (canoe parallel to shoreline or dock)
  - Bow paddler stabilizes canoe.
  - Stern paddler steps with near foot to the centerline in front of stern seat, grasping each gunwale with one hand.
  - Moving slowly, keeping low, and grasping gunwales, bring other foot in and sit on seat.
  - Stern paddler steadies canoe by placing paddle against dock or shoreline.
  - Bow paddler grasps both gunwales and steps to centerline with one foot.
  - Moving slowly, keeping low, and grasping both gunwales, bring other foot in and sit or kneel.
- Parallel exiting
  - Stern paddler stabilizes canoe with paddle on bottom or dock while bow paddler exits one foot at a time holding gunwales and keeping low.
  - Bow paddler holds canoe steady while stern paddler exits one foot at a time, staying low.
- End boarding (canoe perpendicular to shoreline or dock, bow out)
  - Stern paddler stabilizes canoe while bow paddler steps to centerline near stern end holding both gunwales.
  - Bow paddler spreads paddle shaft across both gunwales and moves forward keeping low.
  - Bow paddler sits in bow seat (or kneels) placing paddle in water to stabilize canoe.
  - Stern paddler steps to centerline near stern end holding both gunwales and sits in seat (or kneels).
- End exit
  - Stern paddler stabilizes canoe with paddle on bottom of water while bow paddler exits one foot at a time holding gunwales and keeping low.
  - Bow paddler holds canoe steady while stern paddler walks forward straddling centerline, holding gunwales and keeping low, and steps out at bow end.

Content

Kayak

- Parallel boarding (kayak parallel to shoreline or dock)
  - Place one end of paddle on deck behind cockpit and other on shore or dock.
  - Face bow, squat down, and hold paddle in place behind you with water side hand gripping shaft and cockpit edge. Other hand grips shaft toward land side behind you.
  - Lean toward land side on shaft and place water side foot in cockpit.
  - Still leaning on shaft, place other foot in cockpit and sit on rear deck.
  - Slide forward into seat and bring paddle around to front.



- Parallel exiting
  - Place paddle across rear deck as when boarding.
  - Reverse boarding procedure by sitting on rear deck and putting one foot at a time on dock or shore to get out.
- End boarding (on sandy shoreline only)
  - Place bow in water and stern on shore.
  - Straddle boat sitting on rear deck.
  - Place feet in cockpit one at a time.
  - Slide forward into seat.
  - Balance paddle across front deck and use hands to push against ground to move kayak forward into water.
- End Exiting (shoreline only)
  - Push up on edges of cockpit and sit on rear deck; swing legs into shallow water and stand.

Learning Activities

Craft simulator

To practice boarding and exiting on land, place a craft on two car or truck inner tubes near each end to make it slightly unstable, similar to how it would be in water. On the inside bottom of the craft tape the centerline so the person performing can see it.

Boarding and exiting

Make charts illustrating the steps for boarding the craft you are using (see pictures above for example). Divide class into groups of four (for canoe) and two(for kayak). Describe and demonstrate one way to board and exit a craft one step at a time. Two people (for canoe) and one (for kayak) will perform each step. Those not performing watch and give performers corrective or reinforcing feedback. When finished, students exchange roles and repeat.

Boarding and exiting

Divide class into groups of four (for canoe) and two(for kayak). Describe and demonstrate one way to board and exit a craft following the steps on a chart. Make and distribute a copy of the chart to each group. Describe and demonstrate again, telling students to look at the chart and see if you are doing it correctly. Then, one student in each group will read the steps one at a time while another performs each step. For the canoe, the other student in the non- performing pair observes performance and gives feedback. For the kayak the reader observes and gives feedback.

Students exchange roles and repeat.

Objective 8

DESCRIBE AND DEMONSTRATE HOW TO MAINTAIN STABILITY IN A CANOE AND/OR KAYAK WHEN LOADING BAGGAGE AND PEOPLE, AND WHEN PADDLING.



Content

CANOE

- Loading and boarding
  - When loading baggage place on centerline near middle of boat. If one paddler is significantly heavier than other, place load nearer lighter person to maintain trim (level). Tie baggage to canoe to prevent shifting or loss in capsize.
- Paddling
  - Paddlers may sit on seats (comfortable, good visibility, less canoe stability) or kneel with knees spread (less comfortable, lower visibility, increased canoe stability).
  - To prevent capsizing, keep upper body over hips (nose over tail) by bending body to high side of canoe.
  - Keep shoulders inside gunwales reaching out only with arms and paddle.

KAYAK

- Loading and boarding
  - Load baggage evenly behind and ahead of cockpit.
- Paddling
  - To prevent capsizing, lean body to high side from the hips. Body forms the letter "J".

Learning Activities

Loading Baggage

Describe and demonstrate how to load and secure baggage. Have two people of significantly different weights board a canoe. Observe trim (level from bow to stern). Load baggage toward lighter person. Observe change in trim.

Secure baggage

Fasten baggage to canoe thwart with rope or bungee cord. Ask why this should be done (to prevent it from shifting or losing it in a capsize).

Boat boogie

Set a canoe or kayak on two inner tubes. Sitting in craft, shift hips from side to side so craft rocks. Keep upper body centered over hips to prevent tipping over.
Do this also with craft in the water.

Sitting and kneeling

Set a canoe on two inner tubes or put canoe in water. Sit on seats and rock it side to side by shifting weight. Then kneel in front of seats resting buttocks against seat. Rock it side to side. Which feels more tippy? Why?

Pull 'em off

Set up two platforms 6" to 12" high (e.g. panel mats, tires) about 12' apart. Lay a strong rope between them. One person stands on each platform and grasps rope. On starting signal each person attempts to cause opponent to fall off platform or drop rope by pulling and relaxing rope.

Ask each person how they kept balance or how they lost it (keeping center of gravity low over base of support).



Objective 9

STATE THE PURPOSE OF, AND DESCRIBE AND DEMONSTRATE CANOE AND/OR KAYAK STROKES.



Content

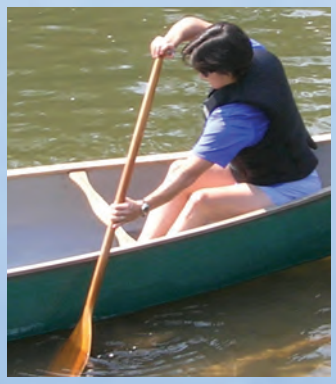
BASIC CONCEPTS OF PADDLING (applies to all strokes in canoe and kayak)

- Sit up straight; head, chest, abdomen, hips, and buttocks should be kept in line.
- Rotate the torso (upperbody) to engage the larger muscles of the chest, back, and abdomen rather than just the arms.
- Plant the paddle in the water and move the boat toward it.
- Keep hands in front of body where you can see them. When blade is behind you, rotate shoulder to turn and look at it.
- All strokes have a catch, power and recovery phase. Some have an exit (from water) as part of the recovery.

CANOE STROKES

(see page 23)

- Forward
- Forward stroke with switch
- Stern rudder stroke
- Back stroke
- Draw stroke
- Pushaway stroke
- Forward sweep stroke
- Reverse sweep stroke



KAYAK STROKES

(see page 25)

- Forward stroke
- Back stroke
- Draw stroke
- Forward sweep stroke
- Reverse sweep stroke

Canoe Strokes

Forward Stroke

Purpose: move canoe forward.

Catch

▼ Rotate torso with onside shoulder forward reaching as far forward as possible without bending forward.
▼ Punch top hand down catching blade in water near craft.

Power

▼ Move paddle toward you by pushing forward with top hand and twisting torso in opposite direction.

Recovery (including exit)

▼ When lower hand reaches hip, drop top hand to slice paddle from water.
▼ Return to catch position.

Back Stroke

Purpose: stop canoe or move it backward.

Catch

▼ Rotate torso with onside shoulder backward and lay backface of blade nearly flat on water.

Power

▼ Rotate torso forward and push down and forward with bottom hand, holding top hand steady.

Recovery (including exit)

▼ When lower arm is almost fully extended forward, drop top hand down toward centerline slicing blade out of water.
▼ Swing paddle back to catch position keeping blade close to water.

Draw Stroke

Purpose: move canoe sideways toward the paddle.

Catch

▼ Rotate torso toward onside with arms relatively straight.
▼ Reach out to place blade in the water vertically and parallel to the centerline.
▼ Top hand is at eye level.

Power

▼ Pull canoe toward the paddle keeping paddle shaft and blade vertical throughout stroke

Recovery (including exit)

▼ When boat is near paddle, drop top hand forward and down while lifting bottom hand, slicing paddle out of water.
▼ Move to catch position for next stroke.

Stern Rudder

Purpose: to keep the canoe on course when underway. (Stroke performed by stern paddler.)

Catch

▼ With the boat moving forward, keep arms relatively straight and rotate onside shoulder and blade toward stern.
▼ Lower top hand so shaft is nearly horizontal and thumb pointing up.
▼ Submerge blade near stern close to canoe with blade perpendicular to water surface.

Power

▼ Apply pressure to the back face of blade, pushing it slightly away from the canoe until boat responds.

Recovery (including exit)

▼ Raise bottom hand to lift blade out of the water.
▼ Move to catch position of next stroke.

Pushaway Stroke

Purpose: move canoe sideways away from paddle.

Catch

▼ Rotate torso to onside.
▼ Place blade in water vertically near canoe with power face toward canoe and blade parallel to center line.
▼ Top hand is at eye level.

Power

▼ Push canoe away from paddle keeping paddle shaft and blade vertical throughout stroke.

Recovery

▼ Turn thumb of top hand away from canoe rotating paddle perpendicular to center line.
▼ Slice paddle back to side of canoe.
▼ Turn thumb of top hand back to catch position rotating paddle parallel to center line.

Forward Sweep

Purpose: turn canoe while moving forward.
Note: Stroke will be different for bow and stern paddler.

Bow Paddler

Catch

▼ Hold paddle shaft horizontal with blade perpendicular to water.
▼ Rotate torso with onside shoulder forward reaching as far forward as possible with bottom arm straight, top arm bent, and torso erect.
▼ Place blade in water near bow (tip of canoe) with power face pointing away from canoe.

Power

▼ Rotate torso back sweeping paddle blade away from canoe in wide arc, keeping bottom arm straight and top arm bent, until paddle is opposite the hip (tip to hip).
▼ Keep nose pointed toward paddle throughout stroke.

Recovery (including exit)

▼ Lift blade vertically to slice paddle out of water and return to catch position.

Stern Paddler

Catch

▼ Hold paddle shaft horizontal with blade perpendicular to water.
▼ Extend paddle to side by straightening lower arm, reaching out as far as possible keeping torso erect and paddle perpendicular to canoe.
▼ Place blade in water with power face pointing to stern (tip).

(continued on page 24)

Canoe Strokes

(continued)

Power

▼ Rotate torso back sweeping blade in wide arc toward canoe, keeping bottom arm straight and top arm bent, until paddle reaches stern (hip to tip).
▼ Keep nose pointed toward paddle throughout stroke.

Recovery (including exit)

▼ Lift blade vertically to slice paddle out of water and return to catch position.

Reverse Sweep

Purpose: Turn canoe while moving forward, reducing forward momentum. *Note: Stroke will be different for bow and stern paddler.*

Bow Paddler

Catch

▼ Hold paddle shaft horizontal with blade perpendicular to water.
▼ Extend paddle to side by straightening lower arm, reaching out as far as possible, keeping torso erect and paddle perpendicular to canoe.
▼ Place blade in water with power face pointing to stern tip of canoe.

Power

▼ Rotate torso forward, maintaining straight lower arm and bent upper arm, sweeping blade in wide arc to bow tip of canoe (hip to tip).
▼ Keep nose pointed toward paddle throughout stroke.

Recovery (including exit)

▼ Lift blade vertically to slice paddle out of water and return to catch position.

Stern Paddler

Catch

▼ Hold paddle shaft horizontal with blade perpendicular to water.
▼ Rotate torso with onside shoulder backward reaching as far back as possible with bottom arm straight, top arm bent, and torso erect.
▼ Place blade in water near stern tip of canoe with power face pointing toward canoe.

Power

▼ Rotate torso forward, maintaining straight lower arm and bent upper arm, sweeping blade in wide arc away from canoe until paddle is opposite the hip (tip to hip).
▼ Keep nose pointed toward paddle throughout stroke.

Recovery (including exit)

▼ Lift blade vertically to slice paddle out of water and return to catch position.

Kayak Strokes

Forward Sweep Stroke

Purpose: turn the kayak away from the paddle.

Catch

▼ Keeping body upright and arms relatively straight, rotate torso and working blade forward.
▼ Put working blade in water just below surface near foot with blade perpendicular to water surface.

Power

▼ Rotate torso back sweeping blade in a broad arc to stern of kayak.
▼ Keep nose pointed toward working blade throughout stroke, and non-working side hand low so shaft remains as horizontal as possible.

Recovery (including exit)

▼ Lift blade straight up, slicing it out of water and adjust arm and body to catch position for another stroke on opposite side.

Reverse Sweep Stroke

Purpose: turn kayak toward the paddle.

Catch

▼ Keeping body upright and arms relatively straight, rotate torso and working blade back.
▼ Put working blade in water just below surface near stern with blade perpendicular to water surface.

Power

▼ Rotate torso forward sweeping back of blade in a broad arc from stern toward bow, ending at your foot.
▼ Keep nose pointed toward working blade throughout stroke, and non-working side hand low so shaft remains as horizontal as possible.

Recovery (including exit)

▼ Lift blade straight up, slicing it out of water and adjust arm and body to catch position for another stroke on opposite side.

Draw Stroke

Purpose: move kayak sideways toward the paddle.

Catch

▼ Rotate torso toward working side with arms relatively straight.
▼ Reach out to place working blade in the water vertically with blade parallel to the centerline.
▼ Top hand is at eye level.

Power

▼ Pull kayak toward the paddle keeping paddle shaft and blade vertical throughout stroke.

Recovery (including exit)

▼ When boat is near paddle, drop top hand forward and down while lifting bottom hand, slicing paddle out of water.
▼ Move to catch position for next stroke.

Forward Stroke

Purpose: move kayak forward.

Catch

▼ Keeping body upright and arms relatively straight, rotate torso and working blade forward.
▼ Place blade in water near your foot. Blade should be perpendicular to water close to boat with non-working hand at shoulder level.

Power

▼ Rotate torso back, pulling with working arm, and pushing with non working arm keeping shaft parallel to centerline until paddle reaches hip.

Recovery (including exit)

▼ When blade reaches hip, lower top hand and slice blade up out of the water.
▼ Rotate torso to catch position on opposite side to begin a forward stroke on that side.

Back Stroke

Purpose: stop kayak or move it backward.

Catch

▼ Keeping body upright and arms relatively straight, rotate torso toward working side.
▼ Put blade in water just behind hip as close to the kayak as possible, with blade perpendicular to water surface. Non-working hand should be at shoulder level.

Power

▼ Rotate torso forward, keeping arms relatively straight, moving paddle forward parallel to centerline ending when paddle exits water. Back face of blade presses against water.

Recovery (including exit)

▼ Opposite blade will be behind hip ready for moving to catch position for another stroke..

Learning Activities

Stand Tall and Twist Torso

Have students stretch arms straight overhead and twist from waist both ways as far as possible.

(Focus on keeping hips still.) Have students raise arms out to sides parallel to floor, then bring hands in front of chest so fingers touch. Twist both ways keeping eyes on fingers.

Explain that this is how they get power when paddling, from the muscles in the back, abdomen, and shoulders that help them twist. They should always be able to see hands when twisting.

Alignment of Body

Have students sit on floor, feet straight out in front with heels touching. Ask them to reach with both hands as far to one side as possible without toppling over and note spot reached with each hand. Do it again and try to go further. Repeat until they tip over.

Explain when paddling they must keep head, chest, abdomen, hips, and buttocks in line or they may tip the boat over.

Pulling Boat to Paddle

Give a gym scooter to each student. Have them lie on it in prone position with hands out front and feet extended to rear. Bend arms and place hands and forearms on the floor pressing them down. Pull with them moving scooter forward toward hands. Reach out again and repeat action, moving across floor.

Explain that this is how a boat is paddled. The paddle is placed in the water and the boat is pulled to it.

If scooters are not available, use a piece of carpet with top side down, or a towel. It's more difficult, but can be done.

Catch, Power, Recovery

Repeat the above activity. Have students notice the three steps they perform: pressing against floor; pulling self forward; and reaching out again.

Explain this is similar to a paddle stroke: Catch paddle in water (pressing), Power the boat (pulling); and Recovery to start again (reaching out).

Learning Strokes Out of Water

There are several ways to enable students to perform strokes out of the water.

- They can stand with a paddle and perform strokes.
- They can sit on a table or tall stool. Chairs and benches are too low for full size paddles, but short paddles or simulated ones made from thick dowels and cardboard blades can be used.
- Canoes or kayaks elevated on gym mats.
- Put a canoe shaped board on a gym scooter with a rubberized tip paddle.

Any of these methods can be used with the following activities.

Make individual stroke charts to use in following activities using the content on the previous two pages. Add pictures with digital camera and computer if possible.

Tell-Show-Do

- Using charts describe and demonstrate the first step of the stroke.
- Students try to perform first step.
- Instructor scans group and gives corrective or reinforcing feedback.
- Instructor describes and demonstrates second step; students do it; instructor gives feedback.
- This continues until all steps are completed.
- Process is repeated as often as needed (or tolerated by students). Description on successive repetitions is reduced to key "cue" words.

Personal Practice

- Instructor gives each student a skill chart or posts a number around area so two or three students can view one.
- Students read and look at graphic of first step, then try to perform it.
- They use chart to check if their performance is correct.
- Students continue through successive steps in same manner until completed, then repeat it until they have mastered skill.
- Instructor circulates around area giving corrective and/or reinforcing feedback, answering questions, or providing other assistance as needed.

Reciprocal Teaching

- Students are grouped in pairs. Each pair is given a skill chart.
- One student is "little teacher" (T); other is learner (L).
- T reads description and shows graphic of first step to L, who attempts to perform it.
- T observes performance and provides corrective or reinforcing feedback.
- T continues through rest of steps one at a time, student performs, and T gives feedback..
- Pair has option of repeating it, or changing roles.
- The "big teacher" circulates giving advice to T on feedback and correction. "Big teacher" does not talk with L unless there is a safety issue.

Whole Stroke Practice

- Instructor describes and demonstrates complete stroke one or two times.
- Students practice whole stroke.
- Instructor circulates around area giving corrective and/or reinforcing feedback, answering questions, or providing other assistance as needed.

Learning Strokes in Water (Pool or Open Water)

There are several ways of teaching strokes on water.

- In a pool, students can sit on the edge and paddle in water.
- A craft can be placed bow first on the edge of the shore or pool deck. One person holds bow and watches paddler as he/she performs strokes.
- In pool or open water, teach turning strokes first so students can keep their craft in a confined area. Following are ways of teaching on water.

Tell-Show-Do and Whole Stroke Practice

Can be done by lining up canoes a short distance off shore and have them paddle in toward instructor.

Personal Practice

Can be done by giving students charts to place in front of them as they practice.

Reciprocal Teaching

One student, acting as the "little teacher" (LT) uses a chart of the stroke to read first step to a partner "student" (S) who tries to execute that step. LT gives feedback and reads next step. This continues until stroke is complete. Repeat one or two more times. Then reverse roles. LT may stand on shore and communicate with S in boat, may sit in bow seat of canoe, or, if on land, stand where he/she can best observe S.

Shallow Water Catch

In shallow water, paddler(s) take(s) the "catch" position for a stroke. Partner(s) in water hold paddle(s) while paddler(s) pull boat to paddle(s).

Objective 10

DESCRIBE AND DEMONSTRATE HOW TO MANEUVER A BOAT IN VARIOUS DIRECTIONS USING APPROPRIATE STROKE.



Content

The canoe and kayak are maneuvered using the basic strokes in various combinations.

FIVE TYPES OF MANEUVERS

- Spins (turning in place - not moving)
- Move abeam (sideways)
- Travel forward (straight)
- Stop and back up
- Turn underway

CANOE

- Spins
  - Both paddlers perform draw stroke on opposite sides of canoe.
  - Both paddlers perform pushaway stroke on opposite sides of canoe.
  - Bow paddler performs forward sweep, stern paddler performs reverse sweep.
  - Bow paddler performs reverse sweep, stern paddler performs forward sweep.
- Move abeam (sideways)
  - Bow paddler performs draw stroke, stern paddler performs pushaway.
  - Bow paddler performs pushaway, stern paddler performs draw stroke.
- Travel forward (straight)
  - Forward stroke with switch
  - Both paddlers perform forward stroke with stern paddler using stern rudder periodically.
- Stop and back up
  - Both paddlers perform back stroke on opposite sides of canoe.
- Turn underway
  - Bow paddler performs draw stroke, stern paddler performs forward sweep.
  - Bow paddler performs forward sweep, stern paddler performs pushaway.



Kayak

- Spins
  - Forward sweep on one side followed by reverse sweep on opposite side.
  - Reverse sweep on one side followed by forward sweep on opposite side.
- Move abeam (sideways)
  - Draw to move to working side.
- Travel forward (straight)
  - Forward stroke on alternating sides.
- Stop and back up
  - Backstroke on alternating sides.
- Turns underway
  - Successive forward sweep strokes on same side opposite side of desired turn.

Learning Activities

Paper course

Draw a course on paper and give each student a copy. Have them write the strokes they would use to successfully navigate the course on the paper where they would use them. Course should require turns, backing up, abeam movements, spins, and traveling forward straight.

Draw direction of stroke

Draw a picture of several boats. Draw arrows to indicate strokes (for example, an arrow parallel to centerline pointing sternward would be a forward stroke). Give student copies and ask them to draw arrows indicating the direction each boat would move if that stroke(s) is used, and to name the stroke(s). A variation is to indicate with an arrow the direction the boat is moving and ask them to draw and name the strokes that would cause this movement.

Mobile Boat

Fasten a canoe or kayak on a roller dolly. One person stands at bow holding a line attached to it; another at the stern. A path is set up using cones. Paddler executes strokes that will move boat through the course. Persons at bow and stern move boat in direction of strokes paddler executes.

For example, on forward strokes, they would push and pull the boat forward. On a draw they would move the appropriate ends in the direction of the stroke. This could be made competitive, either timing each boat or head to head races on parallel courses.

Water course

Use buoys (e.g. empty plastic milk bottles) to lay out a course (e.g. a figure 8 pattern). Students paddle through course. Competition could be based on time each boat takes to complete course.

Follow the leader

A line of several boats follows the leader around the area turning, spinning, stopping, moving abeam, and backing up. Periodically change the leader.

A variety of games can be played that require students to maneuver their boats in close quarters.

A few of these are below. Caution them not to go too fast as some collisions may occur.

Keepaway

Several canoes in a large restricted area (e.g. pool or area marked by buoys). One boat has the "poison" (soft rubber ball or sponge that will float). Paddler(s) try to get close enough to throw it in another boat. If successful, that paddler tries to do the same. Boats without "poison" try to keep away from boat with "poison".

Snatch It

Tape a rag or piece of rope about a foot long on both ends of every boat. On signal, everyone tries to snatch a tail from another boat while preventing others from snatching the tail off of their own boat. When all tails are snatched, boat with the greatest number wins.

Red Light – Green Light

Establish a start and finish line 25 or more yards apart. One boat is at finish (the traffic light), the rest at start. Traffic light has back to start line and calls "green light". Boats at start paddle toward finish line. Traffic light calls "red light" waits three seconds before turning around. When red light is called, all boats stop forward movement. Any boat the traffic light sees moving forward after turning around must return to start. First boat to touch finish line wins. Play may be continued until all but one boat has touched line.

Boat Basketball

Place a basket (e.g. laundry basket on floats or pool deck) at opposite ends of a playing area.

Form two teams. Each team tries to score goals by throwing a sponge into their goal. Sponge may be passed by hand, or may be passed from paddle to paddle. A dropped sponge gives possession to the other team. Ramming another boat is a foul for which a free shot is awarded.

You make up the rules to fit your situation.

Objective 11

IDENTIFY POTENTIAL DANGERS AND EXPLAIN HOW TO AVOID THEM.



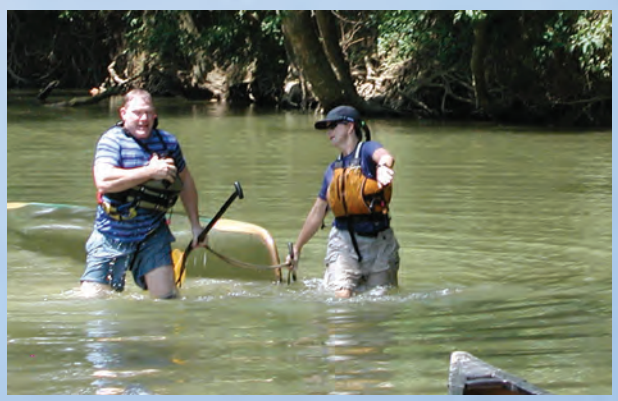
Content

This course only prepares you for calm, flat water. More training is necessary for other types.

POTENTIAL DANGERS

- Capsizing: paddle in groups so you can help each other.
- Other water craft: stay alert, wear bright clothing, cross channels quickly as a group, stay clear of other boats, have whistle and know how to use it.
- Weather (wind, waves, and lightning): get to shore.
- Rapid currents and tides: find another place to paddle.
- Dams and rocks and other obstacles: find another place to paddle.
- Fog and nightfall: get to shore.





Learning Activities

How wind can affect a canoe/kayak

Make a simple canoe shaped craft from paper or balsa wood. Set it afloat in a tub of water. Hook up an electric fan and turn it on low.

- Direct the air over the bow. Ask students what happened. (Pushes boat back and/or turns it.)
- Direct fan over stern. Ask students what happened (pushes canoe forward and/or turns it).
- Direct fan over one side. Ask students what happened (Pushes boat to side and/or turns it.)
- Turn fan on high or move it closer to increase air velocity so craft will capsize or swamp.
- Direct fan over one end. Ask what happened. (Pushes boat away, capsizes or swamps it).
- Direct fan over one side (the velocity should be high enough to tilt boat over (capsize). Ask students what happened.

Summarize conclusion: Wind can affect direction of canoe and capsize or swamp it. If you are paddling into wind, it can slow down canoe. If paddling with wind behind, it can speed it up.

If wind gets too strong, head for land and get off water.

Note: Terms "capsized" and "swamped" may not be in students vocabulary. You may have to substitute them for the words they may use such as tilt over or fill with water.

How waves can affect a canoe/kayak

Same set up as above. Move hand or a paddle vigorously back and forth creating waves. Do it enough to cause boat to capsize or swamp. Ask students what happened (capsized or filled up with water [swamped]). Ask why it happened (waves knocked it over or filled it up).

Summarize conclusion. Waves can capsize or swamp a boat. If waves get high, head for land.

Waves and stability

Fill a bucket with water, then put a paper cup with 20 pennies in it. Keep adding pennies until the free board is half of an inch. Then drop rocks into the bucket creating waves, and watch the boat take on water and eventually sink. Vary the amount of pennies, thereby varying the depth of the free board.

Visible to other water craft

Tell students a canoe and kayak are small and particularly low to the water compared to other boats. Ask them to suggest some ways to be more visible (e.g. brightly colored boat, brightly colored clothing, flag, whistle or air horn to attract attention).

Show them an orange or yellow life jacket. Ask if this would be noticeable. Explain that these colors are easy to see on the water because of the contrast with the water. Show them a blue one. Ask why this might be hard to distinguish (similar to water color).

Ask them to bring to class a hat or windbreaker that might be good to wear (no cotton though).

Low visibility

Ask students if they ever walked into a dark room with which they were not familiar. What happened? (bumped into things, moved slow, felt my way around).

If you were paddling on a lake at night, how would you get to your destination? (look for lights on shore) How could you be noticed by other boats? (flashlight)

These might help, but the safest thing to do is plan to arrive well before dark.

Ask what else might make you less visible and make it difficult to see other boats, land, or obstructions. (e.g. fog, rain) A whistle, horn, or flashlight may help, but the safest thing is to get to land as quickly as possible if you see fog or a storm coming.

Obstacles

Who knows what "whitewater" is? (rapid current broken up by obstacles such as rocks and ledges causing water to splash and look white)

Have you seen a movie or a commercial where a canoe, kayak, or raft has been in whitewater? (some yes) Do you think it would be exciting? (yes)

Do you think you have the skill needed to do this yet? (no) There is a lot more to whitewater paddling than you will learn in this class. Chances are if you tried it with only the skills you learn here you would capsize, be injured, and possibly drown.

Rafting

Has anyone ever been on a rafting trip? (yes/no) If yes, ask what type boat was used. (rubber raft)

Did you go through some whitewater? (yes) Who was in charge? (a guide)

A guide is well trained to lead such a trip. A rubber raft can bounce off rocks and other obstacles without damage to boat or people.

What do you think might happen if a canoe or kayak hit a big rock? (damage or sink boat, throw paddler(s) into water)

Don't paddle in whitewater unless you learn much more about paddling.

Group paddling

Ask students some things they like to do with their friends (many possible answers).

Would you like to go paddling with your friends? (hopefully, yes) Why? (fun, be together, talk).

Another reason to paddle with others is safety. We have talked about a lot of dangers you could face. One of these is capsizing. You will soon learn how friends can help you if this happens.

Always go with at least one other boat. And if some people have more experience at paddling, that makes it even better.

Do you know that there are canoe and kayak clubs that take trips? (mention local ones if you know of any).

Objective 12

DESCRIBE AND DEMONSTRATE WHAT TO DO WHEN A CANOE AND/OR KAYAK CAPSIZES.



Content

AFTER CAPSIZING

Make sure you're OK; check partner if paddling tandem; retrieve equipment; and hold onto boat.

SELF RESCUES

(see expanded content on page 33)

- ❖ Swim boat to shore, empty it, launch, re-enter, and continue paddling.
- ❖ Right boat, re-enter, bail, and continue paddling or paddle to shore to complete emptying.

ASSISTED RESCUES

(see expanded content on page 33)

- ❖ Get help from other paddlers to tow or push boat to shore to empty it and continue.
- ❖ Get help from other paddlers to perform a boat over boat rescue.

Capsizing and Rescues

Capsizing

▼ If you realize you are about to capsize, cover mouth with hand and hold breath to minimize gasping when entering water.
▼ Check yourself for injuries and get control of your emotions.
▼ If paddling tandem, check to see if partner is O.K. If partner needs assistance, provide what is needed and possible, focusing on both staying calm.
▼ Retrieve boat and any other loose equipment if possible.
▼ Hold on to boat while deciding which rescue technique to use.

Self Tow Rescue

▼ If you are close enough to shore, swimming and towing the boat is the easiest way to rescue yourself.
▼ If a line is attached to boat, grasp it in one hand and swim with the other to shore.
▼ If no line is available, try pushing or pulling it while swimming.
▼ Slide boat on shore and empty it.

Emptying Boat on Shore

▼ Boats full of water are very heavy. If possible, get assistance in emptying.
▼ For canoe, stand near middle, grasp gunwale and lift up, tilting canoe away from you. Lift until canoe can be turned over and completely emptied.
▼ For kayaks, turn over and lift one end spilling out water, then lift the other end. See saw it back and forth to complete task.

Emptying Boat in Shallow Water

▼ If upside down, lift one end to break suction.
▼ For canoe, tilt until one gunwale is out of water, then lift overhead to empty and flip right side up.
▼ For kayak, lift at one end draining as much as possible, then flip right side up.

Reentry in Water (unassisted)

▼ If the boat is floating sufficiently high enough, reentry in the water is possible.

For canoe (unassisted)

▼ If canoe is upside down, paddlers swim to same side of canoe and lift gunwales to right it.
▼ Paddlers take positions on opposite sides of canoe.
▼ Grasp near gunwales and simultaneously both pull up, reach across to far gunwales, and twist body flopping in canoe on buttocks.
▼ If paddles are not available, use hands to paddle to retrieve equipment or go directly to shore.

For Kayak (unassisted)

▼ Push up on edge of cockpit to turn kayak right side up.
▼ Swim to stern, grasp rear of cockpit and crawl up on top straddling kayak with legs.
▼ Bring legs forward and slide into seat.
▼ Bail out as much water as possible.
▼ If paddle is not available, use hands to paddle to retrieve equipment or go directly to shore.

Reentry in Water (assisted)

For Canoe

▼ Assisting boat pulls up parallel to capsized boat.
▼ If boat is upside down, assist paddler(s) in water to right boat by pulling or pushing on gunwale as they turn it over.
▼ Assisting paddlers hold boat near gunwale to counterbalance weight of paddlers in water as they grasp other gunwale and pull up, reach across to far gunwale, and twist body, flopping in canoe on buttocks.

For Kayak

▼ Assisting boat pulls up parallel to capsized boat.
▼ If boat is upside down, assist paddler in water to right boat by pulling or pushing on edge of cockpit as paddler in water turns it over.
▼ Hold bow of kayak steady as paddler in water swims to stern, grasps rear of cockpit and crawls up on top straddling boat with legs, and brings legs forward sliding into seat.

Assisted Towing Rescue

▼ Assisting paddler(s) secure a line to capsized boat or grab an existing line on craft. It may be made fast to the towing boat or the waist of a towing paddler. Any attachment of a tow rope to the towing boat or paddler must have the ability for a quick release.
▼ Paddler(s) from capsized boat swim to far end of boat and assist by swimming and pushing capsized boat.
▼ Rescue boat is paddled to shore towing capsized boat and paddler(s).

Boat Over Boat Rescue

▼ Paddler(s) in water and paddler(s) on rescue boat maneuver capsized boat perpendicular to side of rescue boat.

For Canoe

▼ One paddler in water holds on to rescue boat while other paddler swims to outermost end of capsized boat.
▼ Paddler in water pushes down on end of capsized canoe to break suction, while paddlers in rescue boat lift end over their boat.
▼ All help pull/push capsized canoe across rescue boat so both ends are out of water and capsized canoe drains.
▼ Rescue paddlers turn boat right side up and return it to water holding it parallel to their canoe.
▼ Paddlers in water reenter canoe (see assisted reentry above).

For Kayak

▼ Rescue paddler and paddler in water pull/push capsized kayak across rescue boat so both ends are out of water and as much water as possible drains out of capsized kayak.
▼ Rescue paddler returns kayak to water holding on to bow.
▼ Paddler in water reenters kayak (see assisted reentry above) and bails cockpit.



Learning Activities

On land activities

Emptying a boat

Put a boat on the floor right side up. Describe and demonstrate how to empty the boat of water on shore. Have students try to duplicate your performance. Give corrective or reinforcing feedback.

Self Tow Rescue

Student lies prone on a gym scooter and uses hands and feet to propel self across floor simulating swimming. Mount a canoe or kayak on a dolly or a pair of gym scooters with a line fastened to one end. Grasp line in one hand and "swim" the canoe to a destination 20'-30' away (the shore). Stand up and empty the boat.

Reentry

Lying in prone position on floor, describe and demonstrate how to enter a canoe or kayak from the water. Have students try to duplicate your performance. Give corrective or reinforcing feedback.

Boat over boat rescue

Two boats are best for this, but if only one is available use a folded set of panel mats for the rescuing boat. Paddler(s) sit in rescue boat; capsized boat on floor parallel to rescue boat.

Paddler(s) from capsized boat lies prone on gym scooter next to capsized boat. Paddlers work together to maneuver capsized boat perpendicular to rescue boat, then lift on top of rescue boat simulating emptying it. Capsized boat is returned to floor right side up parallel to rescue boat. With paddler(s) in rescue boat holding side of capsized boat, paddler on scooter reenters boat and prepares to get underway.

In water activities

Self rescue – towing

Describe and demonstrate the following activity.

Paddler(s) in boat rock it to capsize. They go through procedures to tow boat to shore or pool deck, remove it from water, empty it, launch, enter, and paddle away.

Have students try to duplicate this as you call out each step in the process to them.

Self rescue – reenter

Describe and demonstrate the following activity.

Paddler(s) in boat rock it to capsize. Paddler(s) reenter boat and try to bail it out. Hand paddling to shore to empty boat is an option.

Have students try to duplicate this as you call out each step in the process to them.



Towing – assisted rescue

Two boats are needed for this activity

Describe and demonstrate the following activity with one or three students. Prepare students in advance as to the procedures that will be followed.

Paddler(s) in one boat rock it to capsize. Paddler(s) in other boat maneuver to position where they can get a line on one end of capsized boat. Paddler(s) in water hold on to capsized boat while rescue boat tows it to shore or pool deck. Paddler(s) from capsized boat get on land, remove boat, empty it, launch and get underway.

Have other students try to duplicate this as you call out each step in the process to them.

Boat over boat rescue

Two boats are needed for this activity.

Describe and demonstrate the following activity with one or three students. Prepare students in advance as to the procedures that will be followed. Paddler(s) in one boat rock it to capsize. Paddlers in other boat work with those in water to perform a boat over boat rescue.

Have other students try to duplicate this as you call out each step in the process to them.

Objective 13

Describe the risks of cold water shock, hypothermia, and hyperthermia. And explain how to prevent them.



Content

Cold water shock

- Cold water shock results from sudden immersion in cold water (water less than 65°F).
- A gasp reflex and involuntary hyperventilation can cause one to swallow water which could result in drowning.
- Swimming failure may be caused by sudden increase in heart rate and blood pressure, disorientation, and cardiac arrest.
- Prevent by dressing properly (see objective 5), grasping nose and mouth to prevent hyperventilation when going in water and wearing a life jacket.

Hypothermia

- Hypothermia is the lowering of the body's core temperature well below normal.
- Hypothermia is dangerous because it affects the body's vital organs: the brain, heart, lungs.
- A mild case affects physical and mental abilities. Severe hypothermia causes loss of consciousness and may result in death.
- Loss of body heat occurs many times faster in cold water than in cold air.
- Prevent by dressing for temperature of water (see objective 5).
- Get out of water as soon as possible on land or in boat.
- If in water for an extended period of time, do not move vigorously. Assume HELP or huddle position.
- Treat by warming body with clothing, blankets, and external heat.

Hyperthermia (heat stroke/sunstroke)

- Hyperthermia occurs when the body's core temperature rises rapidly.
- Hyperthermia can cause dizziness, drowsiness, nausea, and unconsciousness.
- Prevent by dressing in light, loose clothing; drinking ample water; avoiding heavy exercise in very hot weather, and wearing sun hat and sun protective clothing.
- Treat by cooling body with cold compresses, immersion in cool water, and rehydration.

Learning Activities

Effects of Hypothermia

Fill water cooler with ice, then water. Students see how long they can keep hand submerged in the cooler. Then have them try to pick up pennies off the bottom of the cooler. Take care they don't stay too long; they could get frostbite. Ask how their hands feel after awhile and when done.

Effects of Hypothermia

▼ Distribute one ice bag (or similar) to each student.



▼ Tell students to grip the bag in their non-dominant hand and hold it until told to release it or their hand feels numb. You hold one also so you can gauge when students should release the bag. Caution: do not wait too long. The purpose of this is to feel the effect of extreme cold on the body, not cause frostbite.

▼ While they are holding bag, briefly lecture on hypothermia (see information on previous page).

▼ Have student release bag. Ask how hand feels? Is it stiff to move fingers? This is a sample of how the body would feel in cold water.

▼ Collect bags.

Dressing for Immersion:

Give everyone an ice cube and a challenge to see who can keep it from melting the longest. It's about heat loss and preventing it. The ice cubes that last the longest are those that will be wrapped up in layers (in the classroom students use paper towels, jackets, paper, etc.). Relate this to dressing for immersion in cold water.

What should I do if I fall in the water?

Brief lecture:

▼ You should be wearing a life jacket.

▼ Assess the situation. Are you close to shore? Are you alone or with one or more people?

▼ Is the craft still afloat and within reach? Is the current carrying you downstream?

▼ Most boats float even when capsized or swamped; if possible, get back in or climb on the boat so as to be as far out of the water as possible.

▼ Should you try to swim to shore? This is a difficult decision. Some good swimmers have been able to swim 3/4 mile in 50°F water before being overcome by hypothermia. Others have not been able to swim 100 yards. Furthermore, distances on the water are very deceptive. Staying with the boat is usually best. This will make it easier for rescuers to spot you. Swim only if there is absolutely no chance of rescue and you are absolutely certain you can make it.

▼ If you can't get in/on the craft and you are alone, remain still and assume the Heat Escape Lessening Posture (HELP). Demonstrate and have people assume this position on the floor (see next learning activity for details).

▼ If you are with others, get together and hug in a huddle. Demonstrate and have students form groups of three and assume position (see next learning activity for details).

Form same sex groups if you think mixed groups may create a problem with your students.

Conserving body heat:

▼ Ask students when they are home in bed and it gets cold, how do they stay warm. Obvious response is blankets and this can be related to dressing in layers.

▼ Keep fishing until someone says they curl up. They can do the same in the water. Demonstrate the HELP position. Have all students assume this position. This can be done on floor, but if using a pool, do it in water.

▼ Ask if they are in bed with their parent(s), how do they get warm. Response will usually be snuggle up. The same can be done in the water. Demonstrate, with two students, the huddle position. Form groups of three and assume huddle position (standing on floor or in pool).

Form same sex groups if you think mixed groups may create a problem with your students.

Cold Shock

Give students small bags of ice. Let them walk around the room. When they are behind someone who can't see them, try to clap the ice bag on the back of the person's neck (not hard, just quick). After a couple minutes stop game. Ask those who were hit with an ice bag what happened (e.g. surprised, cold, keep fishing until you get "gasped" or something similar). Explain that this is known as cold water shock. When a person suddenly falls in cold water, the tendency is to gasp, causing one to swallow water. Heart rate and blood pressure may increase resulting in disorientation, and possibly cardiac arrest. To minimize this, if you realize you are about to go in, cover your mouth and nose with your hands and mentally get set for the cold shock.

Hyperthermia

▼ Ask students if they remember any particularly hot, humid days of last summer. How did they feel? (e.g. hot, sluggish, nausea)

▼ Did any of you do any hard work or exercise outdoors? If so, what? (many possible answers) How did you feel doing that? (e.g. sweat, dizzy, cramps)

▼ You were probably experiencing the onset of hyperthermia, which is a general term for various disorders that occur when the body's temperature rises rapidly.

▼ What did you do to treat this? (e.g. cold drink, stopped exercising, cool shower) If you were paddling, what could you do? (e.g. go swimming, stop and seek shade, drink water)

▼ How might you dress? (light weight clothes, light colored sun hat).

DVD

View DVD "Cold, Wet and Alive" by the American Canoe Association.

Objective 14

DESCRIBE AND FOLLOW THE BASIC RULES OF THE ROAD AND EXPLAIN WHERE TO LOCATE OTHER APPLICABLE LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS.



Content

Basic Rules of the Road

Common sense dictates following the basic rules. These boats are low in the water and are hard to see.

- All boats have responsibility to avoid collision (even if it means breaking the rules).
- A boat which has another on her right side must keep out of the way of that boat.
- When two boats meet head on, generally both must alter course to right and pass on left.
- Any boat overtaking another one must keep out the way of the boat being overtaken.
- Yield to boats that can only travel in a channel. Try to operate toward edge of the channel.
- Steer clear of naval vessels and restricted facilities such as bridges, power plants and dams. Homeland security measures require it, as does your safety!

Sources of rules

- Basic Boating Safety Course on-line: Visit SAFEboatingcouncil.org for listings of powerboat courses. Visit paddle.com for paddle courses.
- State boating law administrators (links to state boating home pages). www.nasbla.org.
- Local regulations may be posted at launch sites or check with local police.







Learning Activities

Web site

Assign students to go to the web and read chapter six of the boat safety course (www.boatsafe.com/nauticalknowhow/boating). Although a considerable amount of this pertains to power boats, a broad understanding of the rules and how to apply them can be helpful.

Scenarios

Use a chalk board or toy boats to set up various scenarios that involve rules of the road. For example, a power boat overtaking a canoe, or two kayaks approaching each other head on.

Either explain the rule and discuss how it applies, or ask students what they think each boat should do and discuss these.

Web test

Give students a list of questions that can be answered by reading the web sites. Assign this for homework. Discuss in a later class.

Guest speaker

Ask a local law enforcement officer, park ranger, or someone connected with boating safety and enforcement to speak to class about state and local laws and regulations concerning boating with an emphasis on paddle sports.

DVD

Show DVD "It's Your Turn" by American Canoe Association.

Review brochure

Distribute brochure "Rules of the Road: What Paddlers Need to Know" (available from ACA). Have students read it. Give them a list of questions based on content. Have them write answers or discuss answers in class.

Objective 15

DESCRIBE AND DEMONSTRATE HOW TO BEHAVE RESPONSIBLY WHEN ENGAGED IN PADDLING



Content

- ❖ No boating under the influence of drugs and alcohol.
- ❖ No horseplay, loud noise, fighting, or fooling around.
- ❖ Practice "Leave No Trace" ethics. Dispose of litter and personal waste properly, leave what you find, respect wildlife, and minimize impact.
- ❖ Respect other people who use the waterway, such as anglers, other boaters, swimmers, etc. Don't interfere with their activities.
- ❖ Don't trespass on private property.
- ❖ Use the boat, paddles, and other equipment properly. They are not a toy.





Learning Activities

Leave No Trace (LNT)

Role play activities. "Rewind" the scenes. For example, a group pretends to trash the beach where they land canoes at lunchtime. The audience (fellow students) identifies the irresponsible behavior and the desirable behavior (LNT practices). Then the group performs the scene again demonstrating responsible behavior.

No boating under the influence

Give a student a fine motor task to perform (e.g. thread a needle or throw a ball at a target).

After doing it successfully, give the student a pair of safety goggles smeared with Vaseline or some other substance that blurs vision, and ask her/him to repeat the task. (Probably can't or finds it very difficult.)

This is what it would be like trying to paddle a canoe or kayak under the influence of alcohol or drugs. It's extremely hazardous. Don't do it—your life would be at risk.

Horseplay

Brief lecture

Canoes and kayaks are fun when used properly. They are not a toy for fooling around.

No boat fights: bumping or trying to capsize each other.

No water fights: using paddles to try to swamp another boat.

No simulation experience is used here as any horseplay could cause an accident.

Ask students some other things it would not be good to do when canoeing or kayaking.



Respect other users

Ask students to suggest some ways other people use the water (lakes, rivers, streams, ocean) for recreation and work (e.g. swimming, fishing, crabbing, sailing, motor boating, skin and SCUBA diving). Give half the group a motor task that requires some space (e.g. throwing a foam ball at a target). After about 10 seconds instruct the other students to walk around the area passing between the thrower and target waving hands and yelling. After about a minute call everyone together. Ask throwers if they were able to complete the task very well when others were interfering. Why? How did this make them feel?

When you are canoeing or kayaking, think about this experience. Give people using the water for other activities, such as you suggested earlier, sufficient room to do their "thing".

Disposal of litter

Give everyone a plastic bag with a small piece of fruit in it (e.g. a grape, slice of apple). Tell them to enjoy it. When they are done, ask how they will dispose of bag (e.g. trash can). On a canoe or kayak there are no trash cans. What would you do there? (Keep it on board until you get to shore and can put it in a trash can). If you take food, drink, and other disposable items with you, carry the containers and other disposables back to shore for proper disposal. A large plastic bag could be used to carry these items back.

Use of equipment

Use an old canoe paddle to split a board (e.g. 1 x 3). Remind students that swinging a paddle around can be dangerous. It can cause "summer teeth" (some are here, some are there).

Objective 16

DESCRIBE HOW TO PLAN A CANOE/KAYAK TRIP.



Content

WHERE CAN WE GO?

- Sources of information on local flatwater areas.
  - Liveries, rental and sales shops.
  - Park rangers
  - Canoe and kayak clubs
  - Friends
- Launch site, destination, and course
  - Consult map or chart
  - Get advice from local people

WHO IS GOING?

- Multiple boats
- Trained and experienced people

HOW LONG WILL WE BE GONE?

- Few hours
- All day
- Overnight camping

WHAT SHOULD WE TAKE?

- Essential personal equipment
  - A life jacket
  - A whistle
  - Appropriate clothing and footwear
  - Personal items (e.g. sunscreen, toilet paper, eyeglass strap, medications, money)
  - Boat and paddle
- Essential group equipment
  - Cell phone/GPS in waterproof bag/VHS Radio
  - Chart or map of area
  - Tow line
  - Extra clothes in waterproof bag
  - Water and food
  - Extra paddle
  - Bailer or bilge pump
  - First aid kit
  - Emergency Information

WHO SHOULD WE TELL WHAT?

- Who: Family, trusted adult, local official
- What: Float plan
  - People on trip
  - Route and destination
  - Estimated time of arrival or return
  - Cell phone number of paddler (if available)
  - Action to take if we do not arrive on time/who to contact

WHAT ELSE SHOULD WE DO BEFORE LEAVING?

- Check the weather forecast.
- Make an emergency plan including who to contact and how to get help.

HOW SHOULD WE END TRIP?

- Notify person with float plan of your safe arrival/return.
- Remove, clean, and store equipment



Learning Activities

Boat Rentals

Search for canoe and kayak rental places in your area. Collect information from them about types of boats, places to go, qualifications to rent, prices, etc. and present this information to the class. OR ask students to visit one of them and gather the information OR have someone from a rental livery speak to the class about the opportunities for paddling.

Charts

Find a chart of an area near you where people might go canoeing or kayaking such as a lake or slow moving stream. If you can't find anything for your area, any chart showing a flatwater area could be used. Show the chart to the students and have them plan a hypothetical trip determining distance, channels for power boats, places to launch, stop to rest, and take out.

Guest speaker

Ask a local park ranger or supervisor where paddling is available to speak to the class about paddling in that area OR ask an avid local paddler to speak about local paddling opportunities in the area and share some adventures in paddling with the students. Or invite an ACA certified instructor to speak to the class.

Paddle partners

Ask students the type of people they would like to go with on a paddling trip. Try to draw out qualities such as skilled, experienced, serious, as well as fun, friendly, and playful. Make a list of desirable qualities of a paddling partner.

Equipment

Ask students to suggest equipment they feel they absolutely would need to take with them if they went paddling for a couple hours and why they would need it. Ask if there is anything they would add if they went for the whole day. Make two lists and discuss any disagreements among students on these lists.

Display an array of equipment that one might take paddling. Ask students to select those items that they believe would be essential to have with them when they launched their boat. Ask them to select additional items they would take if paddling for more than two hours. Discuss and have each person make his/her own personal check list of essential and desirable equipment.

Float Plan

Establish a scenario of setting off on a paddling trip around a large lake. The plan was to be back just before sunset. However a storm came up and they had to put into shore in an area where noone lived nearby. Although they pulled their boats up on shore, the lake rose and the boats floated away. How would they get out of this situation? (possible answers: walk, call on cell, wait for help). For every answer, state a block. (e.g. walk: don't know direction, many miles; cell: won't work; wait for rescue: who knows you are there or even went) This last question can lead into the discussion of a float plan. Ask what they would tell someone before going. (who, where, how, when back, what to do if not back.)

Make an outline of the essential elements on a float plan. Have students use a chart, visit a boat rental place, or talk with a local ranger to find out a place to paddle. Complete the float plan. Exchange plans with another person. Read each other's plan and decide if one could initiate a search and rescue for them based on the plan info. If not, what else is needed?

Ask students if they return on time, what is one of the first things to do and why.(Tell person with whom they left plan they are back so he/she won't initiate a search for them.)

DVD

View DVD "Decide to Return: A Strategy for Safe Sea Kayaking."

View DVD "Be Safe While Paddling with Us." (Both available from ACA.)

Discuss what was, and what was not done to make trip safe."

Objective 17

DESCRIBE HOW TO ASSESS A VENUE FOR SUITABILITY FOR PADDLING ON THE DAY OF A PADDLING EVENT, AND HOW TO MAKE A DECISION TO GO OR NOT GO, OR ABORT THE TRIP IF CONDITIONS CHANGE.



Content

WIND
Wind affects direction, speed, and stability of the boat.
- ❖ Direction—can push the boat off course
- ❖ Speed—can slow the boat if over bow, can accelerate if from behind.
- ❖ Stability—can cause waves that can destabilize the boat
- ❖ If wind causes any of these problems, don't go, or return to land.

LIGHTNING—DANGER OF ELECTROCUTION
Cease if lightning or thunder is present and for 30 minutes after last sighting. Move away from water's edge and avoid areas with a high probability of a lightning strike.

WAVES
Cease if danger of swamping and capsizing from high waves.

CURRENT
Noticeable current requires additional training and equipment.

DECISION MAKING
Are the wind, lightning, waves, and current such that it would not be safe to go or continue, given my knowledge and skills in canoeing or kayaking?

TEMPERATURE OF WATER
If less than 65 degrees, a wet or dry suit should be worn.

Learning Activities

How wind can affect a canoe/kayak

Make a simple canoe shaped craft from paper or balsa wood. Set it afloat in a tub of water.
Hook up an electric fan and turn it on low.
▼ Direct the air over the bow. Ask students what happened. (Pushes boat back and/or turns it.)
▼ Direct fan over stern. Ask students what happened. (Pushes canoe forward and/or turns it.)
▼ Direct fan over one side. Ask students what happened (Pushes boat to side and/or turns it.)
▼ Turn fan on high or move it closer to increase air velocity so craft will capsize or swamp craft.
▼ Direct fan over one end. Ask what happened. (Pushes boat away, capsizes or swamps it).
▼ Direct fan over one side (the velocity should be high enough to tilt boat over (capsize). Ask students what happened.
Summarize conclusion: Wind can affect direction of canoe and "capsize" or "swamp" it. If you are paddling into wind, it can slow down canoe. If paddling with wind behind, it can speed it up.

If wind gets too strong, head for land and get off water.
Note: Terms "capsized" and "swamped" may not be in students vocabulary. You may have to substitute them for the words they may use such as tilt over or fill with water.

Wind affects objects

Take a long skinny balloon (like the ones that you make animals out of) – three students per balloon. Organize a race, lie the balloons on the gym floor and students, using their breath, blow their balloon from one side to another.

Have one student blow from the rear of the balloon, and the other two, one on the port and one on the starboard, blowing to change direction. Discuss how wind can affect a boat (push it off course, slow it down, speed it up).

How waves can affect a canoe/kayak

Make a simple canoe shaped craft from paper or balsa wood. Set it afloat in tub of water. Move hand or a paddle vigorously back and forth creating waves.

Do it enough to cause canoe to capsize or swamp.
Ask students what happened (capsized or filled up with water [swamped]).

Ask why it happened (waves knocked it over or filled it up).
Summarize conclusion. Waves can capsize or swamp a canoe. If waves get high, head for land.

Waves and stability

Fill a bucket with water, then put a paper cup with a number pennies in it. Keep adding pennies until the free board is half of an inch. Then drop rocks into the bucket creating waves, and watch the boat take on water and eventually sink. Vary the amount of pennies, thereby varying the depth of the free board.

How current affects a canoe/kayak

Define current: swiftly moving water in one direction. Current usually occurs in streams, rivers, and the ocean. It can have the same affect as wind and waves, slowing or speeding up canoe, causing it to turn, and even capsize.

Effects of lightning

Ask students if anyone has ever been in a lightning storm. What was it like?
Lightning is a powerful bolt of electricity that can injure or kill people if it strikes them. Lightning is attracted to objects on open water. If you see it, get off the water as soon as possible.

Decision Making

Safety is the most important part of canoeing and kayaking. In this class you will only be prepared to canoe or kayak in calm (flat) water with little wind, no waves, little or no current, no storms, and little other boat traffic, particularly motor boats. Before you go, answer the following questions.

Give students a copy of the following five questions.

	Yes	No
Hold up a paper tissue. Does the wind blow it out at an angle greater than 45 degrees?	❒	❒
Look at the water. Are there any waves higher than about three inches, or are there whitecaps on the water?	❒	❒
Have you seen any lightning or heard any thunder in the past 30 minutes?	❒	❒
Are there many other boats in the area, particularly motor boats?	❒	❒
Is there room for you to paddle and stay within swimming distance of the shore?	❒	❒

If you answer yes to any of the first four questions, or no to the last one, it is probably not safe for you to go paddling. If you are on the water and the wind, waves, lightning or boat traffic picks up, it is best for you to get to shore as quickly as possible. Make the right decision. Be safe.

To illustrate the first two on this list, hold up a tissue in an area with no wind. Next, turn a fan on low and stand at a distance where the tissue is not blown more than a 45 degree angle. Tell them this is a "go" signal if everything else is OK.

Turn the fan on high and stand where the tissue will be blown out beyond 45 degrees. This is a "don't go" signal

In a tub of water, splash it back and forth to make waves higher than three inches. This is a "don't go" signal. Splash to make whitecaps (you may have to explain what this term means).

This is also a "don't go" signal. (This may also be done in a pool or open water.)

Decision making

Students choose a card on which is written a scenario that may or may not be safe for paddling. For example, you arrive at the launch place and hear thunder and see lightning way off in the distance. They read the description aloud and then tell whether it's safe to paddle. OR Small groups (2-4) students roleplay a scene for the entire class, who then makes a safe "go – no go" choice.

Weather forecast

Assign a different student to check the weather forecast each day and tell the class the expected high and low temperature, the expected wind velocity, precipitation expected, humidity, heat index, etc. Class will discuss and decide if this would be a good day to go paddling and, if so, what they should wear.

Objective 18

IDENTIFY PLACES TO GO PADDLING AND PLACES TO BUY AND/OR RENT EQUIPMENT.



Content

The content for this objective must be drawn from your local area.

PLACES TO GO PADDLING

This course only prepares you for calm, flat water. Additional training is necessary for other types of paddling.

- Local, state, and national parks
- Public lakes, bays, streams, rivers, creeks

PLACES NOT TO GO PADDLING (UNLESS YOU HAVE GUIDE OR ADDITIONAL INSTRUCTION)

- Waters with rapid currents, strong tides, and many obstacles
- Oceans
- Waters with a lot of sailboats and/or powerboats

PLACES TO BUY EQUIPMENT

- Boat stores, particularly ones specializing in paddle sports
- Sporting goods stores
- Marinas
- Canoe and kayak liveries
- The internet

PLACES TO RENT BOATS

- Marinas
- Canoe and kayak liveries
- Outfitters

Learning Activities

Places to go paddling

Survey your area and make a list of places to go paddling. Present the places in class and briefly describe their suitability for paddling. Post the list on a bulletin board for student reference.

Guest speaker

Locate a paddling enthusiast in the area and invite her/him to talk to the students about local paddling places and places not to go paddling. This person may also talk about places to rent and purchase equipment.

Internet search

Students are assigned to go on line and identify places in the area that rent and sell equipment. This could be assembled into one list and posted on the bulletin board for reference.

Boat Rentals

Search for canoe and kayak rental places in your area. Collect information from them about types of boats, places to go, qualifications to rent, prices, etc. and present this information to the class. OR ask students to visit one of them and gather the information OR have someone from a rental livery speak to the class about the opportunities for paddling.

Map

Obtain a map of the local area. Display to class and identify all bodies of water. Ask them what they know about any of these bodies of water. Have them gather information from their parent(s), relatives, and friends about these waters. Based on what they know and find out about the area, decide as a group what places may be suitable for paddling and which ones to avoid.

Water Trails

Complete a "google" search on the following terms:

- Water trails
- Canoe trail
- Blue ways
- Paddle trails
- Kayak trails

Report on what you find.



Objective 19

IDENTIFY SOURCES OF FURTHER INSTRUCTION IN CANOEING AND/OR KAYAKING.



Content

The primary source of instructor certification in the United States is the American Canoe Association. The ACA has instructors across the U.S.

INTERNET

www.americancanoe.org

ADDRESS

American Canoe Association
7432 Alban Station Boulevard, Suite B-232
Springfield, VA 22150

PHONE

(703) 451 0141

Learning Activities

Have students locate Web site and report on types of instruction available. Emphasize that the instruction in this course is only for flatwater paddling - no significant current, waves, or obstacles. To go into more adventurous waters they need additional training that can be obtained from ACA courses.

Show an ACA DVD on canoeing and kayaking to illustrate what they can learn from further instruction.

DVDs available include:
"Quickstart Your Canoe"
"Quickstart Your Kayak"
"Whitewater Kayaking"
"Whitewater Racing"
"Coastal Kayaking"



Objective 20

IDENTIFY ADDITIONAL SOURCES OF INFORMATION ON CANOEING AND KAYAKING.



Content

The bibliography on the following pages contain additional sources of information on canoeing and kayaking skills, instruction, equipment, and safety.

Also included is a list of books that students can read which includes paddling and waterways content. Books are both fiction and non-fiction.

Learning Activities

Resources

Encourage students to explore in more depth these sports. Make the bibliography available to them for this purpose.

Library

Give the bibliography to the school and/or community librarian and ask what books are currently available and if she could obtain others. Tell students which ones are in the library.

DVD

Procure one or more DVDs and show them to students. Make them available to be borrowed for home viewing.









reading bibliography

FIRST COLUMN
(READS IN FOLLOWING ORDER)
BOOK TITLE
AUTHOR
PUBLISHER & DATE
SYNOPSIS

SECOND COLUMN
(READS IN FOLLOWING ORDER)
ISBN
READING LEVEL

Top Rated Paddling Adventures:
Canoeing, Kayaking and Rafting in North America
Derrydale Press: Lanham, Maryland 2000 — 1586670050
Directory of paddle sports adventures in North America — Middle School and above

The Voyage of the Paper Canoe: A 2,000 Mile
Journey Down the Inland Waterways of the Eastern Seaboard
Bishop, Nathaniel Holmes
The Narrative Press: United States — 978-1-58976-110-0
The voyage of N. Bishop in a paper canoe. — Middle school and above

Exploring East End Waters:
Natural History and Paddling Guide
Bottini, Mike
Harbor Electronic Publishing: United States 2005 — 0-9740201-6-8
A paddling guide to waters of the eastern United States — Middle school and above

Adirondack Waters: Spirit of the Mountains
Bowie, Mark
North Country Books: United States 2006 — 1-59531-006-1
Adirondack canoeing — High school and adult

South America: River Trips
Bradt: George N.
Bradt Enterprises: Cambridge, Massachusetts 1981 — 0-933982-13-5
Trip preparation, natural history and rovers of the Amazon basin — All

Wild Shore: Exploring Lake Superior by Kayak
Breining, Greg
University of Minnesota Press, 2000
Paddling Lake Superior by sea kayak — High School and above

The River Home: A Return to the Carolina Low Country
Burroughs, Franklin
Houghton Mifflin Co.: Boston, 1992
A solo canoe trip down a South Carolina River. — High school

The Willits Brothers and Their Canoes:
Wooden Boat Craftsmen in Washington State, 1908-1967
Chapman, Patrick F.
McFarland & Company: United States 2006 — 0-7864-2573-3
A company biography of a canoe builder in the north west — High school and adult

Appalachian Whitewater: Volume III The Mountains
Connelly, John and Porterfield, John
Birminghan. Alabama: Menasha Ridge Press — 0-89732-032-8
A description of Northern Appalachian whitewater streams — High school and adult

Canoeing a Continent: On the Trail of Alexander Mackenzie
Finkelstein, Max
Natural Heritage/Natural History, Incorporated 2004 — 1-896219-00-4
A retracing of an ancient route through Canada — High School and Adult

Guide to Sea Kayaking in Southern Florida
Foster, Nigel
The Globe Pequot Press: Old Saybrooke, Conn 1999
Various kayaking opportunities in southern Florida — High school and above

The Ultimate Canoe Challenge:
28,000 Miles Through North America
Frentz, Brand and Kruger, Verlen
Universe, Incorporated — 0-595-66973-5
A 3 year 28,000 mile canoe trip by Kruger and Landick — High School and adult

Wilderness Canoeing: The Adventure and the Art
Gentile, Gary
G G P: United States 2005 — 1-883056-19-5
Getting ready for a wilderness trip — High school and Adult

Kayaks Down the Nile
Goddard, John
Brigham Young Press, Provo Utah 1979
Folding kayak expedition on the Nile River — Middle School and above

Kayaks Down the Nile
Goddard, John M.
National Geographic Magazine
Folding kayak expedition on the Nile River — All

Exploring the Great Rivers of North America
Heacox, Kim, Kostyal, K. M., Walker, Paul Robert and White, Mkel
The National Geographic Society 1999 — 0-7922-7847-X
Exploring major North American Rivers — Middle School and above

Hell or High Water: Surviving Tibet's Tsangpo River
Heller, Peter
Penguin Group: United States — 0-452-28674-3
Kayaking adventure of Tibetan river gorge — High School

Paddling the Pascagoula
Herndon, Ernest
Williams, Scott — University Press of Mississippi
United States — 1-57806-714-6
Traveling along
America's last unaltered river system by kayak and canoe — High school

Paddle to the Sea
Holling, Hollice C
Houghton Mifflin: Boston 1941 — 0-974-17114-X
A toy canoes voyage and adventures on various lakes and rivers — All

Minn of the Mississippi
Holling, Holling C.
Houghton Mifflin: New York 1951 — 0-395-17578
Historical account of a turtles adventurous voyage
down the Mississippi River — Elementary and above

The Canoe: A Living Tradition
Jennings, John
Firefly Books: United States — 1-55407-080-5
Canoe history and exploration past and present by 12 experts — High school

An Adirondack Passage: The Cruise of the Sairy Gamp
Jerome, Christina
Harper Collins: New York 1994 — High School



FIRST COLUMN *(READS IN FOLLOWING ORDER)*
BOOK TITLE
AUTHOR
PUBLISHER & DATE
SYNOPSIS

SECOND COLUMN *(READS IN FOLLOWING ORDER)*
ISBN
READING LEVEL

The Canoeist: A Memoir
Manuel, John
Jefferson Press:
United States — 0-9718974-7-6
A memoir of life on the water spanning a lifetime — High School

My Travels by Canoe
McNaull, William V.
Xlibris Corporation: United States — 1-4134-8601-8
Solo canoe tripping — High school

The Great Canoes: Reviving A Northwest Coast Tradition
Neel, David
University of Washington Press: Seattle 1995 — 1-55054-185-4
Canoe gatherings of the Northwest Coast canoe — Middle to High School

Songs of the North: A Siguid Olsen Reader
Olsen, Siguid
Viking Penguin, Inc.: New York 1987
North Country canoe episodes — Middle School and above

Reflections of the North Country
Olsen, Siguid
Alfred A. Knopf: New York 1985
Canoe adventures in Canadian lakes — Middle School and above

The Singing Wilderness
Olsen, Siguid
Alfred A. Knopf: New York 1957
Canoe experiences of northern lakes — Middle School and above

Into the Great Solitude: An Arctic Journey
Perkins, Robert
Dell Publishing: New York 1991
Tragic account of a solo canoe journey into the arctic — High School and above

All Things Are Possible: The Verlen Kruger Story: 100,000 Miles by Paddle
Peterson, Philip G.
Adventure Publications: United States — 1-59193-138-X
A biography of an extended paddle expedition — High school

The Canoe: An Illustrated History
Poling, Jim
The Countryman Press, Woodstock, Vermont, 2000 — 0-88150-503-X
An illustrated history of the canoe from Pacific canoes, to birch bark. — All

A Canoeing and Kayaking Guide to the Streams of Kentucky
Sehlinger, Bob
Thomas Press: Ann Arbor, Michigan 1978
Comprehensive guide to Kentucky's stream with maps and ecommendations for trip planning. — High School

Canoeing with the Cree
Sevareid, Eric
Minnesota Historical Society Press: United States 2005 — 0-87351-533-1
Two beginning paddlers voyage over 2,000 miles from Minneapolis to the Hudson Bay — Middle School and above

FIRST COLUMN *(READS IN FOLLOWING ORDER)*
BOOK TITLE
AUTHOR
PUBLISHER & DATE
SYNOPSIS

SECOND COLUMN *(READS IN FOLLOWING ORDER)*
ISBN
READING LEVEL

Paddle to the Amazon
Starkell, Don
Prima Publishing: Rocklin, California 1989
A canoe trip along the east coast of North, Central and South America by a father and his sons — Middle school and above

Paddling My Own Canoe
Sutherland, Audrey
University of Hawaii Press: Honolulu, Hawaii 1978
The evolution of paddling an inflatable kayak on the Hawaiian coast — Middle School and above

On the River
Teller, Walter Magnes
Rutgers University Press: Dobbs Ferry, New York 1976 — 0-911378-77-4
A historical perspective of canoeing and river adventures — Middle School and above

Paddling the Tennessee River: A Voyage On Easy Water
Trevathan, Kim
The University of Tennessee Press: Knoxville, Tennessee 2001
A canoe camping trip with canine friend down the Tennessee River — Middle School and Above

In the Wake of the Jomon
Turk, Jon
McGraw Hill: United States 2006 — 0-07-147465-X
A re-creation of a migratory small boat voyage — High school and Adult

Rivers of America
Vasey, Paul
Gallery Books; New York, New York1990 — 0 83177 7400 2
Historic, commercial and wilderness rivers of the United States — All

Kayaking the Vermilion Sea
Waterman, Jonathan
Simon and Schuster: New York 1995 — 0-684-80242-2
A Baja kayaking journey by a young couple — Middle School and above

Dances With Waves: Around Ireland By Kayak
Wilson, Brian
The O'Brien Press: Dublin, Ireland 1998
Circumnavigation of Ireland by Sea Kayak — Middle School and above

Wherever Waters Flow: A Lifelong Love Affair with Wild Rivers
Woodward, Doug
Headwaters Publishers: United States — 0-9779314-0-4
A life of river journeys — High school and adult

