





Scouts participating in a Scoutmaster Bucky merit badge opportunity, whether online or in person, should consider using the Small-Boat Sailing merit badge pamphlet for discovery and knowledge, along with the class preparation pages for clarifications, insights, and expectations.

https://scoutmasterbucky.com/merit-badges/small-boat-sailing/small-boat-sailing-pamphlet.pdf

https://scoutmasterbucky.com/merit-badges/small-boat-sailing/small-boat-sailing-cpp.pdf

REQUIREMENT 1a:	Explain to your counselor the most likely hazards you may encounter while participating in small-boat activities, and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.		
HAZARD #1			
Anticipate:			
Help Prevent:			
Mitigate:			
Respond:			





HAZARD #2
Anticipate:
Help Prevent:
Mitigate:
Respond:
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HAZARD #3
Anticipate:
Help Prevent:
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Mitigate:
Respond:





HAZARD #4
Anticipate:
Help Prevent:
Help Flevent.
Mitigate:
Respond:





HAZARD #5
Anticipate:
Help Prevent:
Mitigate:
Respond:
respond.





HAZARD #6
Anticipate:
Help Prevent:
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Mitigate:

Respond:





REQUIREMENT 1b:	Review prevention, symptoms, and first-aid treatment for the following injuries or illnesses that can occur while sailing: blisters, cold-water shock and hypothermia, dehydration, heat-related illnesses, sunburn, sprains, and strains.		
BLISTERS:			
Prevention:			
Symptoms:			
Treatment:			
COLD-WATER SHOCK:			
Prevention:			
Symptoms:			
Treatment:			





HYPOTHERMIA:
Prevention:
Symptoms:
Treatment:
DEHYDRATION:
Prevention:
Symptoms:
Treatment:





HEAT-RELATED ILLNESSES:
Prevention:
Symptoms:
Treatment:
SUNBURN:
Prevention:
Symptoms:
Treatment:





SPRAINS:
Prevention:
1 TOVERMON.
Symptoms:
Symptoms.
Treatment:
Treatment.
STRAINS:
Prevention:
1 revention.
Symptoms:
Symptoms.
Treatment:
Treatment.



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REQUIREMENT 1c: Discuss the Scouting America Safety Afloat policy.

- 1. Qualified Supervision
- 2. Personal Health Review
- 3. Swimming Ability
- 4. Life Jackets
- 5. Buddy System
- 6. Skill Proficiency
- 7. Planning
- 8. Equipment
- 9. Discipline



REQUIREMENT 1c:

Tell how the Scouting America Safety Afloat policy applies to small-boat activities.

Notes:

REQUIREMENT 2:

Before doing the following requirements, successfully complete the Scouting America swimmer test. Jump feetfirst into water over the head in depth. Level off and swim 75 yards in a strong manner using one or more of the following strokes: sidestroke, breaststroke, trudgen, or crawl; then swim 25 yards using an easy, resting backstroke. The 100 yards must be completed in one swim without stops and must include at least one sharp turn. After completing the swim, rest by floating.



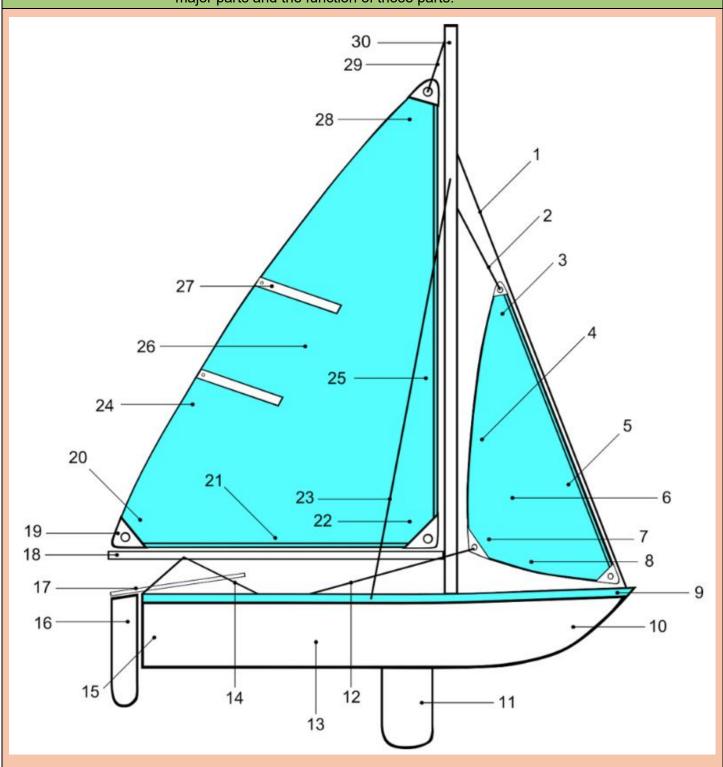
This requirement must be reviewed with your merit badge counselor.







REQUIREMENT 3: Describe the boat you will be using for the sailing requirement, naming all of the major parts and the function of those parts.





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- 1. Forestay: Wire or line connecting the mast to the bow.
- 2. Halyard (Jib): Line used to raise and lower a sail. (Ropes on a sailboat are called "lines" or "sheets")
- 3. Head (Jib): Top corner of the sail that connects to the halyard which raises the sail.
- 4. Leech (Jib): The edge of the sail between the head and clew also known as the trailing edge.
- 5. **Luff (Jib):** The front edge of the sail between the head of the sail and tack.
- 6. **Head sail or Jib:** Smaller sail located ahead or forward of the main sail. It's usually connected to the forestay. There are different types of head sails, but many boats use a sail called a jib.
- 7. Clew (Jib): Back corner of the sail.
- 8. Foot (Jib): Bottom edge of the sail that lays along the boom.
- 9. Deck: Top surface of the boat.
- 10. Bow: Front of the boat
- 11. Keel: As described above, located under the hull.
- 12. Jib Sheet: Line used to control the movement of the jib or head sail inward or away from the centerline of the sailboat.
- 13. Hull: Bottom of the boat
- 14. Main sheet: Line used to control the movement of the main sail inward or away from the centerline of the boat.
- 15. Stern: Back of the boat.
- 16. Rudder: Large blade connected to the rear of the vessel below the waterline, used to steer the boat.
- 17. Tiller: Pole connected to the rudder used to control the rudder's direction.
- 18. Boom: Horizontal pole extending back from the mast.
- 19. Out-haul: Line that connects to the corner (or "clew") of the sail and pulls back to the rear of the boom
- 20. Clew (Main): Back corner of the sail.
- 21. Foot (Jib): Bottom edge of the sail that lays along the boom.
- 22. **Tack:** The lower corner just below the head of the sail that attaches where the boom and mast meet. This corner is often marked with the logo of the sail manufacturer.
- 23. Shrouds: Wires or lines connecting the mast to the deck on both the starboard and port sides.
- 24. Leech (Main): The edge of the sail between the head and clew also known as the trailing edge.
- 25. Luff (Main): The front edge of the sail between the head of the sail and tack that aligns with the Mast.
- 26. **Mainsail:** The large, usually triangle shaped cloth or other material used to catch the wind. The mainsail will be "aft," or behind, the mast.
- 27. Batten: Long thin plastic strips that support the sail.
- 28. Head (Main): Top corner of the sail that connects to the halyard which raises the sail.
- 29. Halyard (Main): The line used to raise and lower the mainsail.
- 30. Mast: Large, vertical pole extending up from the deck.

Other terms to note:

- Gooseneck: Where the boom attaches to the mast.
- Halyard: Line used to raise and lower a sail.
- Boom Vang: Lines that connect from the bottom of the boom to base of the mast which controls the shape of the sail. .
- **Helm**: Term used to describe the tiller/rudder combination. To "take the helm" is to take over steering the boat. Larger boats can have a traditional steering wheel at the helm instead of a tiller.
- Clet: A metal fixture located in various positions on the deck. These fixtures are used to tie lines for various reasons. The can be used to secure a boat to the dock, change sail position or attach fenders to the side.



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REQUIREMENT 4a:

Before going afloat, discuss the nine points of the Scouting America Safety Afloat plan.

- 1. Qualified Supervision
- 2. Personal Health Review
- 3. Swimming Ability
- 4. Life Jackets
- 5. Buddy System
- 6. Skill Proficiency
- 7. Planning
- 8. Equipment
- 9. Discipline



REQUIREMENT 4b:

Before going afloat, explain the rules of the road in general and any specific rules or laws that apply to your area or state.

Notes:











REQUIREMENT 4d:	Before going afloat, discuss the warning signs of inclement weather.			
Notes:				
REQUIREMENT 4d:	Before going afloat, discuss what to do should heavy approach.	/ winds develop or a storm		
Notes:				
REQUIREMENT 4e:	Before going afloat, prepare a typical float plan.			
who's with you, and when you plans. While it can be helpful in Give your float plan to a family trust to contact emergency resemble mechanical issues, or even personal can be supported by the support of the property of the support of the personal can be supported by the support of the suppo	loop about your boating adventure. It outlines where you're going, expect to be back — just in case there's a delay or a change in an emergency, filing a float plan doesn't have to be complicated. member, dependable friend, marina dock master, or anyone you sponders in an emergency. If your plans change due to weather, resonal preferences, reach out to your contact and update them. with using the <u>US Coast Guard Auxiliary's Float Plan</u> form.	FLOAT PLAN When the property of the property		







REQUIREMENT 4f: Before going afloat, discuss the proper clothing, footwear, and personal gear required for small-boat sailing in warm weather. PROPER ATTIRE FOR WARM WEATHER SMALL-BOAT SAILING: Clothes: Footwear: Personal Gear:







REQUIREMENT 4f: Before going afloat, discuss the proper clothing, footwear, and personal gear required for small-boat sailing in cool weather. PROPER ATTIRE FOR COOL WEATHER SMALL-BOAT SAILING: Clothes: Footwear: Personal Gear:







REQUIREMENT 4f:	Explain how choosing the proper clothing, footwear, and personal gear will help keep you comfortable and safe while sailing.
Clothes:	
Cachuagu	
Footwear:	
Personal Gear:	







REQUIREMENT 5:	Discuss with your counselor how to identify the wind direction and wind indicators. Explain the importance of this task before setting sail.
Wind Direction:	
Wind Indicators:	
Notes:	





REQUIREMENTS 6, 7A and 7B ARE SKILL-BASED REQUIREMENTS. SCOUTS WILL NEED TO PREPARE, SHOW, DEMONSTRATE, PERFORM, AND MANUEVER TO SUCCESSFULLY COMPLETE THE TASKS OF THESE REQUIREMENTS OVERSEEN AND REVIEWED BY A CERTIFIED MERIT BADGE COUNSELOR.

SCOUTS NOT ABLE TO PHYSICALLY PERFROM THESE SKILLS WILL FIND IT DIFFICULT TO COMPLETE.

Only Scouts that are mentally and physically able to perform the tasks will be considered for sign-off.

Some instructors / counselors may be able to provide some coaching, but there is no guarantee that the required skills to successfully accomplish this requirement can be developed enough for success.

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

REQUIREMENT 6:

Following the Scouting America Safety Afloat plan, show that you and a buddy can sail a boat properly. Do the following:

- a. Prepare a boat for sailing, including a safety inspection.
- b. Get underway from a dock, mooring, or beach.
- c. Properly set sails for a round-trip course approved by your counselor that will include running, beating, and reaching the basic points of sail. While sailing, demonstrate good helmsmanship skills.
- d. Change direction by tacking; change direction by jibing.
- e. Demonstrate getting out of irons.
- f. Demonstrate the safety position.
- g. Demonstrate capsize procedures and the rescue of a person overboard.
- h. Demonstrate the procedure to take after running aground.
- i. Accept a single line or side tow and maneuver the craft being towed safely for 20 boat lengths.
- j. Upon returning to the dock, mooring, or beach, properly secure all equipment, furl or stow sails, and prepare the craft for unattended docking or beaching overnight or longer.

NOTE: CAPSIZE PROCEDURES SHOULD BE CONDUCTED UNDER THE CLOSE SUPERVISION OF THE COUNSELOR. A RESCUE BOAT SHOULD BE STANDING BY TO ASSIST, IF NECESSARY, AND TO TOW THE CAPSIZED CRAFT TO SHORE. SELF-BAILING BOATS ARE ACCEPTABLE FOR THIS REQUIREMENT. EXTREME CARE SHOULD BE TAKEN TO AVOID PERSONAL INJURY AND DAMAGE TO THE BOAT OR EQUIPMENT.

Notes:			





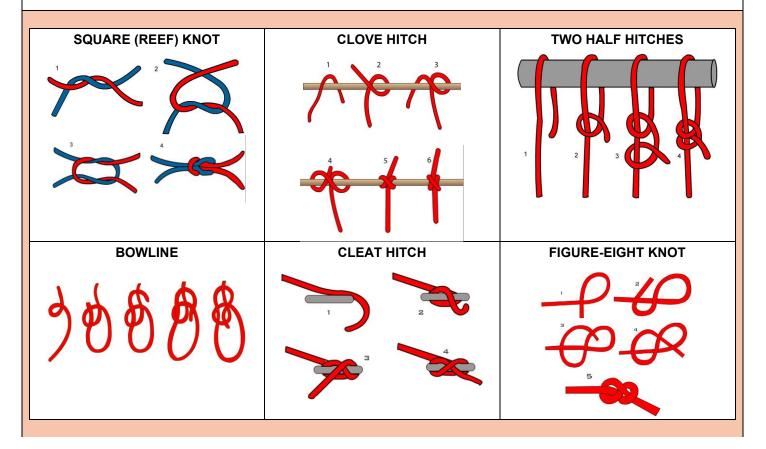
REQUIREMENT 7: Demonstrate a working knowledge of marlinespike seamanship.

What is "marlinspike seamanship":

REQUIREMENT 7a: Show how to tie a square (reef) knot, clove hitch, two half hitches, bowline, cleat hitch, and figure-eight knot. Demonstrate the use of each.

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!









REQUIREMENT 7b:	JIREMENT 7b: Show how to heave a line, coil a line, and fake down a line.			
This requirement must be reviewed with your merit badge counselor.				
	BE PREPARED!			
REQUIREMENT 7c:	Discuss the kinds of lines used on sailboats and the types of fibers used in their manufacture. Explain the advantages and disadvantages of each.			
LINE #1:				
Kind and Type of Fiber(s):			
Advantages: Disadvantages:		Disadvantages:		
LINE #2:				
Kind and Type of Fiber(s):			
Advantages:		Disadvantages:		





LINE #3:	
Kind and Type of Fiber(s):	
Advantages:	Disadvantages:
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LINE #4.	
LINE #4:	
Kind and Type of Fiber(s):	
Advantages:	Disadvantages:
LINE #5:	
Kind and Type of Fiber(s):	
Killid alld Type of Tiber(3).	
	<u></u>
Advantages:	Disadvantages:





REQUIREMENT 8:	Describe how you would care for and maintain a sailboat and its gear throughout the
	vear

Notes:

REQUIREMENT 9: With your counselor, review sailing terminology and the points of sail.

Abeam Off to the side of a vessel at right angles to the boat's centerline.

Aboard On or in the boat

Anchor A device used to hold a boat to the sea bottom

Aft At, near, or towards the stern.

Apparent Wind The wind that flows over a moving boat, which is a result of the "true wind" affected by the movement of the boat

Appendage An underwater fin such as a centerboard dagger board or rudder.

Astern Behind the boat

Backing Pushing out a sail so that the wind fills it from the opposite side. Used to slow a boat or turn the bow away from the wind when in irons

Back Winding a sail backwinds with the wind funneling on the wrong side.

Bailer A device used to remove water from the boat. A bailer is required equipment for a Sabot.

Batten Thin fiberglass or wood slats that are inserted in the leech (outside) of the sail for added support.

Beam Maximum width of a boat

Beam Reach sailing at approximately 90 degrees to the wind with the wind coming from abeam and the sails eased about half-way.

Advance to windward on alternate tacks; beating – to sail to windward, close-hauled, tacking to make way to windward.

Bitter End End of a line

Block

A pulley that is encased in its own housing. A block will help to add purchase when pulling on a line. It is important to use the correct size line with the

blocks on your boat.

Bolt rope Sewn around luff and foot of sails to give added strength to sail where it attaches to mast or boom.

Boom Horizontal spar that supports the foot (bottom) of the sail. Named for the sound it makes when it hits someone's head.

Boom VangA line that runs from the boom to the base of the mast. The vang helps keep the boom down and tighten the back (leech) of the sail.

Bow The forward part of a boat, the pointy end.





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Bow Line

Also known as a painter. The bow line is used to tie the boat to the dock or to a tow line. Minimum 10-foot bowline is required equipment. Best if at least

1/4" in diameter.

Broad Reach Sailing with the wind coming over the rear corner of the boat (quarter), or with the bow approximately 120-160 degrees from the source (eye) of the wind.

By-the-lee Running with the wind on the same side as the boom, increasing the possibility of an accidental jibe.

Burgee A flag, often triangular, that serves as the unique emblem for each yacht club.

Capsize A boat turned over on its side or upside down (turtled).

Cast off To untie a line and let it go, or remove a line from a cleat and let it go.

Catamaran A boat with two parallel hulls

Centerboard A thin, wide blade going down through the bottom of the hull in the center of the boat. This blade helps to keep the boat from going sideways in the water

.It serves the same purpose as a leeboard or a dagger board

Center of Effort Center of sail area, the focal point of the forces generated by the sail area

Cleat A fitting where a line can be secured

Clew The aft lower corner of the sail is the clew. It is where the foot and the leech of the sail meet

Close-hauled Sailing as close to the wind as possible.

Close reach Sailing with the wind forward of the beam, or with the bow approximately 60 degrees from the eye of the wind

Course The direction a boat is steered to reach a destination; or the compass heading; or the angle a boat is sailing relative to the wind

Crew The people who help the helmsperson sail a boat

Cockpit Open part of boat

Cunningham A control line used to tension the forward edge (luff) of a sail, similar to a downhaul

Dagger Board Foil raised and lowered vertically used to reduce leeway, different from centerboard which is pivoted instead of raised

Dinghy An open boat, or one partially decked over without a cabin

DollyA lightweight trailer that is used to move boats from their storage rack to the launch dock

Ease To slack a line or sail, i.e. To "sheet" out

Eye of the Wind From the source of the wind; directly into the direction from which the wind is blowing from, the no-sailzone

Fairlead Block or fitting used to change the direction of a running line such a jib sheet

Feathering Sailing upwind so close to the wind that the forward edge of the sail is stalling or luffing, slightly thus reducing the power generated by the sail and the

angle of heel without stalling completely

Fenders Cushions to reduce the chafe between a boat and the dock or other boats

Fiberglass Most modern boats are made of fiberglass. It is a woven material impregnated with a liquid resin that is very stiff when the resin dries

For racing purposes, sailors are grouped in fleets according to experience. The Sabot "A" fleet is the more advanced group, with "B", "C" and "C3" fleets

being progressively more basic

Flying Junior is a two-person boat. It is a primary junior training boat, often used in high school sailing events.

Foot The bottom edge of the sail between the tack (front corner) and the clew (back corner).

Forestay Forward support of mast, usually wire lead from bow to mast, part of the standing rigging.

Give wayThe boat which must alter course to avoid another boat, the burdened boat in the Rules of the Road

Gooseneck A hinged fitting on the mast that connects the mast to the boom.

Grommet

A metal ring in a sail that allows lines to be connected through or to the sail. Both the clew and the tack have grommets.

A "U"-shaped fitting on the back of a boat used to connect the rudder to the hull. Most sailing dinghies have two gudgeons.

Halyards Lines that are attached to the head of a sail and used to hoist sails up the mast.

Head The top of the sail.

Header A wind direction change "shift" that brings the wind closer to the bow.

Heading The direction the boat is travelling at any given moment.

Head Up Turn the bow of the boat toward the wind.

Heel To lean a boat over, generally away from the wind.

Helm 1) the tiller; 2) the tendency of a boat to turn toward the wind (weather helm) or away from the wind (lee helm)

Helmsperson The person who steers a boat, ie. skipper

Hiking Out The action of hanging over the side of the boat in order to keep the boat flat on the water





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Hull The actual body of the boat

In Irons A boat headed to wind with all sails luffing and no maneuverability

Inspection Port A hole in the hull of the boat that allows the skipper to reach inside the hull to make repairs, or sponge out water

Jib The front sail on boats with two or more sails; it is small and triangular in shape.

Jibe (Gybe) Turning the boat away from the wind so the stern passes through the wind and the sail(s) switches sides.

Laser A popular 14 ft. high performance single hand boat. Used in the Olympics for men's and women's single hand event.

The area sheltered from the wind, downwind; leeward (pronounced loo-ward) - the direction away from the wind, the side of the boat opposite the Lee

windward side

Leech The aft edge of the sail. The leech connects the head and the clew of the sail.

1) The forward edge of the sail nearest the mast, between the tack and the head of the sail; 2) when a sail is waving back and forth as the sail is "eased" Luff or Luffing out too much or the boat is heading into the wind, the sail is said to be luffing, like a flag flying in the breeze. 3) when the boat turns its bow toward the

wind the boat is said to be luffing.

Mainsheet The line attached to the boom that controls the Mainsail in and out.

Mast The vertical spar that supports the sail.

Mast blocks Small pieces of wood or plastic used to support the mast in a forward or aft position.

Mast Tube A tube on a Sabot that the mast fits into and supports the mast.

One-design Any class of boat that has specific requirements for size and shape of hulls, sails and equipment to keep them equal, i.e. Sabots, FJ's, and Lasers.

Outhaul A line attached to the clew of the mainsail and used to stretch the sail out along the boom. The outhaul controls the "depth" of the sail.

Paddle A small board or device used to move the boat in case of emergency or lack of wind. Paddle is required equipment on Sabots and many small boats.

Pintles The pins on the rudder that are inserted into the gudgeons on the transom of the boat to connect the rudder to the hull.

Planing When a boat accelerates enough to break loose from its bow wave and ride on top of the water.

Port Refers to the left side of the boat as well as to which tack a boat is on. If a boat is on "port tack" the wind is coming over the left side of the boat.

Ratchet Block These are special blocks that rotate in only one direction. They grip the line passing through the ratchet block, relieving some of the "pull" on that line

Sail with the wind over the side. i.e. A Beam reach is the wind approx. 90 degrees from the bow, broad reach 130-170 degrees from the bow, or close Reach

reach with the wind 55-80 from the bow.

Rudder The movable, underwater blade on the transom of the boat used for steering. Run Sail downwind, with the wind aft or nearly so, i.e. Sailing with the wind.

Sabot A popular one person sailing dinghy used mainly in Southern California; they are 8 ft. long and weigh about 100 lbs.

Sail The part of the boat's equipment which is usually made from cloth and which is attached to the mast and is the boat's primary reason for movement.

Sea Breeze Wind from the ocean caused by warm air rising over the land and the cool ocean wind replacing it.

Shackle A U-shaped metal ring with a pin to close the "U". It is used to connect objects together, such as connecting the jib halyard to the head (top) of the jib.

Sheets All lines on a boat which are used to control the in and out motion of sail.

S-Hook A stainless steel "S" shaped hook used on the end of many control lines that allows for quick hook up and disconnect Shrouds Wires that hold the mast to the sides of the boat and support the power of the sails; part of the standing rigging.

Skipper The person in charge of the boat, usually the person steering the boat.

Stand on To hold course, the privileged boat in the Rules of the Road.

Starboard Refers to the right side of the boat. A boat is on a "starboard tack" when the wind is on its starboard side (coming over the right side of the boat).

Stern Aft (back) end of a boat.

1)If a boat's bow passes through the eye of the wind, then it is said to be tacking.2)The direction the boat is sailing (see starboard and port).3)The lower Tack

front corner of the sail where the luff and the foot of the sail meet.

Telltales Small lengths of lightweight material attached to the sail near the luff or batten pockets of main sail to indicate the airflow over the sail.

Thwart A structural board in the center of a Sabot. Juniors should sit next to the thwart when sailing.

Tiller The long piece of wood that is connected to the top of the rudder; it changes the boat's direction when moved from side to side.

A hinged extension attached to the tiller that allows the skipper to steer the boat while sitting forward or hiking out; this is standard equipment for all boats Tiller Extension

Transom The very back edge of the boat is called the transom. It is where the name of the boat is often painted.

Traveler A line or track that controls sideways movement of the boom and mainsail.

Trim Pulling or "sheeting" in a sail







	 Fore and aft balance of a boat can be used to refer to the adjustment of sails to take the best advantage of the wind.
True wind	The speed and direction of the wind felt by a stationary object.
Turtle, turn turtle	When a vessel is capsized and completely inverted so that its hull is above the water and its mast is submerged
Windward	The general direction the wind is coming from
Wing and wing	Running before the wind with the main sail and jib on opposite sides of the boat
REQUIREMEN	T 9: Discuss various types of sailboats in use today and explain their differences.
SAILBOAT TYPE	#1:
Name/Type:	
Notes:	
SAILBOAT TYPE	#2:
Name/Type:	
NI (
Notes:	





SAILBOAT TYPE #3:
Name/Type:
Notes:
Notes.
SAILBOAT TYPE #4:
Name/Type:
Name/Type.
Notes:
SAILBOAT TYPE #5:
Name/Type:
Notes: