**Learn to Sail** – Some basics to get you started.

**Boat Parts**

* Bow – The front end of a boat.
* Stern – The back end of a boat.
* Port – The left side of a boat when facing forward. An easy reminder is that “left” and “port” both have 4 letters.
* Starboard – The right side of a boat when facing forward.
* Hull – The bulk of the whole boat:
	+ Topsides – The sides of the hull above the water.
	+ Freeboard – The height of the topsides between the water and the deck.
	+ Deck – The relatively flat surface of the hull you walk on.
	+ Cabin Trunk – A raised area of the deck which creates the interior cabin.
	+ Cockpit – Usually a recessed area where the boat is steered and lines are handled and the crew is relatively protected.
	+ Companionway – The passage between the cockpit and the cabin
	+ Keel – The part of the hull that sticks deepest into the water. Its function is to reduce sideways motion and provide a counterweight to keep the boat upright.
	+ Rudder – An underwater appendage used to steer the boat.
	+ Tiller or Wheel – Used to turn the rudder.
	+ Bow and Stern Pulpits – Usually steel railings at each end of the boat for safety.
	+ Lifelines – Wires or strong lines that run from the bow pulpit to the stern pulpit about 2 feet above the deck through metal posts called stanchions to help keep crew from falling overboard. “Gates” are sections of lifelines that can be temporarily opened to let people on or off the boat.

**Rig Parts**

* Mast – An upright spar of metal or wood which holds up the sails
	+ Stays – Wires that control the mast in a forward and aft direction
		- Forestay – goes from the top of the mast to the bow
		- Backstay – goes from the top of the mast to the stern.
	+ Shrouds – Wires that control the mast from bending sideways always in pairs port and starboard
	+ Spreaders – pairs of horizontal metal or wood struts that hold the shrouds away from the mast to give better leverage to keep the mast straight. There may be 1 to 4 sets of spreaders.
		- Lower Shrouds – Go from the deck to the 1st set of spreaders
		- Intermediate Shrouds – Go from the deck to the 2nd set of spreaders (if any, or repeat if more)
		- Cap Shrouds – Go from the deck to the top of the mast
	+ Chainplates –Strong metal plates connected to the hull that stick up a few inches above the deck to which the turnbuckles are connected.
	+ Turnbuckles – Strong threaded fittings used to connect the stays and shrouds to the chainplates and apply tension to them.
* Boom – Horizontal metal or wood spar with the forward end attached to the mast to hold the bottom edge and outer end of the mainsail.
	+ Gooseneck – The swivel fitting connecting the boom to the mast to allow it to swing side to side and up and down

**Sails & Sail Parts**

* Mainsail (usually just called the “main”) – The approximately triangular sail that is flown from the aft side of the mast
* Jib – The triangular sail flown from the forestay at the bow of the boat.
	+ Genoa Jib (or Jenny) – a jib that overlaps the mast. “Jib” or “Jenny” are casually used interchangeably.
* Spinnaker – Large rounded sail that is used when sailing with the wind.
	+ Spinnaker Pole – A spar attached to the forward side of the mast to hold the tack of the spinnaker out over the water to catch more wind.
* Head – The top corner of a sail is called the “head” of the sail.
* Tack – The lower forward corner of a sail is called the “tack.” This is usually a fixed position and can be thought of as “tacked” in place. The mainsail tack is connected to the gooseneck.
* Clew – The lower aft corner of a sail is called the “clew.” This is the corner that is adjusted to make major changes in the shape of the sail. The clew of the mainsail is connected to the aft end of the boom.
* Luff – The leading edge of a sail is called the “luff.”
* Foot – The bottom edge of a sail is called the “foot.”
* Leach – The aft edge of a sail is called the “leach.”
	+ Roach – The curved part of the leach of a mainsail that extends aft of a straight line between the head and the clew to gain more sail area.
	+ Batten – A stiff but flexible narrow piece of fiberglass or wood inserted into a pocket along the leach of the mainsail to keep the roach from folding over. If the batten goes all the way from the leach to the luff it is called a “full-length batten.”

**Control Lines**

* Halyards – Lines connected to the head of a sail to raise it.
* Sheets – Lines connected to the boom, jib or spinnaker clew to adjust the setting of the sail. Thus you have a mainsheet and two jib sheets, port jib sheet and starboard jib sheet. (And maybe two spinnaker sheets.)
	+ Trim – Trim means to pull in a sheet
	+ Ease – Ease means to let out a sheet
* Outhaul – The line that adjusts tension in the foot of the mainsail by pulling the clew out to the end of the boom.
* Vang – The line that controls how far the boom can go up and down, thus adjusting the tension in the leach of the mainsail.
* Traveler – Typically the moveable place where the mainsheet connects to the deck that can be adjusted to port or starboard for fine adjustments to the mainsail trim.
* Winch – A strong, round, metal, cylindrical fitting with a handle that gives a mechanical advantage for tensioning halyards and trimming sheets.
* Cleats – Strong fittings, usually with two protruding ends called “horns” attached to the mast or deck for securing the ends of halyards and sheets.
* Control lines for the spinnaker pole.
	+ Pole Lift – the line that holds up the outer end of the spinnaker pole.
	+ Afterguy – The line from the outer end of the spinnaker pole back to the cockpit to control how far it sticks out. Usually they are in pairs, port and starboard.
	+ Foreguy – The line from the outer end of the spinnaker pole to the bow that keeps the pole from going up.
* Wind Indicators – Tell you how the wind is flowing over the boat and sails.
	+ “Windex” – A wind vane mounted at the top of the mast that always points into the wind.
	+ Telltales – Strips of ribbon, yarn, or magnetic tape attached to shrouds give lower indications of wind direction.
	+ Telltales – Strips of ribbon or yarn attached to the luff of a jib and the leach of a mainsail to show how the wind is flowing around the sail.

**Points of Sail**

In order to sail a boat you have to always know where the wind is coming from. There are two description for wind: True Wind and Apparent wind. True wind is what you experience when you are standing still – and the boat is not moving. When the boat is moving you experience Apparent Wind because the direction and speed of the boat change how you experience it – how it is “apparent” to you. A boat in motion is always sailing in apparent wind. Boats cannot sail directly into the wind. They can only sail when the True wind is 45 degrees or more off the bow. With the boat in motion it will look more like 30 – 40 degrees apparent wind. Here are the terms and approximate apparent degree ranges for sailing different courses:

* Close Hauled (or Beating) – 30 – 40 degrees, as close to the wind as the boat will sail.
* Close Reach - 40 – 80 degrees, except in extreme conditions, this is usually the fastest point of sail.
* Beam Reach - 80 – 100 degrees.
* Broad Reach - 100 – 160.
* Run – 160 – 180 degrees. You can set a spinnaker on a Broad Reach or a Run.
	+ Wind and Wing – With the wind about 170 – 180 you can use a spinnaker pole to put the clew of the jib out on the opposite side from the boom and mainsail to expose more sail area and go faster.

**Sailing Directions and Changing Directions**

There are specific terms for how a boat is sailing and how the course of the boat is changed.

* On a Tack – a boat is either on a Port or Starboard tack corresponding to the side of the boat that the wind is coming from. If the wind is coming from the starboard side of the boat, the boat is on starboard tack. When on a running course the tack is the side opposite the boom. A Starboard Tack Boat has right of way over a Port Tack boat.
* To Tack – When a boat changes course from one tack to another it is tacking by turning the bow of the boat into the wind to get to the other tack.
* To Gybe – When a boat changes course from one tack to another it is gybing by turning the bow of the boat away from the wind. Because the boom and mainsail would normally be eased way out to one side before a gybe and then have to swing a long way to get the wind to the back side of the main on the other tack, a gybe can be violent and dangerous when the boom finally swings across the boat. It is important to trim the main almost to the centerline before executing the gybe and release it quickly when the wind catches the back side. A safe alternative is to do a 360 degree turn and tack instead of gybe.
* Heading up – The boat is turning toward the wind
* Bearing Away or Falling Off – The boat is turning away from the wind.
* Beating, or Beating To Windward – To get to a point that is directly upwind of your location you sail the boat at 45 degrees on one tack, then tack to the other tack to get to the destination. You have sailed the two sides of a 45 degree triangle to get there. Thus to get to a point that is 1.4 miles directly upwind, you have to sail 2 miles.
* In Irons – If the boat loses steerage way when pointed 0 – 30 degrees to the true wind the sails will not move the boat and the rudder will not change the boat’s course. The boat will start to drift backwards. If the sails are still trimmed, the jib will try to pull the bow of the boat away from the wind, but the main will push the bow of the boat into the wind and the boat will not change course. The best solution is to trim the jib tight on the windward side (called “back-winding the jib”) and completely ease the main. The boat will turn to a beam reach course but it still won’t have enough speed for the rudder to steer the boat. Then, set the jib for a beam reach and let it get the boat moving before you slowly trim the main.