



Silver Helmsman Badge

The Crean Award:

Discovery:

Patrol Activity

Terra Nova:

Patrol Activity

Endurance:

Active Role

Develop Teamwork

Patrol/Troop Activities

Polar:

Patrol Activity

The Activity:

Objective:

To achieve the Silver Helmsman badge.

Activity Type:

Patrol/Troop Activity

Roles:

Activity Leaders

Every Scout in the country can get the Silver Helmsman badge so why not add it to your Scout troop programme?

These resources are produced by the **Programme Team (Sea Scouting and Water Activities)** in conjunction with the **Programme Team (Scouts)** to encourage everyone to learn about and get on the water!





Contents

Among the aspects of the Silver Helmsman badge that are covered in this resource are:

- Double Sheet Bend & Rolling Hitch
- The Sea Anchor
- Man Overboard scenarios
- Coastal Navigation
- The Boatswain's Call
- Cardinal points
- Some *Rules of the Road*
- Signalling help
- Flags and ensigns
- Weather
- Attaching an outboard engine



***Click on the Scout Shop
logo above to order your
Silver Helmsman badges!***



Double Sheet Bend

Used when ropes are considered unequal i.e. ropes of different materials and/or diameter) or where the rope is particularly smooth (the modern very high strength fibres like spectra, kevlar, dyneema especially), markedly different in size, the tail of the smaller rope can be taken twice round the bight in the larger rope to create the double sheet bend.



Check out wateractivities.ie for a great book on knots for water activities!



Rolling Hitch

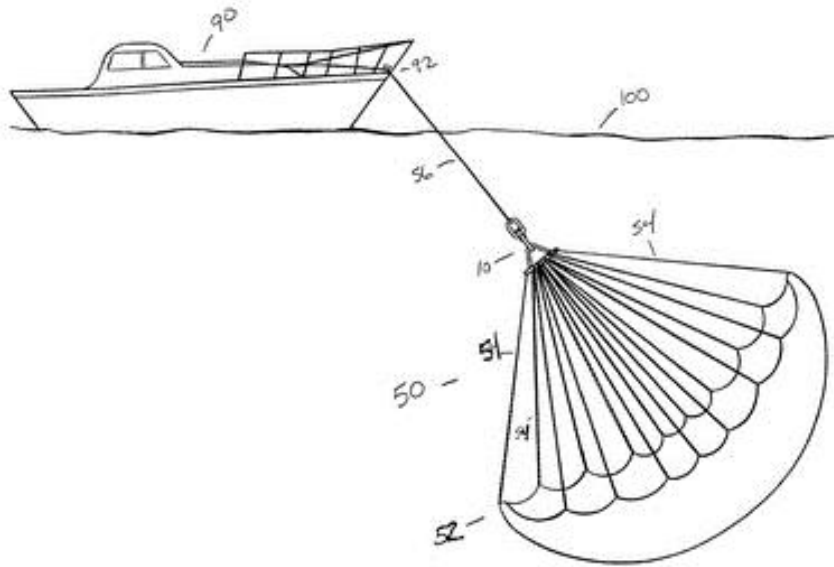
The Rolling hitch is used to attach a rope to a pole or another rope. It is friction hitch operating like a simple Prusik knot from climbing. The pull is along the length of the object and not at right angles. Start by making a half hitch around the main rope with the smaller rope. A common usage while sailing is for rigging a stopper to relax the tension on a sheet so that a jammed winch or block can be cleared. Follow the first half hitch around and cross the standing end. Now finish with a half hitch



Check out wateractivities.ie for a great book on knots for water activities!



The Sea Anchor



A Sea Anchor is not really an anchor as we would normally understand it.

It used to hold a boat head to wind (or stern to wind) – often in emergencies – to stop the drift of the boat

You might hear it called a drogue

It is often improvised from material on-board – why not try this on a troop boating activity?



Man/Mná Overboard (MOB) scenarios

The next section covers MOB scenarios. It is important to stress that the right course of action in an MOB situation is dependant on conditions, type of craft and experience of the helmsman and crew. If you need advice on this topic, speak to a Scouter, a Charge Certificate holder or a qualified instructor.

The tips here try to cover the most common craft in use in your area, that is, sailing boats, power boats and rowing boats. For kayak rescues, consult with a kayaking instructor.

If you are the helmsman, always make sure you know which recovery method best suits your boat and crew. If you are a crew member, always know what role you are expected to play in a recovery scenario. Never practice with a live person in the water. Use a dummy or weighted float. Practice the approach separately to the recovery. Recovery can be practiced while anchored or tied up alongside.

Remember to wear a PFD at all times, which has been checked at regular intervals by an appropriate person.



Top tips!

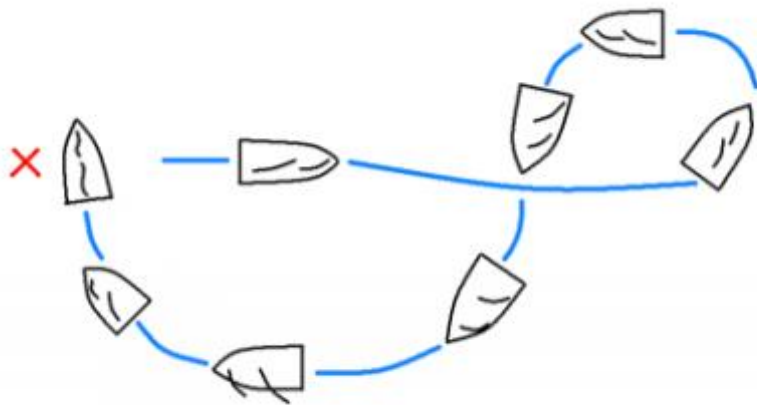
1. Anyone seeing a person go overboard should immediately shout, **“Man Overboard”**, point and continue to point at the MOB and not take their eyes off the MOB until or unless another spotter is appointed.
2. Throw out the MOB marker (danbuoy) if appropriate.
3. The helmsman (skipper or coxswain) will appoint a spotter – usually the person who initially saw the MOB. The spotter is to maintain constant visual contact of the MOB.
4. Prepare any necessary equipment onboard – boat hook, lines etc
5. Stay calm on the boat – it is a stressful situation but fueling an already stressful situation by panicking will not help – it will only make matters worse. Do your job, follow the helmsman’s instructions and stay calm.
6. The helmsman will give directions as to what manoeuvre s/he will be doing.
 - In a large sailing boat, the skipper may direct that sails be lowered in order to hold the boat’s position.
 - In a powerboat, the engine should be cut off as soon as contact has been made with the MOB (if the helmsman is confident it will re-start).
7. Slowly pull the MOB to the boat making sure that the MOB is able to keep her/his face out of the water. Pulling the MOB too quickly may pull them under.
8. Once beside the boat, pull the MOB aboard. It is unlikely that the MOB will be able to offer much assistance as they will be cold, tired and traumatised. In a small boat, like a rowing boat or a dinghy, take the MOB in over the most stable part of the boat. It may be easier with the MOB’s back to you. Use the MOB’s PFD for leverage.



WIND

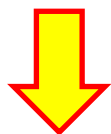
Under Sail

(Reach and Reach Method)



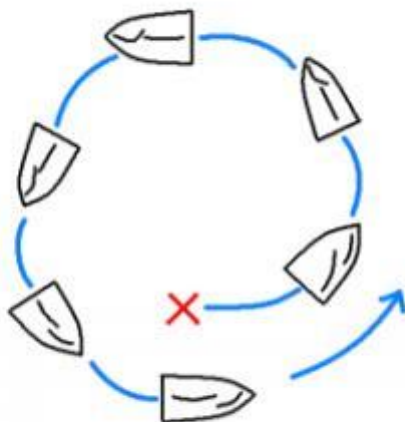
X = Man Overboard

- Sometimes called the 'figure eight', this MOB method is well used in heavy seas and strong wind conditions.
- Whenever someone shouts "Man Overboard", the person at the helm will immediately put the boat into a beam reach (sail straight across the wind). The advantage of doing a beam reach is that if you lose sight of the MOB, you at least know that you can come about (tack back) and retrace your course and regain sight of the MOB. The other important aspect of doing a beam reach you always know that you will be able to sail back on the same course and not find yourself trying to sail against the wind or control your running speed sailing downwind.
- Once the helmsman has sufficient space between the boat and the MOB, (note: a crew member who is able to judge boat lengths should be shouting out distance from the MOB in order help the helmsman determine when he has sufficient room to tack about.), the helmsman will tack (not gybe).
- When coming out of the tack, head immediately down wind (broad reach) from the MOB. If you are sailing solo, release the jib sheets and let the jib luff to slow the boat speed.
- When you are at a Close Reach angle to the MOB, turn up into a Close Reach pointed slightly below the MOB. If you sailed towards the MOB at a Close Hauled point of sail, a wind shift could stall the boat or in strong winds, you will not be able to make much head way. Sailing at a Close Reach point of sail gives you more 'wiggle' room.
- As you approach the MOB from a downwind position, slow the boat speed by slightly turning up into the wind and then turning down to avoid stalling. Once close and still downwind from the MOB, turn the boat into the wind so that it stalls and comes to a stop beside the MOB. It is important that the crew know which side of the boat the MOB will be on once the boat has stalled.



WIND

(Quick Stop Method)



X = Man Overboard

- Once the helmsman hears the shout, “Man Overboard”, s/he will immediately call for a tack.
- Unlike a standard tack, the jib sheets will not be touched which means that as the boat comes about, the jib will back on itself.
- The mainsail, as the tack is initiated, should be pulled into the centerline position of the boat. This will slow boat speed and the backed jib will help swing the bow down through the turn.
- The sheets are not touched and with the rudder turned in the same direction the boat will continue to sail in circles around the MOB until such time as you can pull up to the MOB from a leeward position and stall the boat beside the MOB.
- Since you will be approaching the MOB from a leeward position, once below the MOB you will need to gybe to head back up to the MOB. Again, the sails are not touched. The mainsail is already secured over the centerline so there will be no swing of the boom.
- If you are short of crew, this is an excellent method for recovering a MOB. Nothing has to be done to the jib sheets and only the mainsail needs to be centered.
- In heavy winds and seas this method of recovering a MOB presents a few more problems in that the boat will catch a lot of wind at the top of the tack and the bottom of the gybe creating a lot of heeling.
- The advantage to this method is that you are always circling the MOB and therefore reduce the chances of losing sight of the MOB.



- Always be prepared. Practice MOBs during recreational boating time, especially if you are on a different boat from what you are used to.
- Have all safety gear readily available – life jackets, MOB markers, life rings, throwing lines.
- Have a plan in place, with contingencies. Make sure your crew and passengers are aware of what to do in the event of a MOB situation.



Under Power

If someone goes overboard:

- Alert the crew by shouting 'Man Overboard'.
- Instruct one person to point at the MOB at all times.
- Follow the principles and “Top Tips” on page 7 and 10

Remember: Powerboats should only be driven by those sufficiently experienced and qualified to do so



MOB approach and recovery

- Give plenty of room and approach from downwind.
- Reduce power, and then move slowly towards the MOB.
- Use neutral gear to control your speed.
- Keep the MOB on the windward bow.
- When close enough, remove all power and grab hold of the MOB.
- Switch off the engine.*
- Assist the MOB to an area of the boat where they can be recovered.

**As helm you need to balance switching off the engine for the safety of the MOB against the experience of the helm and the sea conditions you are facing. If you are in any doubt that the engine will re-start then it would be foolish to switch off the engine*

Advantages

Suits smaller craft

Allows waves to be taken head-on.

Good when rough as MOB is unlikely to go under the boat.

Disadvantages

Need to be prompt at collection time.

Can lose sight of MOB under the bow

Can be difficult if alone in boat.





Avoiding MOB in power vessels

- At slow speed, sharp throttle movements can catch people unaware. Brief the crew before speeding up and ensure they hold on.
- Don't let the crew leap off the boat onto the pontoon; brief them to secure the boat first and then step onto the pontoon.
- At higher speed, ensure the crew is seated and holding on. Beware of sudden wheel movements.
- Supervise young children all the time.
- Cover MOB procedures in your safety briefing.





Under Oar

- Consider your approach
- Approach into the strongest force – wind or tide
- Take MOB in over the most stable area of the boat
- Mind your oars!
- Follow the principles and “Top Tips” on page 7 and 10





Coastal Navigation

- Show how to measure distance on a chart
- Plot a true bearing or course from a compass rose
- Describe what Cardinal and Half Cardinal points are



How to measure distance on a chart

To calculate the distance between two points on a chart, the vertical or latitude scale proves invaluable.

From the equator to the North pole the planet is divided into 90°. Each of these degrees is subdivided into 60 *minutes*. Each minute is also equal to 1 *nautical* or *sea mile*. There are therefore 5400 nM from the equator to the north pole.

1 nautical mile = 1852 metres

Calculating the distance between points (see chart overleaf)

- Use a dividers or page to find the physical distance on the chart between the two points.
- Align this against **the side scale** on the chart (**never top or bottom**).
- Each minute is considered to be 1 nautical mile (1nM).
- In the example in the chart overleaf it is 1'.25 minutes which is therefore 1.25nM.



Plot a true bearing or course from a compass rose

There are a number of ways to plot a true bearing from one point to another. For the Silver Helmsman badge, you are required to be able to do this using the compass rose, rather than say a plotter or a compass.

One way to do this is to use a parallel rules, like these



Have a look at the chart overleaf and imagine we wish to get a bearing from the point 53 25.85N 006 04.50W (Blue) to the anchorage just off Ireland's Eye (Red) along the dotted red line.



NOT FOR NAVIGATION



Plot a true bearing or course from a compass rose

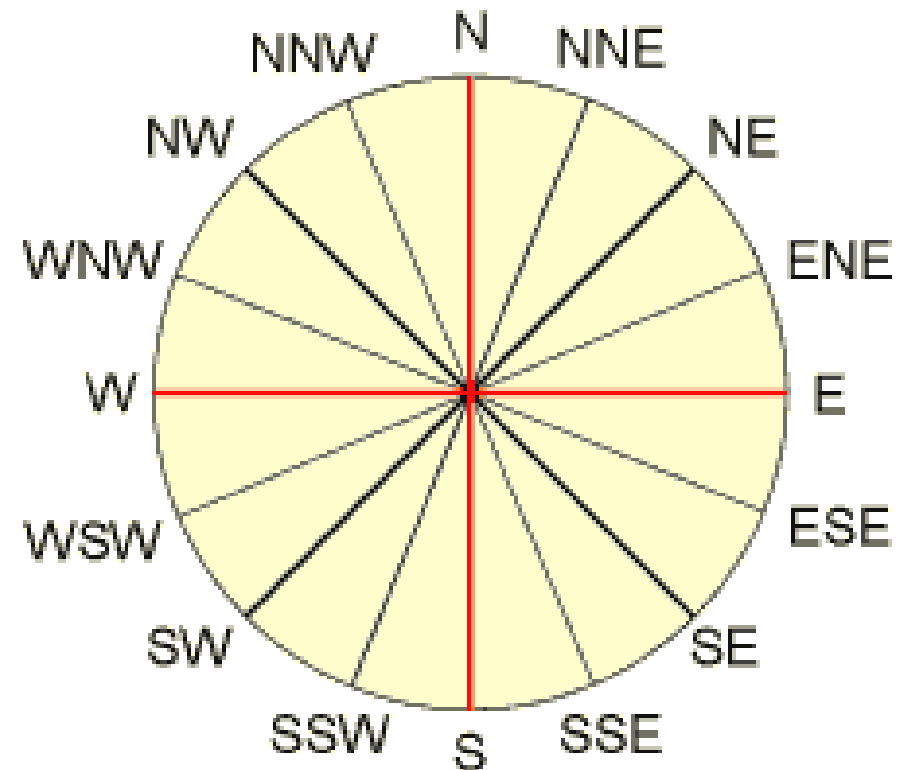
- Lay one side of your parallel rules along the dotted red line, as on the previous page
- “Walk” the other side of your rule so that it passes through the compass rose, ensuring it is aligned to the centre of the rose. You will get a line (like the green dotted line) that is at precisely the same angle as your red line.
- Read off the outer circle of the rose. This is your true bearing from the plotted point to the anchorage.

Remember, this bearing does not take account for magnetic variation, deviation or leeway!

Describe what Cardinal and Half Cardinal points are

The four **cardinal directions** or **cardinal points** are the directions of north (N), east (E), south (S), and west (W).

The half cardinal (*intermediate*, *intercardinal*, or *ordinal*) directions are northeast (NE), southeast (SE), southwest (SW), and northwest (NW).





Rules of the Road

Explain the following terms:

- Bearing
- Not under command
- Safe speed
- Overtaking



Bearing

A bearing is the direction from one point to another point, using the directions of a compass

In the example on the right, a boat at the fix would be on a bearing of 45° if it was pointing at the headland and at a bearing of 120° if it was pointing at the buoy $^{\circ}$



Bearings are crucial to working out if your vessel is on a collision course with another vessel.

If you take bearings to another vessel at intervals and the bearing remains the same, you are on a collision course

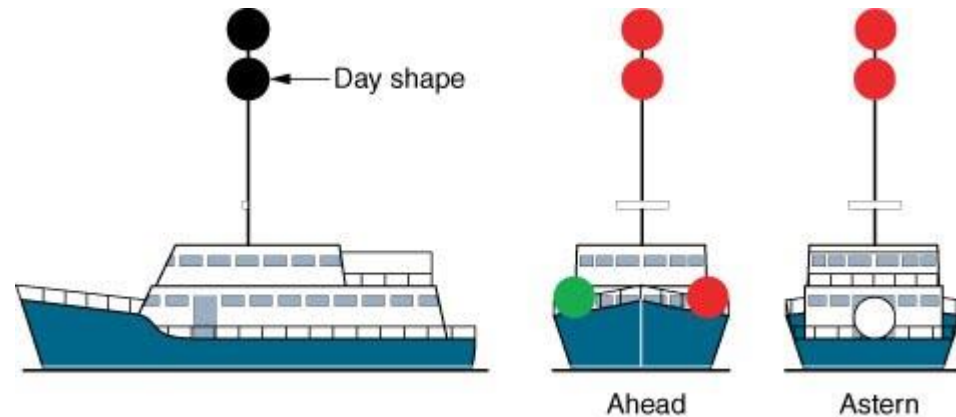


Not under command

Rule 3 of the **Collision Regulations** defines a vessel not under command as a vessel unable to maneuver as required of ordinary vessels because of "exceptional circumstance."



Vessels not under command should show a day shape of two black balls. At night it should show two all-round **red** lights in a vertical line where they can best be seen (in addition to sidelights and a sternlight when making way through the water).





Safe speed

Rule 6 of the **Collision Regulations** says that every vessel shall at all times proceed at a *safe speed* so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

In determining a safe speed the following factors shall be among those taken into account:

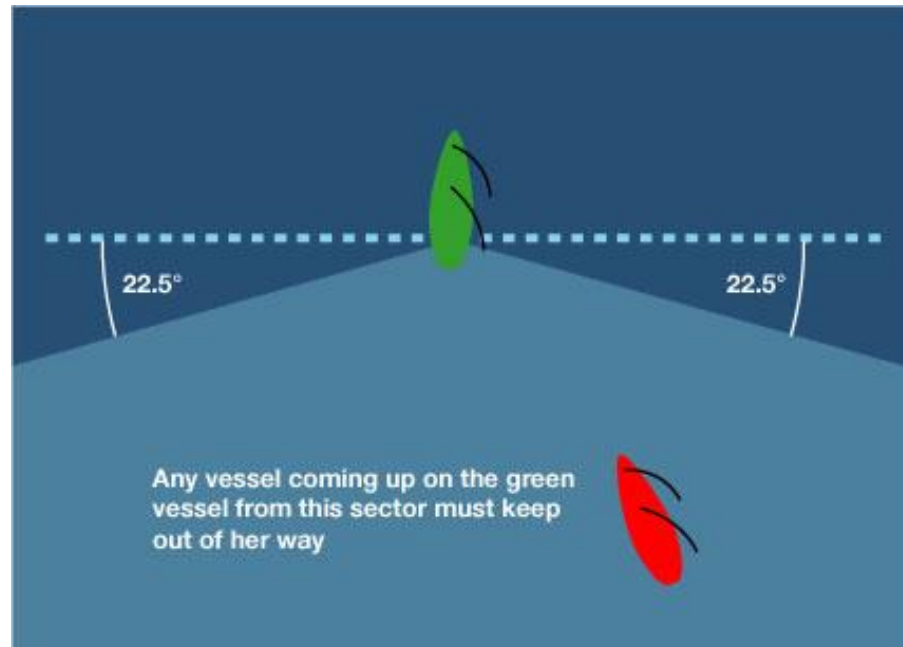
- Most importantly - the state of visibility;
- The traffic density including concentrations of fishing vessels or any other vessels;
- The manageability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;
- At night, the presence of background light such as from shore lights or from back scatter from her own lights;
- The state of wind, sea and current, and the proximity of navigational hazards;
- The draft in relation to the available depth of water.





Overtaking

Rule 13 of the **Collision Regulations** requires the overtaking vessel to keep out of the way of the vessel being passed.





- Demonstrate distress signals by using only oneself and items found on your Scout/Sea Scout uniform



This one is up to
you!

Be creative and consider both visual and sound signals. Is there anything you would add to the uniform to make it more useful in distress scenarios?





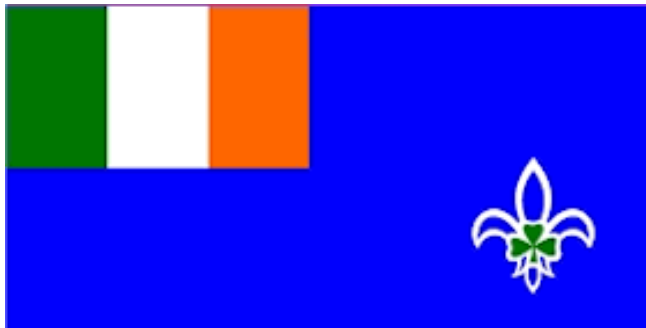
Nautical history and traditions

- Explain how to care for and demonstrate how to fold a National Flag or Ensign
- Discover a piece of maritime tradition or history, for example:
 - i. Boatswain's Call
 - ii. The Watch system on ships and the sounding of bells



Nautical history and traditions

- Explain how to care for and demonstrate how to fold a National Flag or Ensign



Key things to know!

- The National Flag should **never** be defaced by placing slogans, logos, lettering or pictures of any kind on it, except in the case of approved ensigns.
- The National Flag should not be draped on cars, trains or boats. It should not be carried flat, but should always be carried aloft and free. You should ensure the National Flag does not touch the ground, trail in water or become entangled in trees or other obstacles.



Nautical history and traditions

- Explain how to care for and demonstrate how to fold a National Flag or Ensign

Key things to know!

- An ensign should never be carried on parade. It should only be flown from a flag pole or on a boat.
- Further information can be found at the Department of an Taoiseach's website [here](#).
- There is no official way to fold a National Flag however you should ensure that there are sufficient people available to fold the flag, that it is treated respectfully and folded neatly.



Proportion = 2:1

Each colour = $\frac{1}{3}$ of width

Colours:

Green = PMS 347

White

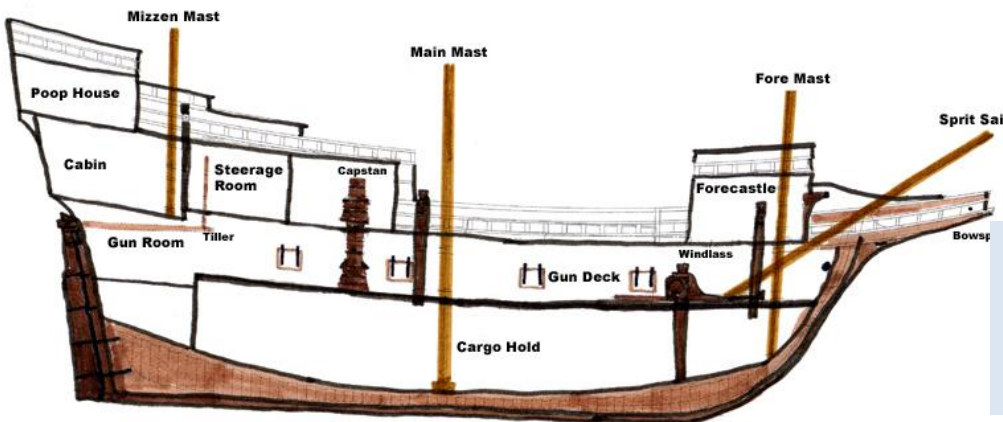
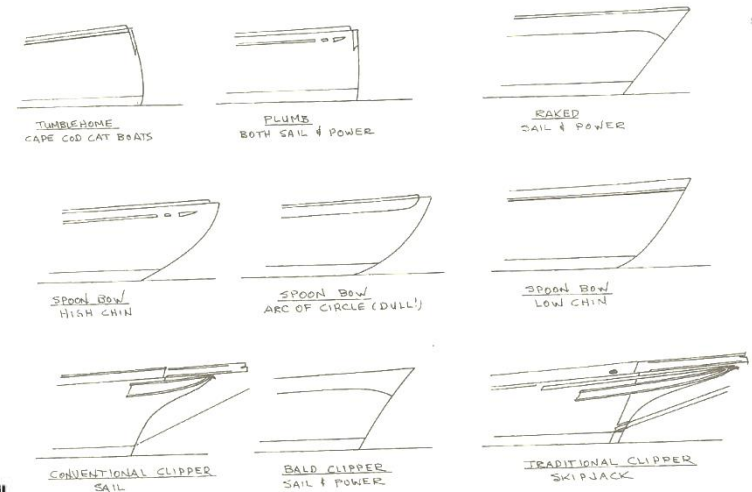
Orange = PMS 151



Nautical terminology

Discover what is meant by the following terms:

- i. Forward
- ii. Bows
- iii. Forecastle (Foc'sle)

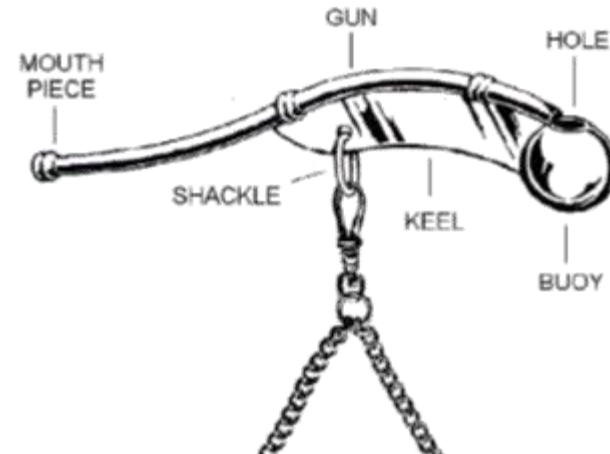


Discover this through research online, in books or from a more experienced Scout!

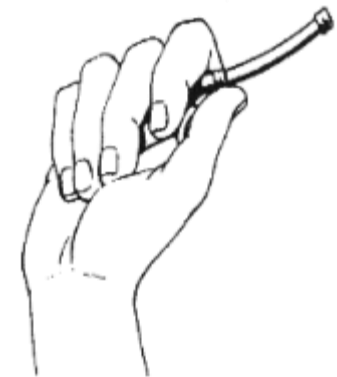
Boatswain's Call

The Boatswain's Call is a whistle used for passing orders on ships. Some Troops use it regularly to maintain maritime tradition.

There are 2 notes - low and high. The low note is the ordinary note obtained by blowing the call with the hand open and the high note is obtained by closing the fingers around the "buoy" but not too tightly.



Low Note

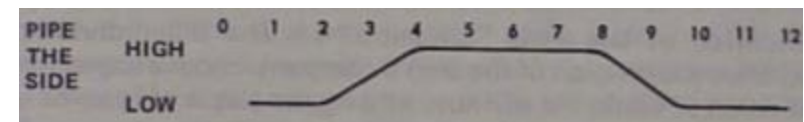
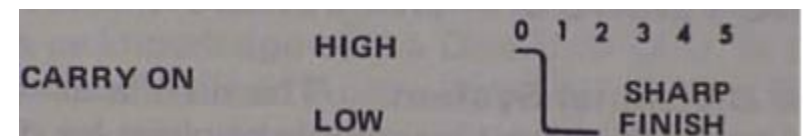
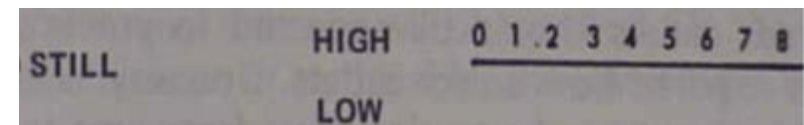
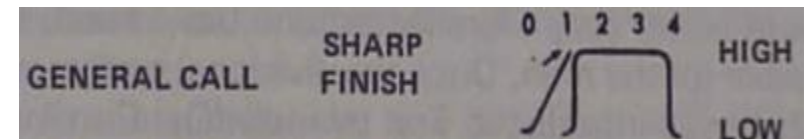


High Note

Boatswain's Call

The “call” is the name of the instrument and a “pipe” is the sound it makes. The following pipes are the main ones likely to be used in Sea Scouting:-

- **“Stand by”** - a warning, followed by a verbal order - e.g. “Troop, fall in”
- **“The Still”** - to obtain silence, to stop activity temporarily or as the flag is raised or lowered.
- **“Carry on”** - may follow the “Still” or the “Stand by”, meaning resume normal activity.
- **“The Side”** - formal salute, welcoming an important visitor “on board”.





- The Watch system on ships and the sounding of bells

This one is up to you!

Google it, ask someone, read a book!

WATCH, QUARTER & STATION BILL

SECTION FIRST DIVISION FIRST COMPT A-303-L

REL	NAME	UNIT NO.	DATE	STATION	BATTLE STATIONS	SELF DEFENSE	EMERGENCY	WATCH DETAIL	SPECIAL	FIRE	RESCUE	COLL	ARMED SHIP	MAN SPECIAL
1101	BOE, J.A.	10	10/10/10	BAC	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1102	FRIS, J.R.	11	10/10/10	BAC	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1103	POOR, N.T.	2	10/10/10	GMI	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1104	CARROLL, M.	6	10/10/10	GMI	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1105	DOE, J.B.	9	10/10/10	SN	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1106	BOAT, J.T.	4	10/10/10	SN	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1107	CLARK, A.B.	8	10/10/10	SN	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1108			10/10/10	SN	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1109	Pistol, V.C.	7	10/10/10	SN	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1110	BRUN, F.A.	11	10/10/10	SN	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10
1111	BOAT, R.T.	13	10/10/10	SN	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10

Plan a visit by your Watch or Troop to your local lifeboat station or other local rescue service and discover how they benefit your community

In all likelihood the rescue service will help you by giving you some useful advice on safety afloat.

You might consider contacting the RNLI, the Irish Coast Guard, independent lifeboat stations, river rescue or mountain rescue services





Parts of a boat

- Understand what the following terms refer to:
- i. Keel
- ii. Centreboard
- iii. Strakes
- iv. Rudder
- v Heel
- vi. Stem
- vii. Breasthook
- viii. Knee

The boats you use may not have all these parts. Do some research to discover what they mean..





Marine motors and basic maintenance

- Know how to attach an engine securely to your boat
 - Normally, the motor has two clamp bolts that fit over the top of the transom and tighten against it like a "C" clamp like those on the right. These usually have short pivoting handles to turn the bolts, so that they can be tightened by hand, without over tightening them. They may also have holes in the so a lock can be place through each one, and secured to prevent someone from stealing your motor.



When attaching an engine, ensure you have enough people to do so. Engines are heavy, so watch your back and use as many aids as possible to make your task easy.



Weather

Appreciate the effects weather has on the waters in your area

Consider:

- Does the topography of the land effect the weather (for example headlands or mountains)
- Does wind direction or strength impact on pilotage (for example narrow channels)
- What effect do onshore and offshore winds have?
- Is the area prone to fog and if so, when does it usually occur?
- How does the wind interact with the tide?
- Do weather conditions effect the nature or frequency of commercial or recreational boating traffic?
- Are there any complications with launching or recovery of boats in particular weather conditions?
- Are there any complications with mooring in particular weather conditions?
- Is the area susceptible to land fog/sea fog?

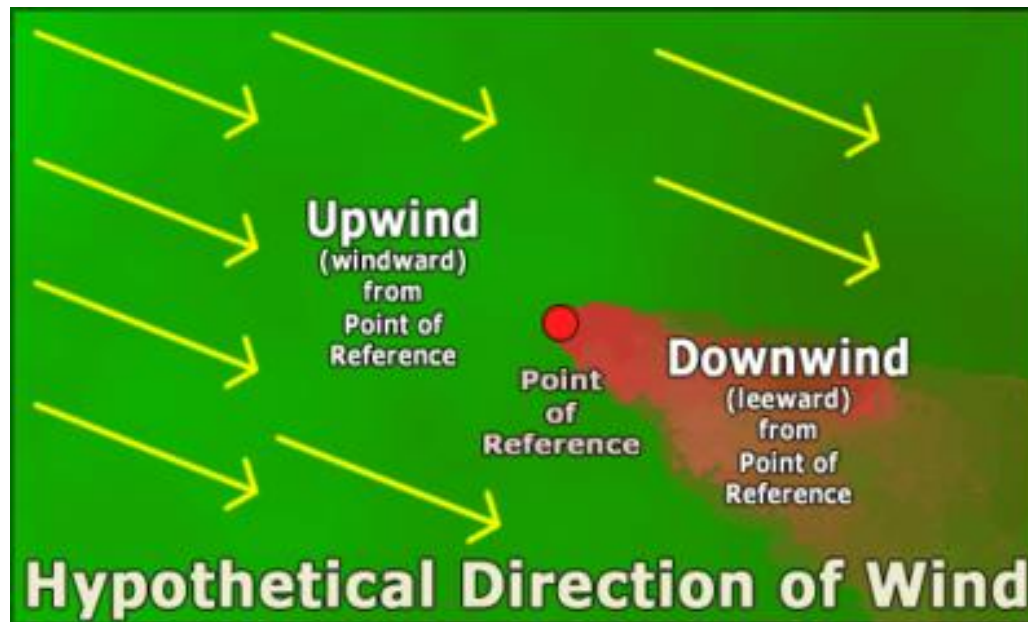


Currents, tides and wind

Understand the meaning of the terms “Windward” and “Leeward”

Windward is the direction **upwind** from the point of reference.

On a sail boat, if the vessel is heeling under the pressure of the wind, the lee side will be the *lower side*, the windward (or weather side) will be the *higher side*.

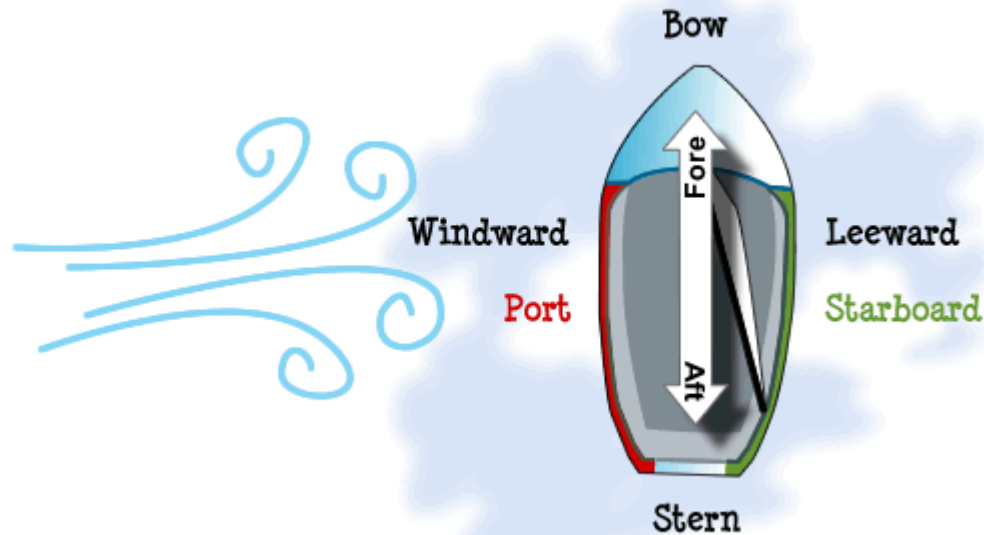


Leeward is the direction **downwind** (or downward) from the point of reference.

The windward vessel is normally the more manoeuvrable vessel. For this reason, rule 12 of the **Collision Regulations** stipulates that the windward vessel gives way to the leeward vessel.



Understand the meaning of the terms “Windward” and “Leeward”





Local knowledge

Obtain some information from local sources (local fishermen, your Scouters, etc) regarding your local boating area, and how it is affected by tides and weather conditions

This one is up to you! See what you can find out...

It may be useful to make a hand-drawn chart showing any obstacles or hazards in your local area.



Review 'SPICES'

Social

- Relationships ☐
- Communication Skills ☐
- Other Cultures ☐
- Community Involvement ☐
- Promise & Law ☐

Physical

- Eat Well ☐
- Personal Hygiene ☐
- Balanced Lifestyle ☐
- How Body works ☐
- Physical Limitations ☐
- Health Choices ☐
- Access Help ☐

Intellectual

- Achieving Goals ☐
- New Ideas/Creativity ☐
- Learn from Decisions ☐
- Team Member ☐

Character

- Promise & Law ☐
- Friends & Friendships ☐
- Plan before do ☐
- Ensuring Fairness ☐
- Respect ☐
- Differences & Views ☐
- Following Dreams ☐
- Live the Scouting Spirit ☐

Emotional

- Aware of feelings ☐
- Asking/Giving Help ☐
- Responsibility for Emotions ☐
- Controlling Emotions ☐
- Going Further ☐
- Beliefs & Values ☐
- Developing Talents ☐

Spiritual

- Promise & Law ☐
- Impact on Environment ☐
- Reflection ☐
- Changing Beliefs ☐





Review

Helsman Badge

What was the main thing
you took away from this
activity?

Patrol Review

What can we do next?

