seamanship

SM05

consolidation

sm01 – sm04

Reference Material

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| --- | --- |
| SM01 | PowerPoint presentation, laptop, projector, screen  Model (optional) or pictures  Quiz sheets as necessary |
| SM02 | Rope and spars to tie knots  Bends and hitches handbook  Videos (optional) – video, laptop, screen, projector  Games (optional) |
| SM03 |
| SM04 | Suitable rope  PowerPoint presentation, laptop, projector, screen  Quiz sheet included in presentation |
| SM05 | Progress tick sheet |

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| SCC\_SM05\_SP\_Consolidation\_V00.00 | | |
| V00.00 | 08/10/16 | Initial draft |

## Cadets can describe or demonstrate the following:

|  | **SM01** | **Sea Terms** |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | SM01 | The hull |  |  |  |  |  |  |  |  |
|  | SM01 | The bow |  |  |  |  |  |  |  |  |
|  | SM01 | The stem |  |  |  |  |  |  |  |  |
|  | SM01 | The stern |  |  |  |  |  |  |  |  |
|  | SM01 | Amidships |  |  |  |  |  |  |  |  |
|  | SM01 | Forward |  |  |  |  |  |  |  |  |
|  | SM01 | Aft |  |  |  |  |  |  |  |  |
|  | SM01 | Quarterdeck |  |  |  |  |  |  |  |  |
|  | SM01 | The starboard side |  |  |  |  |  |  |  |  |
|  | SM01 | The port side |  |  |  |  |  |  |  |  |
|  | SM01 | The fore and after line |  |  |  |  |  |  |  |  |
|  | SM01 | The deck |  |  |  |  |  |  |  |  |
|  | SM01 | The upper deck |  |  |  |  |  |  |  |  |
|  | SM01 | The lower deck |  |  |  |  |  |  |  |  |
|  | SM01 | The forecastle |  |  |  |  |  |  |  |  |
|  | SM01 | The waist |  |  |  |  |  |  |  |  |
|  | SM01 | The beam |  |  |  |  |  |  |  |  |
|  | SM01 | Athwartships |  |  |  |  |  |  |  |  |
|  | SM01 | The bridge |  |  |  |  |  |  |  |  |
|  | SM01 | The brow |  |  |  |  |  |  |  |  |
|  | SM01 | The gangway |  |  |  |  |  |  |  |  |
|  | SM01 | The galley |  |  |  |  |  |  |  |  |
|  | SM01 | The heads |  |  |  |  |  |  |  |  |
|  | SM01 | A hatch |  |  |  |  |  |  |  |  |
|  | SM01 | A ladder |  |  |  |  |  |  |  |  |
|  | SM01 | The deck head |  |  |  |  |  |  |  |  |
|  | SM01 | A bulkhead |  |  |  |  |  |  |  |  |
|  | SM01 | The ship’s draught |  |  |  |  |  |  |  |  |
|  | SM01 | Adrift |  |  |  |  |  |  |  |  |
|  | SM01 | Awash |  |  |  |  |  |  |  |  |
|  | SM01 | Way |  |  |  |  |  |  |  |  |
|  | SM01 | Shipshape |  |  |  |  |  |  |  |  |
|  | SM01 | A compass bearing |  |  |  |  |  |  |  |  |
|  | SM01 | A relative bearing |  |  |  |  |  |  |  |  |
|  | SM01 | Red and green bearings |  |  |  |  |  |  |  |  |
|  | SM01 | Port and starboard bearings |  |  |  |  |  |  |  |  |
|  | SM01 | Ahead |  |  |  |  |  |  |  |  |
|  | SM01 | Astern |  |  |  |  |  |  |  |  |
|  | SM01 | Abeam |  |  |  |  |  |  |  |  |
|  | SM01 | On the bow |  |  |  |  |  |  |  |  |
|  | SM01 | On the quarter |  |  |  |  |  |  |  |  |
|  | SM01 | Fine |  |  |  |  |  |  |  |  |
|  | **SM02** | **Bends and Hitches (1)** |  |  |  |  |  |  |  |  |
|  | SM02 | Bend: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Hitch: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Knot: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Bight: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Twist: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Round turn: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Half hitch: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Standing part: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Working part: explain |  |  |  |  |  |  |  |  |
|  | SM03 | Rope end: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Bitter end: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Fag end: explain |  |  |  |  |  |  |  |  |
|  | SM02 | Overhand knot |  |  |  |  |  |  |  |  |
|  | SM02 | Figure of eight |  |  |  |  |  |  |  |  |
|  | SM02 | Reef knot |  |  |  |  |  |  |  |  |
|  | SM02 | Round turn and two half hitches |  |  |  |  |  |  |  |  |
|  | **SM03** | **Bends and Hitches (2)** |  |  |  |  |  |  |  |  |
|  | SM03 | Sheet bend |  |  |  |  |  |  |  |  |
|  | SM03 | Bowline |  |  |  |  |  |  |  |  |
|  | SM03 | Clove Hitch |  |  |  |  |  |  |  |  |
|  | SM03 | Seaman’s knife: uses |  |  |  |  |  |  |  |  |
|  | SM03 | Safety tool: what are they |  |  |  |  |  |  |  |  |
|  | SM03 | Hands: what should you consider |  |  |  |  |  |  |  |  |
|  | SM03 | Lookout: why do you keep a good lookout |  |  |  |  |  |  |  |  |
|  | **SM04** | **General Ropework** |  |  |  |  |  |  |  |  |
|  | SM04 | What are the basic safety rules |  |  |  |  |  |  |  |  |
|  | SM04 | Coiling: reasons & demonstrate |  |  |  |  |  |  |  |  |
|  | SM04 | Cheesing: reasons & demonstrate |  |  |  |  |  |  |  |  |
|  | SM04 | Faking: reasons & demonstrate |  |  |  |  |  |  |  |  |

Answer sheet

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|  | **SM01** | **Sea Terms** |  |
|  | SM01 | The hull |  |
|  | SM01 | The bow |
|  | SM01 | The stem |
|  | SM01 | The stern |
|  | SM01 | Amidships |
|  | SM01 | Forward |
|  | SM01 | Aft |
|  | SM01 | Quarterdeck |
|  | SM01 | The starboard side |  |
|  | SM01 | The port side |
|  | SM01 | The fore and after line |
|  | SM01 | The deck | A *deck* is a permanent covering over a compartment or a hull of a *ship –* what could also be called the ceiling. There are different decks:  **Poop Deck**: located on the vessel’s stern. The poop deck is used observe work and navigational proceedings.  **Main Deck**: the primary deck. The main deck however is not the topmost deck in a vessel which is referred to as the **weather deck**.  **Upper Deck**: The deck that covers the hull of the vessel from its fore to its aft is the upper deck. It is the topmost deck on a ship. In all vessels, the upper deck is the biggest deck amongst all other decks.  **Lower Deck**: The deck located below the main deck. There could be more than one lower deck. It is just next to the lowest or orlop deck.  **Promenade Deck**: generally, the area around the superstructure. It can have open railings or can be enclosed in a glass.  **Tween Deck**: ‘’tween’ is a colloquial abridging of the word ‘between.’ In a ship, the tween deck actually means an empty space separating or between (tween) two other decks in the hull of a vessel.  **Flush Deck**: The deck that extends without any constructional breaks from the frontal part of the ship to the aft is referred to as the flush deck. On such decks, there is no raised forecastle or lowered quarterdeck.  **Weather Deck**: A deck that is not roofed and open. It is the upper most deck on the ship which is exposed to environment.  **Bridge Deck**: Bridge deck is the deck on which the navigational equipment’s of the ships are housed.  **Quarter Deck:** The deck located near the aft of the ship. It is part of the upper deck and includes the poop deck. The quarter deck is usually accessible only by the most senior naval officers. |
|  | SM01 | The upper deck |
|  | SM01 | The lower deck |
|  | SM01 | The forecastle | Refers to the upper deck of a sailing ship forward of the foremast, or the forward part of a ship with the sailors' living quarters |
|  | SM01 | The waist | Part between the quarter-deck and forecastle and is usually the working deck |
|  | SM01 | The beam | width at the widest point as measured at the *ship's* nominal waterline. |
|  | SM01 | Athwartships | Across the ship from side-to-side |
|  | SM01 | The bridge | Room or platform from which the *ship* can be commanded. The Officer of the Watch [OOW] will usually be found here |
|  | SM01 | The brow | The walk way between the ship and the harbour – often mistakenly called a *gangplank* which is the opening in the side of the ship that the brown extends from. |
|  | SM01 | The gangway | The opening in the side of the ship that the brow extends from. Often mistaken for the *brow* |
|  | SM01 | The galley | The kitchen area |
|  | SM01 | The heads | Toilets and washrooms |
|  | SM01 | A hatch | A *hatchway* is a covered opening in a ship's deck through which cargo can be loaded or access made to a lower deck; the cover to the opening is called a *hatch* |
|  | SM01 | A ladder | “*stairs*” on a ship |
|  | SM01 | The deck head | Under-side of the deck above (ceiling) |
|  | SM01 | A bulkhead | Wall within the hull of a ship often watertight or load-bearing |
|  | SM01 | The ship’s draught | Depth of the ship below the water-line |
|  | SM01 | Adrift | Not attached to the shore by ropes and/or anchor and not under way. Implies she ship is not under control# |
|  | SM01 | Awash | Low in the water so that the water is constantly washing across the surface of the vessel |
|  | SM01 | Way | Speed or momentum - technically, the point where there is sufficient water flow past a rudder for it to be able to steer |
|  | SM01 | Shipshape | Neat and tidy, orderly, well ordered, in (good) order, well kept, spick and span |
|  | SM01 | A compass bearing | http://image.slidesharecdn.com/bearingslesson-121007175130-phpapp01/95/bearings-lesson-3-728.jpg?cb=1349632405A compass bearing is normally given in degrees. A **degree**, usually denoted by **°** (the degree symbol), is a measurement of plane angle, defined by representing a full rotation as 360 degrees.  Why 360o in a circle is unknown but there are many theories. One theory states that it is related to the fact that 360 is approximately the number of days in a year, other theories are far more scientific and mathematical based. For our purposes, we need to understand 360o = a full circle.  The 360o also relates to four (4) **cardinal directions** (north, south east and west). Compass points are 90o from each other (360/4).  The **cardinal directions** (North, South, East and West) can be further broken down into any number of **inter-cardinal points** for example North East (half way between North and East). In the main we refer to eight (8) principal points (North [N], South [S], East [E], West [W], North East [NE], North West [NW]. South East [SE] and South West [SW]. Compass points are 45o from each other as a result (360/8).  In **metrology** (wind compass) they work based on sixteen (16) points by including sub-divisions between the 8 principal points as shown in the diagram above. Compass points are 22½o from each other as a result (360/16). |
|  | SM01 | A relative bearing | In nautical navigation, the **relative bearing** of an object is the clockwise angle in degrees from the heading of the vessel to a straight line drawn from the observation station on the vessel to the object. We also use names of the boat to indicate direction.  **Beam**: widest part of the boat from **Port** to **Starboard**.  **Port** modern term (from 1844), replacing Lardboard) to indicate side of ship used to tie up to the port, the other **Starboard** (links old Norse stýri (rudder) and borð (side of a ship) from history when the **rudder** was over the side of the ship and not on the centre-line. **Port** is indicated by **red** and **starboard** by **green** – this help identification the direction a boat is travelling at night. |
|  | SM01 | Red and green bearings | Relative bearing can also be given by reference to their colour and direction (degrees) excluding any leading zero, for example Red 135, Red 45, Green 5 with ahead (0) being directly in front and 180 being directly behind. |
|  | SM01 | Port and starboard bearings | Any object will be bear directly ahead (0°) or directly behind (180°) or off to the starboard or port side of the boat.  On the starboard side, relative bearings can range from 0° to 180°. Similarly, on the port side, bearings can range from 0° to 180°. To differentiate, the navigator would say an object lies at 45° off either the starboard or port side. |
|  | SM01 | Ahead | Forward of the bow |
|  | SM01 | Astern | Toward the stern (rear) of a vessel.  Behind a vessel |
|  | SM01 | Abeam | Relative bearing at right angles to the centreline of the ship |
|  | SM01 | On the bow | On that part of the horizon within 45° on either side of the line ahead |
|  | SM01 | On the quarter | Between abeam and astern |
|  | SM01 | Fine | Narrow (fine) in appearance from the vantage point of a lookout or other person viewing activity near a ship, e.g., another ship off the starboard bow with her bow or stern facing the viewer's ship could be described as "fine on the starboard bow" of the viewer's ship |

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| **SM02** | | **Bends and Hitches (1)** |  |
|  | SM02 | Bend: explain | method of temporarily joining to ropes |
|  | SM02 | Hitch: explain | method of temporarily joining a rope to a ring, post or rail (like a rope to an anchor). |
|  | SM02 | Knot: explain | intertwining of strands of smaller rope or ropes to prevent a rope un-reeving or to provide handhold, weight or a stopper on any part of the rope. |
|  | SM02 | Bight: explain | Image result for twist ropeA bight is a bend between the ends of a rope  It also means the middle part of a length of rope |
|  | SM02 | Twist: explain | Image result for twist ropeA bight that has been twisted in the rope. |
|  | SM02 | Round turn: explain | A turn or single turn is a curve with crossed legs.  https://upload.wikimedia.org/wikipedia/commons/thumb/d/d1/Eyes_and_turns.jpg/220px-Eyes_and_turns.jpgA round-turn is the complete encirclement of an object; requires two passes.  Two-round-turns circles the object twice; requires three passes. |
|  | SM02 | Half hitch: explain | Image result for half hitchTied with one end of a rope being passes around an object and secured to its own standing part with a single hitch. |
|  | SM02 | Standing part: explain |  |
|  | SM02 | Working part: explain |
|  | SM03 | Rope end: explain |
|  | SM02 | Bitter end: explain |
|  | SM02 | Fag end: explain |
|  | SM02 | Overhand knot | Mainly used as an element for larger knots. It may also be used on its own as a basic stopper knot.  As a stopper knot it can bind and is smaller than a figure of eight knot. A figure of eight knot is preferred. |
|  | SM02 | Figure of eight | This is a stopper knot to stop ropes from unreeving through an eye or block. This is a very important boating knot. It is better than an overhand knot being of larger size and easier to undo.  This knot is sometimes referred to as a Flemish knot. |
|  | SM02 | Reef knot | This is used to join two pieces of rope of equal thickness - it is one of the most unreliable and insecure knots that we tie.  If tied wrong it can be a real problem. |
|  | SM02 | Round turn and two half hitches | A Round Turn and two Half Hitches is used to secure a boat’s mooring line to a jetty post/buoy ring or another rope - it is made up of two important parts: A Full Round Turn and two Half Hitches.  The name of this knot id given by the parts that it uses. |

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| **SM03** | | **Bends and Hitches (2)** |  |
|  | SM03 | Sheet bend | Used to join two ropes of unequal size or for securing a rope to a hard eye - it is simple and quick to tie and as a single bend it will remain secure as long as the pressure remains constant. |
|  | SM03 | Bowline | Sailing, Diagram, Knot, Tying, Bowline, TransportUsed for making a temporary loop (eye) at the end of a line.  Often used as a rescue line knot or as an anchor looping around an object |
|  | SM03 | Clove Hitch | File:Clove hitch.pngUsed to secure a rope, temporally, to a spar/rail or similar fitting. It is one of the more important hitches to know.  Sometimes called a Peg Knot or Boatman’s knot. Often used in pioneering to start and/or finish a lashing. |
|  | SM03 | Seaman’s knife: uses | A seamanship knife if a practical and valuable tool  Worn on a lanyard around the neck, stored in the back pocket of trousers.  The end of the blade should be rounded and not pointed  The blade should always be sharp – you never know when you will need it  Often, Marlin spike to help ease knots |
|  | SM03 | Safety tool: what are they | Hard hat. When working overhead ensure your tools are connected to you, your ladder, fixing so that they cannot be dropped  Put signs out to let people know where you’re working, better still fence off the area off so people can’t walk under you |
|  | SM03 | Hands: what should you consider | Do not control any rope, under a heavy load, with bare hands  Always use a cleat/bollard or post when controlling ropes under heavy load  Remove rings and watches or you risk losing a figure (known as “de-gloving”) |
|  | SM03 | Lookout: why do you keep a good lookout | Never stand below an item that is being lowered or hoisted  The warning cry to those below is “Stand from Under” or “Under Below” |

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| **SM04** | | **General Ropework** |  |
|  | SM04 | What are the basic safety rules | Abrasion will weaken a rope. Wrap and tie chafing gear around the rope where rubbing occurs  Avoid sudden strains or jerks, which can snap a rope  Always look out for chafing and act to stop or minimise it  Consider if the rope is useable |
|  | SM04 | Coiling: reasons & demonstrate | Image result for coiling a ropeCoil the rope on the floor in a clockwise direction (to the right) for right layed rope  Each coil should be placed on the previous coil  Ideally, they should be stored out of the water and dirt (dirt will act as sandpaper and slowly wear the rope)  A rope will accept a few twists before becoming snarled especially if they are with the lay |
|  | SM04 | Cheesing: reasons & demonstrate | cheesing down a ropeUsed when the rope will need to be rendered (used) quickly through a block  Provide a very neat stow  You would only do this with a short rope |
|  | SM04 | Faking: reasons & demonstrate | Image result for faking a ropeUsed when a rope must be paid out (let out) quickly  The fake should be as long as the space allows  A faked rope acquires less turns than a coiled rope and has less chance of becoming snarled  Care should be taken that each bight at the end of a fake is laid under that immediately preceding it to ensure that it can run clear  The rope should be laid on the deck in a motion of moving from left to right (clockwise looks)  The loops should be places on the previous loop to allow the rope to run freely  Use as much space as you have |