#### ~ EDUCATION RESOURCES ~



# Life aboard ship



Rigging on HM Bark Endeavour Replica. Australian National Maritime Museum

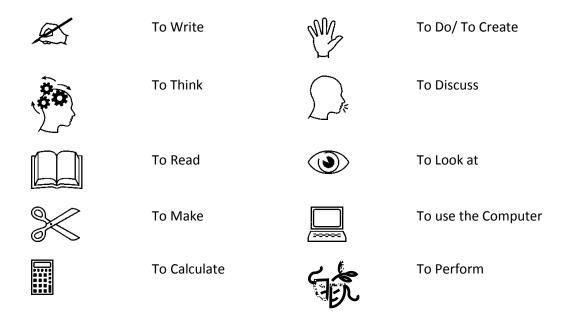
'Whereas we have appointed you first Lieutenant of His Majesty's Bark the Endeavour now at Deptford, and intend that you shall command her during the present intended Voyage ..You are hereby required and directed to use the utmost dispatch in getting her ready...'

These orders from the British Admiralty in 1768 precipitated one of history's great journeys of exploration



#### **ABOUT THE EDUCATION RESOURCES**

These resources should be used in conjunction with the education section of the HMB *Endeavour* Circumnavigation website at <a href="www.endeavourvoyages.com.au">www.endeavourvoyages.com.au</a>. Teachers may use these resources and the information on the website as stimulus material pre- or post-visiting the ship. They include content summaries, images and classroom activities for both primary and secondary students. Teachers may also adapt this material to create activities at a suitable level for their students. The activity outcomes link to various individual state and national syllabi and can also be used for a cross-curriculum approach. The icons in each unit identify the skills base for each activity:



#### **ABOUT THIS UNIT**

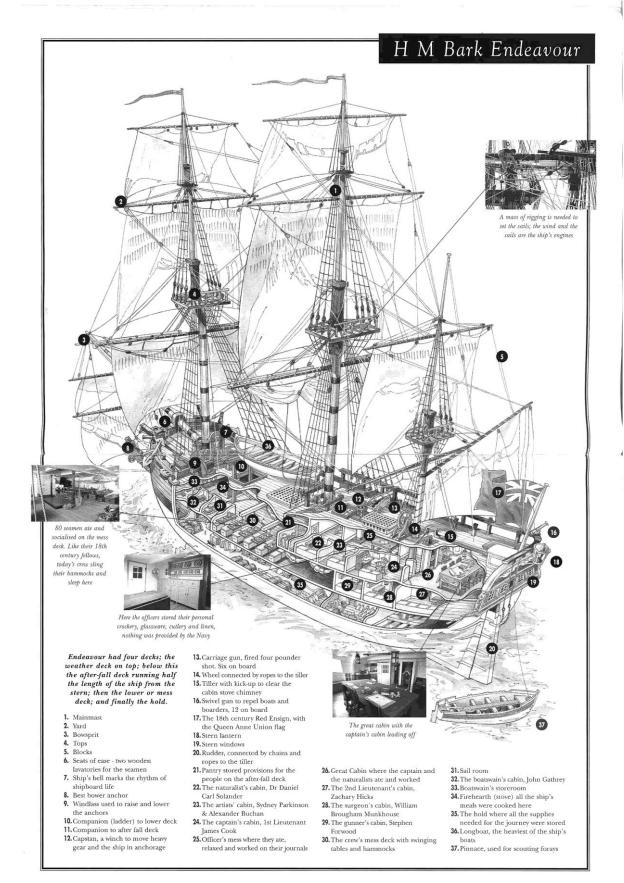
The *Life aboard ship* unit examines the everyday life of the officers and crew on-board the *Endeavour* as it sailed into unknown seas. It covers the ship and how it worked, the duties and living conditions of the crew and officers and activities to help students understand the 18<sup>th</sup> century conditions. It should be used in conjunction with the virtual tour of the HMB *Endeavour* replica (follow the links on the main menu).

#### **CURRICULUM LINKS**

ENGLISH
HISTORY
HSIE/SOSE
SCIENCE
VISUAL ARTS
ABORIGINAL STUDIES

Curriculum links for the complete scope of the Education Resources are available on the *Endeavour* website under *Teacher Resources* www.endeavourvoyages.com.au





From Captain Cook's Endeavour Illustrator Rick Martin ANMM Collection

### The Crew



#### **BACKGROUND READING**

There were approximately 94 men and boys on HMB *Endeavour* when she sailed from England on 26 August 1768. The crew included six Commissioned Officers chosen by the Royal Navy to sail the ship. They included the commander or master of the ship, lieutenants and the midshipmen who were officers in training.

The six warrant officers had a specific role to play in the care of the ship and the people on board. They included the gunner, boatswain (bosun), surgeon, carpenter, armourer, master and sailmaker. They were sometimes called 'idlers' because their work was so specific but the reality was that they had to be available at all times.

Able Seamen (38) were sailors with experience in the everyday running of the ship. Some had other specific roles such as the butcher or the cook.

There were also assistants or 'mates' for the master, the carpenter, the boson and the surgeon. Many of these had servants as well.







#### Activity: Who did what aboard Endeavour?

**Match up** the correct job done by these people on board the *Endeavour!* **Draw a line** from each person to their correct job.

PERSO	ON JOB
Master	fix any injuries to the crew
Carpenter	in charge of ship's stores
Surgeon	studied and collected plants discovered during the voyage
Gunner	made drawings of places, plants and animals
Cook	junior officer or apprentice
Artist	maintain the woodwork on the ship and its timber fittings
Botanist	prepared food for the crew



#### **BACKGROUND READING**

The ship had twelve marines on board in order to avoid trouble amongst the crew and attack from foreigners and Indigenous peoples that the ship may encounter on its journey. They were sometimes required to work shoulder to shoulder with the crew.

HMB *Endeavour* voyage was primarily scientific and the ship was outfitted to carry additional civilians. Joseph Banks paid £10,000 to have two artists, a botanist and a naturalist to accompany him. The ship was refitted with a mezzanine level for the junior officers' quarters, while 'the experimental gentlemen' had the upper cabins. The only professional scientist onboard was astronomer Charles Green who would lead the observation of the transit of Venus in Tahiti. He had also worked closely with Neville Maskelyne and he and Cook used those mathematical tables to navigate and chart to a surprising degree of accuracy.



Maskelyne's *Nautical Almanac* was published annually from 1766. Although he wasn't a sailor, he had realized that it was necessary for the difficult part of calculations to be done in advance. Seamen used the mathematical tables to calculate their longitude using 'lunar distances'. 'Lunars' as they were called, were observations taken with a sextant of the moon for the purpose of ascertaining the longitude, before chronometers were used. This was a great advance in navigating a ship in unknown seas!

Dr Maskelyne Astronomer Royal 1804 Courtesy National Library of Australia

Did you know? The 'muster' on a ship was a roll call of names. This was used to check against fictitious names being recorded for a double issue of food rations (victuals), grog or pay. However, most sailors were illiterate and spellings varied widely!



The Mouse on HMB Endeavour replica

This technique helps protect the fibre of the rope and prevents it from fraying Photo ANMM

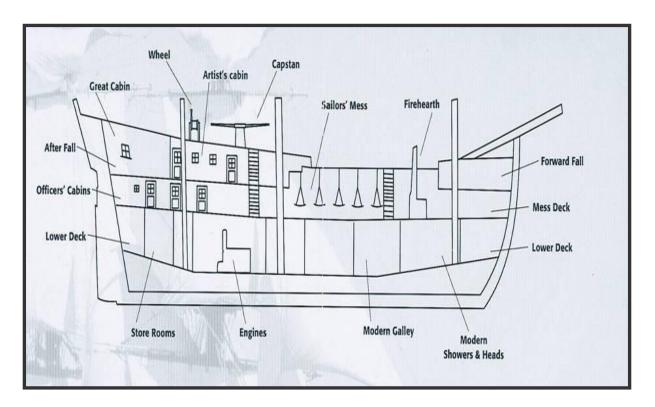
# Life aboard Ship



#### **BACKGROUND READING**

This unit is structured around the daily activities of a CABIN BOY. In Cook's time these boys were about ten years old. Isaac Manley was Lieutenant Cook's servant and 12 years old when the *Endeavour* sailed. He became a midshipman on the second voyage and by 1837 was Admiral of the Red! This was a rank introduced to reward the most successful admirals for their achievements during the Napoleonic Wars. It became the highest rank that an Admiral could attain until 1862.

These cabin boys experienced all aspects of life at sea from the stultifying days becalmed in the tropics to the exhilaration of riding the crests of the huge waves rounding the horn.



Drawing of *Endeavour* replica below decks Australian National Maritime Museum



#### **ACTIVITY:** A Day in the Life of a Cabin Boy

HSIE/SOSE, English, History

**Focus**: Students are to research the aspects of a cabin boy's life as indicated in the table below. Students may prefer to create a mind map, use a graphic organiser or write a poem or script to provide their research findings. They will need to give him a name and should also create a drawing of him. Use the library and the following websites and visit our virtual tour of HMB *Endeavour* replica in order to find the information.

http://www.endeavourvoyages.com.au/

http://www.thedearsurprise.com/?p=2002

**Task: create your CHARACTER** 

Choose a name for your character	
How old are you?	
Where do you eat?	
Where do you sleep?	
What are your daily duties?	
Who are the people on board that you find most interesting – an example might be the artists Alexander Buchan/Sydney Parkinson?	
How do you feel about the Indigenous people – Aboriginal, Tongan, Tahitian or Maori – whom you encounter on the journey?	

#### Task: think about COMMUNICATION



Head Hunting and Trading in Torres Strait Islands © Dennis Nona, Artist

Think of how your cabin boy character might communicate with the Indigenous people he meets as he is sailing around the Pacific.

Make a list. Are they the words a cabin boy would use? For example, what is a cabin? How do you say yes? How do you address/speak to your shipmates? Is this different to the way you would talk to the officers?

How else can we communicate? How do we know the words an Indigenous person would use? Some communities use dance, music and art to tell their stories about everyday life.









ACTIVITY: Indigenous dance and art

Form small groups to research different types of Aboriginal artworks and the stories they tell. Give a speech or make a presentation to the class. Invite local Indigenous elders, artists or dancers to your school to talk about their history and culture. Complete some research on local Indigenous history beforehand and have some questions ready to ask. Some cultures use dance to communicate. Maori people use the 'haka' to scare their enemies. Research types of Indigenous dance – each group should choose a different culture to investigate. Make a presentation to the class. www.livingknowledge.edu.au and www.endeavourvoyages.com.au (watch HMB Endeavour launch) are useful links for this exercise.

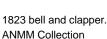
### Bells and the watch



#### **BACKGROUND READING**

Bells have a long traditional association with ships and the sea. They were used to mark the passage of time on board ship, as a fog signal or audible alarm in poor weather, to raise the attention of the crew and to call the passengers and crew to formal services.







On board ship, bells express the time and are struck by the officer of the watch. The bells are struck every half-hour. The day of twelve hours is divided into three – noon to four o'clock, four o'clock to eight o'clock eight o'clock to midnight – and the same at night. So in every four hours there will be eight bells. A ship's bell is usually made of bronze, and often has the ship's name engraved or cast on it. The ship's cook traditionally has the job of shining the ship's bell.

Most of the crew of a ship would be divided up into between two and four groups called watches. Each watch would take its turn with the essential activities of manning the helm, navigating, trimming sails, and keeping a lookout.



**Look** at the following chart from the HMS *Victory* website:

www.hms-victory.com/index.php?option=com\_content&task=view&id=102&Itemid=143

Order and discipline were very important to the safe running of the ship. On the *Endeavour*, Lt. Cook changed the watch system to be 3 rather than 4 each 24 hour period. He hoped this would keep the men well rested and physically able to cope with the strain of life aboard ship for a long time – the first *Endeavour* journey took three years!



#### **ACTIVITY: Your day by the bells**

HSIE/SOSE, History, Maths

Just like in school the sailors were split into groups. In school they are called classes; on board a ship they are called divisions. Each division would have something different to do during each watch. Divide the class into three groups, each group with a responsibility for the day. Create a roster of items for each group to carry out at each half hour 'watch'. Students should use a sand timer to measure out half an hour, ring the right number of bells and carry out their appointed task.

TIME	24hr CLOCK	BELLS	COMMENT
Noon	12:00	8	Take sightings to see where ship is. Everyone else has dinner
1.30pm	13.30	3	1 <sup>st</sup> division at rest, 2 <sup>nd</sup> division at gunnery practice
2pm	14.00	4	Officers to dinner
4pm	16.00	8	1 <sup>st</sup> division get grog and supper
6pm	18:00	8	2 <sup>nd</sup> division get grog and supper
8pm	20:00	8	Hammocks are set out by entire ship's company ready for sleep
			1 <sup>st</sup> division go to sleep
Midnight	00:00	8	1 <sup>st</sup> division watch get up, 2 <sup>nd</sup> division go to sleep
4am	04:00	8	1 <sup>st</sup> division go to sleep, 2 <sup>nd</sup> division get up
5am	05:00	2	Cook gets up to light galley fires
5.30am	05:30	3	2 <sup>nd</sup> division get up and begin swabbing decks
7.30am	07:30	7	The entire ship's company takes down hammocks
8am	08:00	8	Entire ship's company has breakfast
8.30am	08:30	1	Training and maintenance begin for whole crew
11am	11:00	6	Crew are gathered to watch punishment if there is any
Noon	12:00	8	Ship's company called for dinner

# Passing the time



#### **BACKGROUND READING**

Sailors sang songs or 'ditties' to pass the time when not working and also when working at hard and tedious jobs like turning the capstan or scrubbing the decks with the 'holy-stone'. This was a piece of sandstone used to rub or scour the wooden decks with sand every morning soon after daylight. Because sailors had to kneel to use it, they thought it looked like they were kneeling to pray. So the larger holy-stones were called 'bibles' and the smaller ones 'prayer books'.



Holy-stone ANMM Education Collection







#### **ACTIVITY: Complete the poem**

English, History

This song has sympathy in its words to a holystoning song. Students write the missing lines for the alphabet letters I to T.

#### The Sailors' Alphabet

A is the Anchor that swings at our bows,
B's for the bowsprit through oceans it ploughs.,
C for the Capstan we merrily round,
D are the decks we so freely now ground

Sing high! Sing low! wherever we go, Give a sailor a tot, and we'll give you a show, Sing high, Sing low! we'll work till we're done, From rouse out the hands, we have plenty of fun.

Now E is the ensign that flies at our stern, F is the foc'sle where we sleep in our turn, G is the Galley, where our grub it is boiled, H is for Heave, when the ropes are uncoiled,



U is for you, for me and for all,
V are the Vi't'alls, full shares never small,
W, for the wheel may it homeward soon turn,
X, Y and Z for the name on our stern

Australian National Maritime Museum HMB *Endeavour* Circumnavigation of Australia Education Resources From <a href="https://www.navysong.co.ul">www.myweb.tiscali.co.uk</a>
Listen to the song at: <a href="http://www.navysong.co.ul">http://www.navysong.co.ul</a>



#### **BACKGROUND READING**



Model ditty bag
ANMM Education Collection



Whale bone
ANMM Education Collection

If the wind wasn't blowing, the ship was 'becalmed' which meant the sailors had long periods of time with little work to do. They often **sewed** 'ditty bags' from spare pieces of canvas for their belongings. Another popular pastime was **scrimshaw** – the carving done on the bones or teeth of whales and walruses.





#### Materials for ditty bag:

- Pattern
- Scraps of canvas
- Strong thread
- Scissors
- Needles
- Fine rope

#### ACTIVITY: Make your own ditty bag and scrimshaw

HSIE/SOSE, History, Visual Arts

#### **Procedure:**

- Create a pattern a round base and a separate strip that forms the sides of the bag
- Cut out the pieces using the pattern
- Turn a hem at the top of the side piece and do a fancy cross stitch at the top to create a decoration
- Make small canvas loops and stitch onto the top of the bag at regular intervals. These loops will take the rope that draws the bag in to close the opening
- Stitch the base to the sides; then stitch the side seam

**Scrimshaw:** Draw a large tooth onto cardboard or make a mock whale tooth from air-drying clay and decorate it as if it was a piece of scrimshaw. Make a class display of the finished results with explanatory labels.







#### **ACTIVITY: Specimen pressing**

Science, HSIE/SOSE

Make your own herbarium of two Australian natives eg. Eucalyptus, bottle brush, wattle, grevillea, flannel flower, boronia.

#### **Gathering:**

• Cut a specimen from a plant that has stem, leaf, fruit and flower. Do not collect from a National Park as it against the law.

#### Drying:

- Try to ensure that the specimen that you are pressing has stem, leaf, fruit and flower.
- Lay the specimen out on absorbent paper. Fruit, flowers and leaves should be opened out so that the details are easily seen.
- Place absorbent paper on top of the specimen.
- Place the specimen, inside its coverings of absorbent paper, in between four sheets of newspaper top and bottom.
- Place the entire pressing in between two very heavy books phone books and encyclopedias work well.
- CHANGE ALL THE PAPERS EVERY DAY FOR UP TO TWO WEEKS.
- If you do not do this the specimen will go mouldy and loose its colour and detail.

#### Mounting:

- You will need a fairly stiff sheet of A3 paper.
- Lay the dried specimen on the paper to gauge where you want it to sit. Remove.
- On the 'wrong' side place little dobs of glue at regular intervals and then place the specimen back on your A3 paper.
- Clean off any excess glue.
- Label the specimen in the bottom right hand corner

For example

Family: Family: Proteaceae
Genus: Genus: Banksia
Species: Species: 'spinulosa'

Date of collection: Date of collection: 23/03/2011





**Make a wall chart!** Research the plants you have pressed and find out the Australian animals and insects that eat them, nest in them and are attracted to them. Create your chart using pictures and the researched information.





#### BACKGROUND READING

Ship's biscuit was used instead of bread for sailors and was also called 'hard tack'. It was very coarse, hard bread, often infested with weevils. Together with salted meat, ship's biscuit was the staple item in their diet. Because the meat was often putrid and the biscuit almost too hard to bite on – most sailors had terrible teeth - **hard tack** came to mean food that was unappetising and almost too bad to eat. Ship's biscuit could be used years after it was baked!

By contrast 'soft tack' was ship's bread baked on board. On board the *Endeavour*, this was baked by the one-handed cook, John Thompson and was usually served to the officers and gentlemen.

The ship's goat had sailed around the world before so she definitely had her sea legs. She gave milk and this was used to make cheese for the officers, gentlemen and the sailors when they were ill. Goats will eat ANYTHING and she often annoyed the sailors when they were eating.



Ship's biscuit ANMM Education Collection



Ship's goat image Australian National Maritime Museum



#### **ACTIVITY: Make your own hard tack**

HSIE/SOSE, History

You will need to do the imperial to metric

conversions!

#### RECIPE FOR SHIP'S BISCUIT (ALSO CALLED HARD TACK)

16 oz. plain flour Half a pint of water Round biscuit cutter 1 teaspoon of salt

Place the flour in a bowl and make a well in the middle. Pour in the water into which the salt has been dissolved. Work the flour into the water until it forms a hard dough. Add a little flour if the mixture is too wet or a little more water if the dough is too dry. Rest the dough for about half an hour. Roll into a sheet about ¼ inch thick. Cut into circles. 'Dock' the dough with a regular pattern of holes at about ¾ inch centres using a flat ended pin, not a sharp one. Place on a greased steel baking tray with the biscuits about ¼ inch apart. Bake at about

From Captain Cook's Endeavour ANMM

## A sailor 's work is never finished!



#### **BACKGROUND READING**

The decks had to be scrubbed with salt every day. Cleaning was important on the *Endeavour* because the captain believed it helped protect the health of the crew. The lower parts of the ship were regularly aired. The sailors had to wash their hammocks, clothes and even themselves!

Ropes and rigging needed constant attention because they kept the masts up in place and controlled the sails.

General repairs were needed to overcome the constant wear caused by the wind and the sea. Any gaps which appeared in the planking on the de4cks needed re-caulking with flax soaked in tar and pitch to ensure the ship was watertight.

Sails had to be adjusted as the wind changed and the seamen had to climb up and down the rigging in all weather – including the dark. Sails also had to be sewn and repaired.

Anchors had to be raised or lowered by a hand-operated windlass whenever the ship was stopped.

**Warping** was the process used when there was no wind. It involved towing the ship by men rowing the longboat. Warping was also used in dangerous conditions by rowing the anchor out some distance from the ship and dropping it. The ship then pulled itself up to the boat and anchor by using the windlass on deck. Both methods were very hard work for the crew.





Australian National Maritime Museum HMB *Endeavour* Circumnavigation of Australia Education Resources



Top right: Block & tackle Bottom right: monkey's fist Left: oakum mallet & fid; ANMM Education Collection











#### **ACTIVITY: EXPERIMENT**

Science

#### Opening Discussion: Teacher led.

Why is maintenance so important on a ship? What effect does the wind, sun and salt water have on timber, cloth (sails), iron and rope?

#### **Experiment:**

#### **Materials:**

- Two pieces each of timber (while elm or oak were original materials for the Endeavour hardwood jarrah is best as it is used in the replica), sail cloth (canvas), iron, rope (made of hemp).
- Salt water
- A very sunny spot in the school grounds

#### **Procedure:**

- 1. Write a description of the timber, canvas and rope to establish its initial condition
- 2. Soak the timber, canvas and rope in salt water for a few hours. Lay it out in the sun all day.
- 3. Repeat each day for two weeks
- 4. At the end of two weeks compare their condition to the original condition
- 5. If there is no change repeat steps 2 to 4 until change is noted

#### Write a scientific report on the experiment using the following heading:

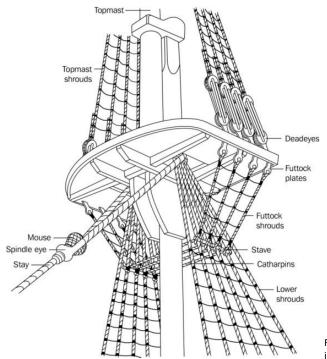
- Introduction
- Method
- Results
- Discussion
- Would Endeavour have been more difficult to repair and maintain than a modern ship? Why?
- Collect samples of different woods and create slides to use under a microscope.
- Make drawings of what you see and note the differences between samples

~Notes~		

#### **ROPES AND KNOTS**



1/



**Ropes and knots** were vital to the running of the ship.

Using one piece of rope, try tying the single rope knots below.

Use two pieces of coloured cord for the exercises requiring two pieces of rope.

Futtock shrouds, staves and catharpins. Drawing after the illustration on p 230 of the *Oxford Companion to Ships and the Sea* 

Bowline	Carrick bend	Clove hitch	Figure of eight
Fisherman's bend	Fisherman's knot	Rolling hitch	Running knot
Sheepshank	Sheet bend	Square or reef knot	Two half hitches









#### **ACTIVITY: Research the crew**

HSIE/SOSE, History

**Research** the people listed below who were on board the *Endeavour*. There were approximately 94 people on board. Divide the class into groups and research a certain number of crew each. Use the template on page 19 to make a ship's manifest wall chart for your classroom. Go to the following website for help: <a href="http://www.thedearsurprise.com/?p=2002">http://www.thedearsurprise.com/?p=2002</a>

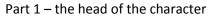




#### **ACTIVITY: Make a card game**

HSIE/SOSE, History

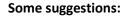
**Draw up a sheet** with the following characters and make up a 3 part book:



Part 2 – the body (including feet) of the character

Part 3 – an object used by the character

(See page 20 for an example)



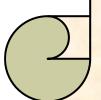
- \*Captain with telescope
- \*cabin boy with a chamber pot
- \* a sailor with a holy-stone
- \*a marine with musket
- \*a one handed cook with oven paddle
- \*a bosun with barrels
- \*a carpenter with mallet
- \*a sailmaker with a fid

**Students** may choose to add other characters and develop a set of cards for a game of *Snap* or *Memory*.





### HMB Endeavour Crew List











Midshipman Image ANMM

#### RESOURCES FOR FURTHER READING

http://en.wikipedia.org/wiki/HMS\_Endeavour

http://en.wikipedia.org/wiki/Thursday\_Island

http://livingknowledge.anu.edu.au/

http://ozoutback.com.au/Australia/abdancent/index.html

http://www.abc.net.au/messageclub/duknow/stories/s1183165.htm

http://www.google.com.au/search?q=aboriginal+traditional+dance&hl=en&rls=com.microsoft:enau&prmd=iv

ns&source=univ&tbs=vid:1&tbo=u&sa=X&ei=bqh2TeLJBpHyvQPhgonQBQ&ved=0CEEQqwQ

http://www.nma.gov.au/collections/collection interactives/european voyages to the australian c

ontinent/empire/endeavour\_runs\_aground/dr\_john\_hawkesworths\_account/

http://www.nma.gov.au/cook/background.php?background=Timeline

http://www.ozoutback.com.au/postcards/postcards forms/qld\_cape\_york/Source/12.htm

http://www.royalnavalmuseum.org/info\_sheet\_squadron\_colours.htm

http://en.wikipedia.org/wiki/Ship's\_bell http://www.hms-

victory.com/index.php?option=com\_content&task=view&id=102&Itemid=143

http://www.thedearsurprise.com/?p=2002

http://www2.sl.nsw.gov.au/banks/series 03/crew 01.cfm

www.livingknowledge.edu.au

Ansted, A (1991) *A Dictionary of Sea Terms*, Brown, Son & Ferguson Ltd, Glasgow Captain Cook's Endeavour, H.M.Bark Endeavour Foundation, Fremantle, Western Australia

Cook's Endeavour Journal the Inside Story, NLA.

Dunmore, J (2006) *Mrs Cook's Book of Recipes for Mariners in Distant Seas*, Australian National Maritime Museum and Exisle Publishing, Pyrmont

Jeans, PD, (1993) Ship to Shore, ABC-CLIO,

Macarthur, S (1997) His Majesty's Bark Endeavour, Angus & Robertson

Nugent, M (2009) Captain Cook was Here, Cambridge University Press

Rigby, N and van der Merwe P (2002) *Captain Cook in the Pacific*, National Maritime Museum Greenwich

Seafarers' Cookbook Maritime Heritage Booklet 5, Melbourne Maritime Museum Education Service, National Trust of Victoria.

Every effort has been made to locate the copyright owners of material used in this publication. In cases where this has not been possible copyright owners are invited to contact the Australian National Maritime Museum.

