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Overview of activities

Phases and activities	Core learning outcomes by phase of possible demonstration	Assessment opportunities
Pre-visit: <ol style="list-style-type: none"> Treasure Hunt Early Australian Explorers Finding your Way by Sea Weathering the Storm Before you Go 	SOSE: TCC 3.1 TCC 4.3 PS 3.4 Science: Science and Society 3.2 Earth and Beyond 3.2 Earth and Beyond 4.1	Mapping
QMM visit: <ol style="list-style-type: none"> Early Navigators Steering a Course Instruments of Navigation Mutiny on the Bounty HMAS <i>Diamantina</i> 	SOSE: TCC 3.1 TCC 3.2 TCC 4.3 PS 4.4 Science: Science and Society 3.2 Earth and Beyond 3.2	Recording Information
Post-visit: <ol style="list-style-type: none"> Timeline of Australian Maritime Exploration Where is here? How to be a Great Navigator! Board Game KWL Chart 	SOSE: TCC 3.2 TCC 4.3 PS 4.4 Science: Science and Society 3.2 Earth and beyond 3.2	Constructing a Timeline Developing a board game Constructing and using basic navigation instruments

Core learning outcomes

The following table outlines the core learning outcomes included in this module. Please note that the outcomes printed in **bold** are the focus learning outcomes for this module, for which it may be possible to gather sufficient evidence to make judgments about student performance.

STUDIES OF SOCIETY AND ENVIRONMENT	SCIENCE
TCC 3.1 Students use evidence about innovations in media and technology to investigate how these have changed society.	Science and Society 3.2 Students recognise the need for quantitative data when describing natural phenomena.
TCC 3.2 Students create sequences and timelines about specific Australian changes and continuities.	Earth and Beyond 3.2 Students discuss regular and irregular events in time and space that occur on the earth and sky.
TCC 4.3 Students share empathetic responses to contributions that diverse individuals and groups have made to Australian or global history.	Earth and Beyond 4.1 Students recognise and analyse some interactions (including the weather) between systems of the earth and beyond.

PS 3.4 Students use and make maps to identify coastal and land features, countries and continents, and climate zones.	
PS 4.4 Students use latitude, longitude, compass and scale references and thematic maps to make inferences about global patterns.	

Planning, teaching and assessing with multiple outcomes across a number of key learning areas

Learning outcomes have a dual role - they inform planning and they provide a framework for assessment. Queensland Maritime Museum modules allow planning for multiple outcomes from more than one Key Learning Area. In such modules, there are a number of things that should be kept in mind in relation to planning and assessment.

Planning

Teachers will choose this module, *Maritime Explorers and Navigators*, for a variety of reasons, including students' interests and the availability of resources. However, a number of factors need to be considered in relation to the implementation of this module.

Teachers will need to consider how the outcomes that may be developed and demonstrated in this module relate to the contribution of other modules and activities that form the entire continuum of planning and assessment. Introductory and developmental activities leading to students' demonstrations of the listed learning outcomes may differ depending on whether this module is planned for early Year 4 or mid- Year 5.

The activities in this module are intended to form an integrative set of learnings that may contribute to the demonstration of the core learning outcomes shown in bold in the table on pages 4 and 5. This set of learning outcomes has been selected because they are relevant to the contents and contexts of *Maritime Explorers and Navigators*. Different activities in this module may contribute to the development of, and allow for the demonstration of one, or more than one, of this set of selected learning outcomes. Because learners may need multiple opportunities to develop and demonstrate learning outcomes, teachers may need to plan for the inclusion of other learning activities and assessment tasks before feeling confident of making a final judgment on the demonstration of learning outcomes.

Other planning considerations include:

- maintaining the integrity of each learning outcome (i.e. including the 'knowing and the doing with what is known' parts, the associated key concept/s and/or organizing ideas, and other characterising features of a Key Learning Area such as working scientifically, working technologically or the SOSE values);
- determining students' prior learnings related to the knowledge, practices and dispositions associated with the core learning outcomes and scaffolding or modifying the learning activities and assessment tasks accordingly
- being aware of the sequenced continua of all core learning outcomes and how these can support those students developing and demonstrating learning outcomes at the preceding or successive levels
- using multiple and varied assessment opportunities and the varying length of time that different students need to develop and demonstrate each of the selected learning outcomes, and
- the placement of this module within the overall sequence of the curriculum program.

With these considerations in mind, additional support or extension activities may be required for some students.

Assessment

In this module, some outcomes have been identified as the focus for demonstration. Activities derived from these outcomes provide opportunities for judgments of their demonstration. Typically it could be expected that most students in Years 4 and 5 will demonstrate these learning outcomes.

Continuous assessment allows for the monitoring of student progress over time. At appropriate points it may be possible to make judgments about student demonstration of these outcomes. However, for any individual student, judgments can be made at any time when the teacher is satisfied that sufficient evidence has been obtained.

In this module there are other outcomes that have been associated with the focus learning outcomes because of their appropriateness to the context. Assessment derived from these outcomes is insufficient in itself to provide evidence for judgment. However, judgment about the demonstration of these outcomes may be possible if enough evidence has been gathered in previous class work. If not, evidence gathered from this module will contribute to a later judgment about demonstration of these outcomes.

Other assessment considerations may include:

- offering (or negotiating) different assessment tasks for students who have not yet demonstrated one of the selected learning outcomes
- addressing individual learning styles
- providing learning support or extension opportunities for particular students, taking into account the related outcomes at the adjacent levels, or discretionary learning outcomes; and
- adapting the emphasis on certain outcomes, depending on the prior experience of students and the opportunities they have had to demonstrate the focus outcomes and the other outcomes associated with this module.

Background information

Terminology

Students will be able to understand these terms in the context of the activities in this module:

Astrolabe	Direction	Navigation/navigators
Azimuth ring	Discover/ discovery	Pelorus
Celestial navigation	Equator	Primary source
Chronometer	Explorer/ exploration	Resources
Colonization	Geography	Scale
Colony	Land and water forms	Secondary source
Compass	Latitude	Sextant
Continents	Legend	Station pointer
Cross staff	Location	Timeline
Dead reckoning	Longitude	Trade

Length of the module

This module provides a suggested sequence of pre-visit and post-visit activities that support a set program of activities conducted on an excursion to the Queensland Maritime Museum. In line with the advice regarding the demonstration of outcomes, teachers may decide that students require additional pre and post-visit activities to fully demonstrate the outcomes. It is therefore left to teachers' discretion the amount of time to be allocated to the pre-visit and post-visit activities. However, the excursion activities can be completed during a 2 hour visit to the museum.

Inclusion of other modules or module activities

This module includes a reference to another module that has been produced by the Queensland School Curriculum Council (now known as the Queensland Studies Authority) for specific key learning areas. For example, Activity 2 in the pre-visit Phase is based on a Level 3 QSCC SOSE module. These modules can be downloaded from the QSA website <http://www.qsa.qld.edu.au> In particular, teachers should be aware of the possible additional requirements involved in the use of QSCC modules. They require extra materials and resource sheets that have not been included in this module.

Syllabus and cross curricular links

The Studies of Society and Environment Years 1-10 Syllabus

Studies of Society and Environment outcomes are central to this module, as is an understanding of social and environmental inquiries.

The Science Years 1-10 Syllabus

This module refers to two strands of the Science syllabus– Science and Society and Earth and Beyond. Teachers are referred to the description of the strands on pages 9 and 10 of the syllabus. It is also important that students appreciate the notion of science as a way of knowing and the process of working scientifically. Both of these ideas are defined on page 1 of the syllabus.

Literacy

Literacy has been identified as a cross-curricular priority by the Queensland Studies Authority. All teachers have a responsibility to develop literacy outcomes. This module assists teachers towards this end by incorporating literacy outcomes at Levels 3 and 4 within the learning experiences of the module. For example:

Code Breaker

- Spelling the terminology used in the module
- Using time references (e.g. 18th century)
- Using conventions of timeline construction
- Using symbols in maps

Text Participant

- Retrieving information from primary and secondary sources
- Retrieving information from maps

Text User

- Using narratives e.g. accounts of early explorers and navigators
- Using explanations e.g. reasons for exploring, dead reckoning, celestial navigation
- Using procedures e.g. navigational

Text Analyst

- Interpreting historical sources

For further elaboration of literacy outcomes teachers are referred to the Literacy position paper developed by the QSA which may be downloaded from the website at <http://www.qsa.qld.edu.au/index.html>.

Numeracy

Numeracy has been identified as a cross-curricular priority by the Queensland Studies Authority. All teachers have a responsibility to develop numeracy outcomes. This module assists teachers towards this end by incorporating numeracy outcomes at Levels 3 and 4 within the learning experiences of the module. For example:

Number sense

- Calculating averages, velocities, circumference of circle
- Using content words e.g. degree, vector

Spatial Sense

- Using directions and scale in mapping activities

Measurement and data

- Using instruments of navigation
- Measuring angles
- Using Pythagorean Theorem
- Interpreting and constructing timelines

For greater elaboration of numeracy outcomes teachers are referred to the Numeracy position paper developed by the QSA which may be downloaded from the website at <http://www.qsa.qld.edu.au/index.html>.

Multiple intelligences

The theory of Multiple Intelligences was developed by Howard Gardner in the 1980s. It was based on considerable research into how parts of the brain process information differently. Gardner theorised that there were eight different ways of knowing or 'Multiple Intelligences'. The implication for education was that different ways of teaching or different types of activity could switch on the different ways of knowing and therefore knowledge of the theory could help teachers to teach and students to learn. Further information about Multiple Intelligences can be found at http://en.wikipedia.org/wiki/Theory_of_multiple_intelligences.

This module aims to incorporate a range of activities that reflect the eight intelligences:

- Verbal/ Linguistic e.g. interpreting displays, reading accounts and stories
- Logical/ Mathematical e.g. constructing timelines, navigational calculations
- Visual/ spatial e.g. Mapping, making board game
- Body/ Kinaesthetic e.g. interactive activities such as Treasure Hunt and Steering a Course, making and using navigation instruments
- Interpersonal e.g. constructing and playing aboard game
- Intrapersonal e.g. reflection activity KWL chart

School authority policies

Teachers need to observe the guidelines of school authority policies that may be relevant to this module. Safety policies are of particular relevance to some activities. It is essential that demonstrations and student activities are conducted according to procedures developed through appropriate risk assessment at the school. Teachers need to consider safety issues related to:

- Excursions

Evaluation of program

After completion of the activities in this module teachers will be able to collect information and make judgments about:

- Teaching strategies and activities used to progress student learning towards demonstrations of core learning outcomes
- Opportunities provided to gather evidence about students' demonstrations of core learning outcomes
- Future learning opportunities for students who have not yet demonstrated the core learning outcomes
- The extent to which activities matched needs of particular groups of students and reflected equity considerations
- The appropriateness of time allocations for particular activities
- The appropriateness of resources.

Exploring and Navigating Activities

Phase 1 Pre- excursion Activities

Activity 1 Treasure Hunt

Focus
This is a motivational activity that focuses students on the concept of exploring and why people explore.

Materials

- Resource 1: Treasure Cards

Teaching considerations
These cards may be printed in black and white but will be easier to interpret if printed in colour.

Teaching sequence:

- Prepare the classroom by hiding the treasure cards at different places.
- Tell the students that they are to slowly explore the class room and find the treasure cards. The treasure cards show reasons why people explored.
- Once the students have found all the cards ask them to categorise them into the reasons why people explored e.g.
 - Land (for penal colony, for settlement, to gain territory for a Monarch, for agriculture)
 - Resources and trade (markets, breadfruit trees, gold, silver, coffee, silk, tobacco, potatoes)
 - Knowledge (scientific discoveries, spread religion)
- Debrief the activity by asking the students to explain what exploring means and what were the different reasons people explored.

Activity 2 Early Australian Explorers

Focus
This activity provides background information for students about the early exploration of Australia. Activity 3 from the QSCC module introduces the basic mapping concepts required for this activity.

Materials

- Queensland School Curriculum Council, 2002, Sourcebook Module Level 3, *Its Mine – Discovering Australia* which may be downloaded from <http://www.qsa.qld.edu.au/yrs1to10/kla/sose/modules.html>
- Jacaranda Primary Atlas, Sea Explorers 1606 - 1822(map) p 33

Teaching considerations
There are a number of valuable activities in the QSCC module that would provide useful background information for the students prior to a visit to the Queensland Maritime Museum. Teachers need to use their own judgement regarding the time spent on these activities and select or adapt accordingly. The following Activities or Resource sheets found in the QSCC module are particularly relevant:
Activity 3: Mapping our world (essential)
Activities 9 - 20

Teaching sequence:

- Follow the sequences suggested in the QSCC module for the selected activities.
- Ask students to look at the Sea Explorers 1606 – 1822 map on p 33 of the Jacaranda Primary Atlas and plot the routes onto the map they started in the QSA module Activity 3 Mapping our world.

Gathering evidence about student learning
Sufficient evidence may now have been gathered for a judgement to be made on student’s demonstration of SOSE PS 3.4. A checklist of student demonstrations is included in Resource 2 of the QSCC module.

Activity 3 Finding your Way by Sea
<p>Focus This activity focuses students on the basic history and concepts of navigation.</p> <p>Materials</p> <ul style="list-style-type: none"> • http://vesuvius.jsc.nasa.gov/er/seh/navigate.htm • http://www.abc.net.au/navigators/navigation/history.htm • http://www.ruf.rice.edu/~feegi/ • http://www.nmm.ac.uk/TudorExploration/NMMFLASH/index.htm <p>Teaching considerations The websites listed above contain a wealth of information and animations on the history and basic concepts of navigation. Teachers should ensure that students have grasped the basic concepts including the difference between dead reckoning and celestial navigation, before they go to the museum.</p>
<p>Teaching sequence:</p> <ul style="list-style-type: none"> • Activities to be devised by the teacher.
<p>Gathering evidence about student learning Some evidence may now have been gathered which may assist in making a judgement on the students' demonstration of Science outcomes Science and Society 3.2 and Earth and Beyond 3.2 and SOSE TCC 3.1. Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' explanation of the contribution of changes in navigational technology • Students explanation of the process of dead reckoning navigation techniques • Students' explanation of the process of celestial navigation techniques.

Activity 4 Weathering the Storm
<p>Focus This activity focuses students on the importance and dangers of weather conditions and currents whilst exploring and navigating the oceans.</p> <p>Materials</p> <ul style="list-style-type: none"> • Blank outline World map (try http://www.graphicmaps.com/aatlas/world.htm) • http://www.ruf.rice.edu/~feegi/weather.html • http://www.ruf.rice.edu/~feegi/PacificOcean.html • http://library.puc.edu/pitcairn/catalog-detail-2c.html • http://www.teachervision.com/lesson-plans/lesson-2916.html <p>Teaching considerations The websites listed above contain information to enable students to:</p> <ul style="list-style-type: none"> • map major ocean currents • map major weather patterns (e.g. trade winds) • describe conditions on board a ship during periods of bad weather
<p>Teaching sequence:</p> <ul style="list-style-type: none"> • Activities to be devised by the teacher.
<p>Gathering evidence about student learning Some evidence may now have been gathered which may assist in making a judgement on the students' demonstration of Science outcomes Earth and Beyond 4.1 and SOSE PS 3.4. Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' ability to accurately mark currents and weather patterns on a map • Students' ability to use knowledge of weather to describe events

Activity 5 Before You Go	
Focus	This activity concludes the pre-excursion activities by completing the necessary formalities for a visit to the QMM and familiarising students with the excursion activities. It also introduces part of the student evaluation by completing the first parts of a KWL chart.
Materials	<ul style="list-style-type: none"> • Permission Forms etc • Resource 2: Excursion booklet • Resource 3: KWL Chart
Teaching sequence:	<ul style="list-style-type: none"> • Distribute permission forms and discuss necessary rules/ behaviour for excursion. • Read through Resource 2: Excursion booklet so that students are familiar with the activities they will be doing at the QMM. • Ask students to complete the first two columns of Resource 3: KWL Chart i.e. What we know, What we want to find out. (NB Resource 3 will be used again at the end of the excursion for students to complete the 'what we learned' column and thus complete one part of the excursion evaluation.)

Phase 2 QMM Excursion Activities

NB These activities are numbered for ease of reference for teachers. The order in which the activities are completed by students will be determined by the guides at the museum.

Activity 1 Early Navigators	
Focus	This activity focuses students on the stories of early navigators that are on display in the museum (Flinders, Cook etc).
Materials	Resource 2: Excursion Booklet (Early Navigators)
Teaching considerations / Teaching sequence:	This activity takes place in Gallery 1 using the activity outlined in the Early Navigators section of the Excursion Booklet.
Gathering evidence about student learning	<p>Some evidence may now have been gathered which may assist in making a judgement on the students' demonstration of SOSE outcome TCC 4.3.</p> <p>Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' recording of information.

Activity 2 Steering a Course	
Focus	This is an interactive activity that allows students to practice steering a ship by using a compass.
Materials	Resource 2: Excursion Booklet (Steering a Course)
Teaching considerations / Teaching sequence:	This activity takes place in Gallery 1 on the mock up of the ship's bridge using the activity outlined in the Steering a Course section of the Excursion Booklet.
Gathering evidence about student learning	<p>Some evidence may now have been gathered which may assist in making a judgement on the students' demonstration of Science outcome Science and Society 3.2 and SOSE outcome PS 4.4.</p> <p>Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' ability to follow the procedures.

Activity 3 Instruments for Navigating
<p>Focus This activity focuses students on the different types of instruments that are used in the science of navigation that are on display in the museum (eg Sextant, Station pointer, Cross staff, Chronometer, Pelorus, Azimuth Ring).</p> <p>Materials</p> <ul style="list-style-type: none"> • Resource 2: Excursion Booklet (Instruments for Navigating).
<p>Teaching considerations / Teaching sequence: This activity takes place in Gallery 2 using the activity outlined in the Instruments for Navigating section of the Excursion Booklet.</p>
<p>Gathering evidence about student learning Some evidence may now have been gathered which may assist in making a judgement on the students' demonstration of Science outcome Science and Society 3.2. Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' recording of information.

Activity 4 Mutiny on the Bounty
<p>Focus This activity focuses students on the story of the Mutiny on the Bounty and the routes taken by the HMS <i>Bounty</i> and by Captain Bligh after the mutiny.</p> <p>Materials</p> <ul style="list-style-type: none"> • Resource 2: Excursion Booklet (Mutiny on the Bounty)
<p>Teaching considerations / Teaching sequence: This activity takes place in Gallery 2 using the activity outlined in the Mutiny on the Bounty section of the Excursion Booklet.</p>
<p>Gathering evidence about student learning Some evidence may now have been gathered which may assist in making a judgement on the students' demonstration of SOSE outcomes TCC 4.3 and PS 3.4. Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' recording of information.

Activity 5 HMAS <i>Diamantina</i>
<p>Focus This activity focuses students on the navigational and steering instruments on board HMAS <i>Diamantina</i>.</p> <p>Materials</p> <ul style="list-style-type: none"> • Resource 2: Excursion Booklet (HMAS <i>Diamantina</i>)
<p>Teaching considerations / Teaching sequence: This activity takes place on HMAS <i>Diamantina</i> using the activity outlined in the HMAS <i>Diamantina</i> section of the Excursion Booklet.</p>
<p>Gathering evidence about student learning Some evidence may now have been gathered which may assist in making a judgement on the students' demonstration of SOSE outcomes TCC 3.1 and PS 4.4. Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' recording of information • Students' ability to complete a labelled field sketch.

Phase 3 Post-excursion activities

Activity 1 A Timeline of Australian Maritime Exploration

<p>Focus In this activity students prepare a timeline of significant dates in the maritime exploration of Australia.</p> <p>Materials</p> <ul style="list-style-type: none"> • Resource 4: Timelines • Resource 2: Excursion Booklet
<p>Teaching sequence:</p> <ul style="list-style-type: none"> • Use Resource 4 to explain to students how to construct an historical timeline. • Using information from pre-visit activities and the Museum visit, ask students to construct a timeline showing the significant dates in the history of Australian maritime exploration.
<p>Gathering evidence about student learning Sufficient evidence may now have been gathered for a judgement to be made on student's demonstration of SOSE outcome TCC 3.2. Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' sequencing of events • Students' ability to follow the conventions of timeline construction.

Activity 2 Where is here?

<p>Focus This activity uses an online lesson to revise students' knowledge and skills in basic navigation e.g. concepts of absolute and relative location, latitude, and longitude, the use and principles of map and compass.</p> <p>Materials</p> <ul style="list-style-type: none"> • This lesson can be downloaded from http://www.ion.org/satdiv/education.cfm <p>Teaching considerations Teachers should adapt the activities based on the abilities of their class.</p>
<p>Teaching sequence:</p> <ul style="list-style-type: none"> • As per lesson outline.
<p>Gathering evidence about student learning Sufficient evidence may now have been gathered for a judgement to be made on student's demonstration of SOSE outcome PS 4.4 and Science outcome Science and Society 3.2. Teachers may gather evidence by focussing on:</p> <ul style="list-style-type: none"> • Students' understanding of scale and grid references, latitude, longitude and direction • Students' ability to make and use maps • Students' understanding of angles and degrees • Students' ability to make and use compasses

Activity 3 How to be a Great Navigator!

<p>Focus This activity uses an online lesson to extend the students' knowledge and skills of historical methods of navigation. Students undertake activities in dead reckoning and celestial navigation.</p> <p>Materials</p> <ul style="list-style-type: none"> • This lesson can be downloaded from http://www.ion.org/satdiv/education.cfm <p>Teaching considerations Teachers should adapt the activities based on the abilities of their class.</p>
<p>Teaching sequence:</p> <ul style="list-style-type: none"> • Teaching sequence is provided in the online lessons.
<p>Gathering evidence about student learning Sufficient evidence may now have been gathered for a judgement to be made on student's demonstration of Science outcomes Science and Society 3.2, Earth and Beyond 3.2 and 4.1. Teachers may gather evidence by focussing on:</p>

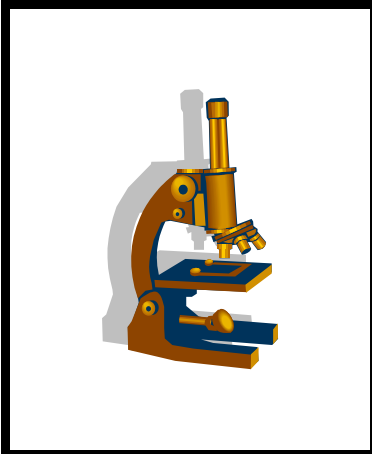
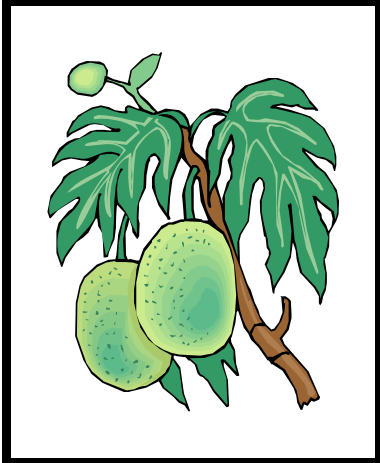
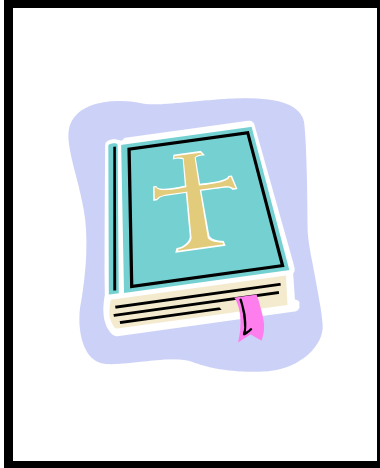
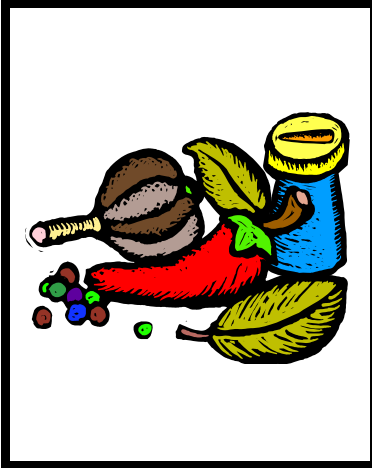
- Students' use of vector analysis to understand dead reckoning
- Students' understanding of the effect of wind and ocean currents on navigation
- Students' use of instruments to understand celestial navigation
- Students' ability to measure angles.

Activity 4 Board Game					
Focus This activity focuses students on the contributions that maritime explorers have made to Australian history.					
Materials					
<ul style="list-style-type: none"> • Various print and online resources as available eg http://library.trinity.wa.edu.au/subjects/sose/austhist/maritime.htm http://www.abc.net.au/navigators/default.htm • Resource 5: Outline Map of Australia 					
Teaching considerations Students can make a very simple version of the game using the blank map and simple rules or enlarge the map and make more sophisticated rules.					
Teaching sequence:					
<ul style="list-style-type: none"> • Divide students into groups. Each group is to focus on one of the explorers. • Using the outline map of Australia, students are to mark out the route of exploration taken by their explorer and divide the route into spaces as for the spaces of a board game. Students can select which of the spaces are those for moving forward and which are for moving back. • Allow students some time for research to devise playing cards for the game. Ask students to organise their information into two columns: 					
<table border="1"> <thead> <tr> <th style="text-align: center;">Positive stories/facts/ events about the explorer/exploration</th> <th style="text-align: center;">Negative stories/facts/ events about the explorer/exploration</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> e.g. <ul style="list-style-type: none"> • 'discoveries' • naming places • positive interactions with indigenous people </td> <td style="vertical-align: top;"> e.g. <ul style="list-style-type: none"> • equipment failures • getting lost • negative interactions with indigenous people </td> </tr> </tbody> </table>	Positive stories/facts/ events about the explorer/exploration	Negative stories/facts/ events about the explorer/exploration	e.g. <ul style="list-style-type: none"> • 'discoveries' • naming places • positive interactions with indigenous people 	e.g. <ul style="list-style-type: none"> • equipment failures • getting lost • negative interactions with indigenous people 	
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<ul style="list-style-type: none"> • Students can then transfer the key information to the playing cards i.e. positive information means move forwards or extra turn and negative information means move backward or miss a turn. • When the students have completed their board game they can swap with other groups to gain feedback on their game. 					
Gathering evidence about student learning Sufficient evidence may now have been gathered for a judgement to be made on student's demonstration of SOSE outcome TCC 4.3. Teachers may gather evidence by focussing on:					
<ul style="list-style-type: none"> • Students' accuracy of information gathering • Students' presentation of information • Students' demonstration of significant maritime history contribution. 					

Activity 5 KWL Chart	
Focus This is an evaluation activity whereby students list what they believe they have learned from their visit to the Queensland Maritime Museum	
Materials	
<ul style="list-style-type: none"> • Resource 3: KWL Chart 	
Teaching sequence:	
<ul style="list-style-type: none"> • Students complete the final column of the KWL Chart (what we have learned) and discuss their writings with the class. 	

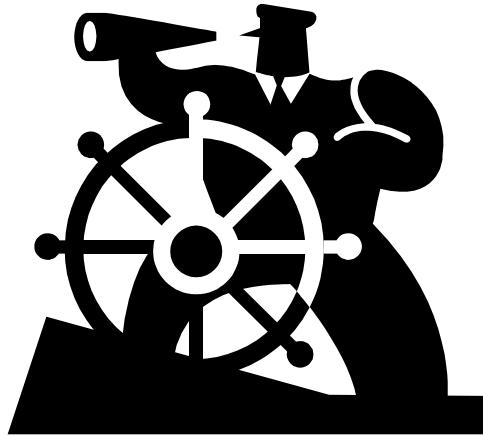
Resource 1

Treasure Cards





Resource 2



Maritime
Explorers &
Navigators

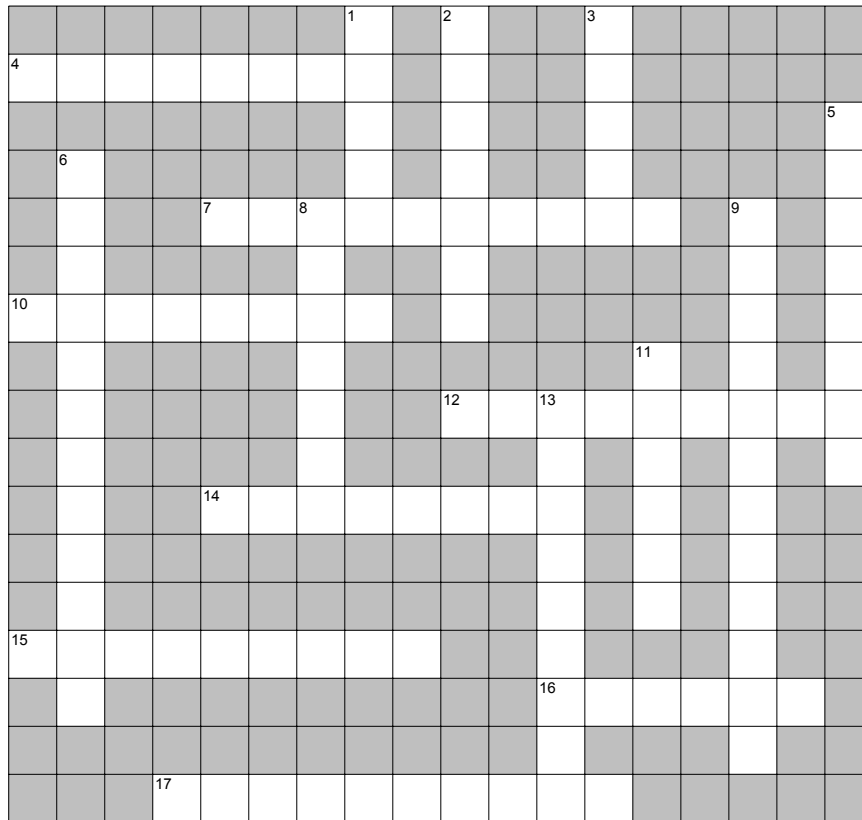
**Excursion to the Queensland Maritime
Museum**

Name

Date

Early Navigators

Look for the answers to this crossword in the display.



Created with EclipseCrossword — www.eclipsecrossword.com

Across

4. One of the four anchors from this ship is found in the Museum
7. Flinders' first rank in the Navy
10. He navigated the Great Barrier Reef and the Torres Strait in 1815
12. Cook's ship
14. Captain of the *Duyfken*
15. Evidence suggests that these may have been the first Europeans to navigate Queensland
16. A Spanish explorer who named the Strait north of Queensland
17. He circumnavigated Australia between 1819 - 1825

Down

1. Planet that was to be observed during Cook's voyage to Tahiti in 1768
2. James Cook's nationality
3. _____ Australis, Flinders' name for Australia
5. The first person to circumnavigate Australia
6. The name of Flinders' ship
8. The name of a ship - it means 'little dove' in Dutch
9. A person who makes maps
11. Cook was killed here in 1779
13. The name of the place where Flinders was born

Steering a Course

For this activity you need to work in groups of three.



Decide which of you is the:

- Officer of the Watch - you will give the order
- Helmsman - you will take the wheel and follow the order, then report)
- Quartermaster - you will supervise the order and check the compass (because this is a mock-up bridge the compass will not actually move)

You are currently on a course of 008^o and the Captain decides to change your course to 306^o. The procedure for changing course is listed below. In your roles follow the procedure!

Order (Officer of the Watch)	Reply (Helmsman)	Report (Helmsman)
Midships	Midships, Sir	Wheel's a'midships, Sir
Port thirty	Port thirty, Sir	Thirty of port wheel on, Sir
Ease to fifteen	Ease to fifteen, Sir	Fifteen of port wheel on, Sir
Midships	Midships, Sir	Wheel's a'midships, Sir
Starboard ten	Starboard ten, Sir	Ten of starboard wheel on, Sir
Midships	Midships, Sir	Wheel's a'midships, Sir
Steady	Steady, course three zero seven, Sir	
Steer three zero six	Steer three zero six, Sir	Course, Sir, three zero six.

Which way do you have to turn the wheel to go to port? Starboard?

Is this what you would expect? Why or why not? Look for clues in the display to explain this.

Instruments for Navigating

Look at the display of navigation instruments and complete the boxes in the retrieval charts. If there is information missing try to find out the answers after your visit using your own research.

What is it?	Sextant
What does it do?	
When was it made?	
Who made it?	
Where did it come from?	
What's it made of?	
How big is it?	

What is it?	Station pointer
What does it do?	
When was it made?	
Who made it?	
Where did it come from?	
What's it made of?	
How big is it?	

What is it?	Cross staff
What does it do?	
When was it made?	
Who made it?	
Where did it come from?	
What's it made of?	
How big is it?	

What is it?	Chronometer
What does it do?	
When was it made?	
Who made it?	
Where did it come from?	
What's it made of?	
How big is it?	

What is it?	Pelorus
What does it do?	
When was it made?	
Who made it?	
Where did it come from?	
What's it made of?	
How big is it?	



Mutiny on the Bounty

What was the reason for the Bounty's voyage?

Using the blank map below trace the route of the voyage of HMS Bounty. Give your map a title and a key.



Key

Can you explain the route that Captain Bligh took in terms of your knowledge about the weather?

What navigational instruments was Captain Bligh allowed to take with him after the mutiny?

What was the average speed of Captain Bligh's journey after the mutiny?

Why did Captain Bligh keep sailing on to Koepang in Timor instead of stopping in Fiji or North Queensland?

HMAS *Diamantina*

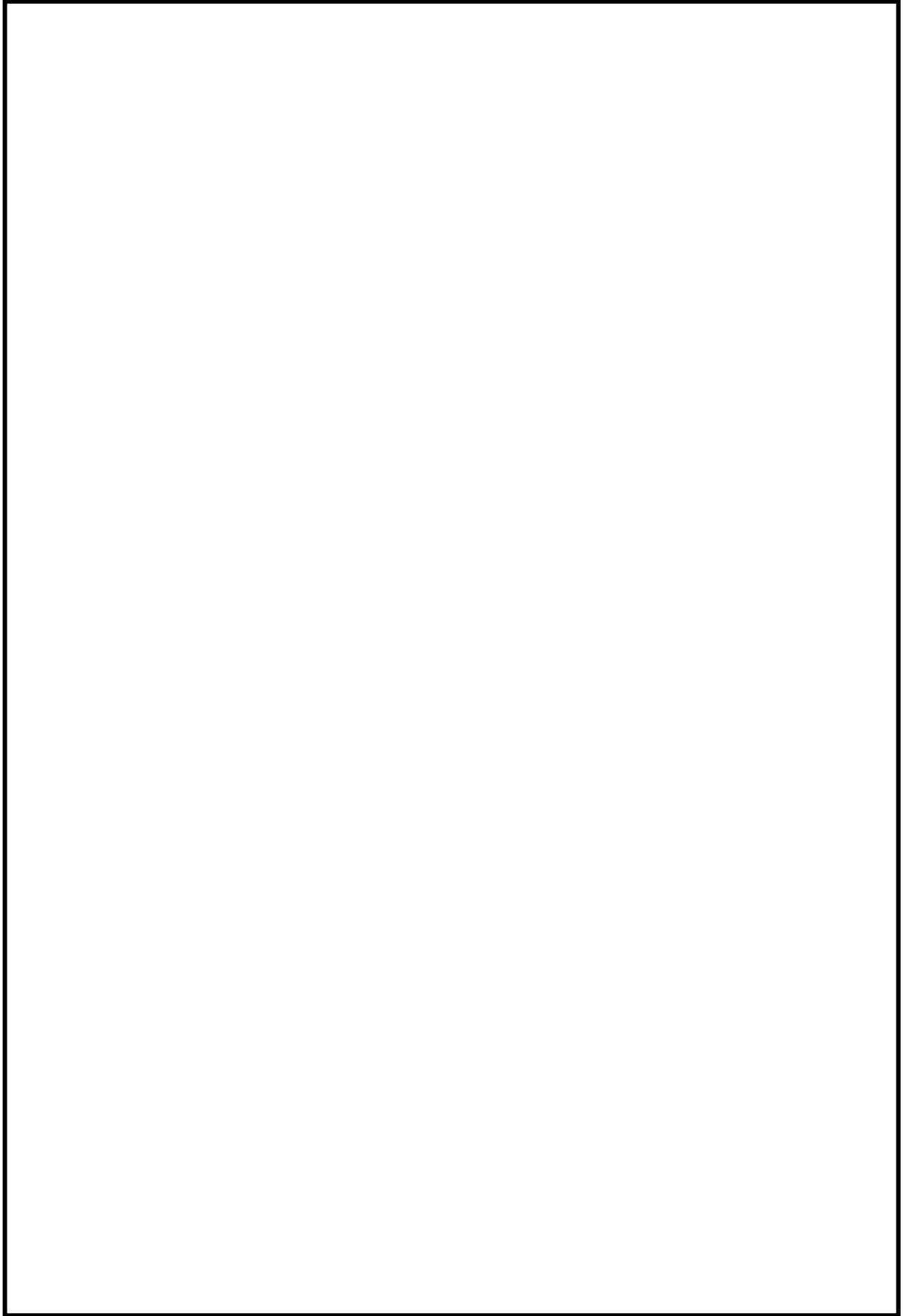
What are some of the differences between the Wheel House on HMAS *Diamantina* and the mock-up bridge in Gallery 1?

Look at the compass in the Wheel House and fill in the blanks in this table:

Direction	Degrees
North	
	45 ^o
East	
South-East	
	180 ^o
South-West	
	270 ^o
North-West	

On the following page draw a field sketch of the Wheelhouse. Make sure you include and label the following on your sketch:

- Engine room telegraph (port and starboard)
- Engine revolutions telegraph
- Gyro compass repeater (rectangular and round)
- Magnetic compass
- Speaking tubes (2)
- Microphone
- Inclinator



Resource 3

KWL Chart

What we Know	What we Want to find out	What we Learned

Resource 4

Drawing Historical Timelines

A timeline is a *chronological* (in order of time) summary of important dates and events, and places or people related to each date.



A timeline has 2 parts:

- A time scale
- A description of the event, place or person

To draw a timeline you should:

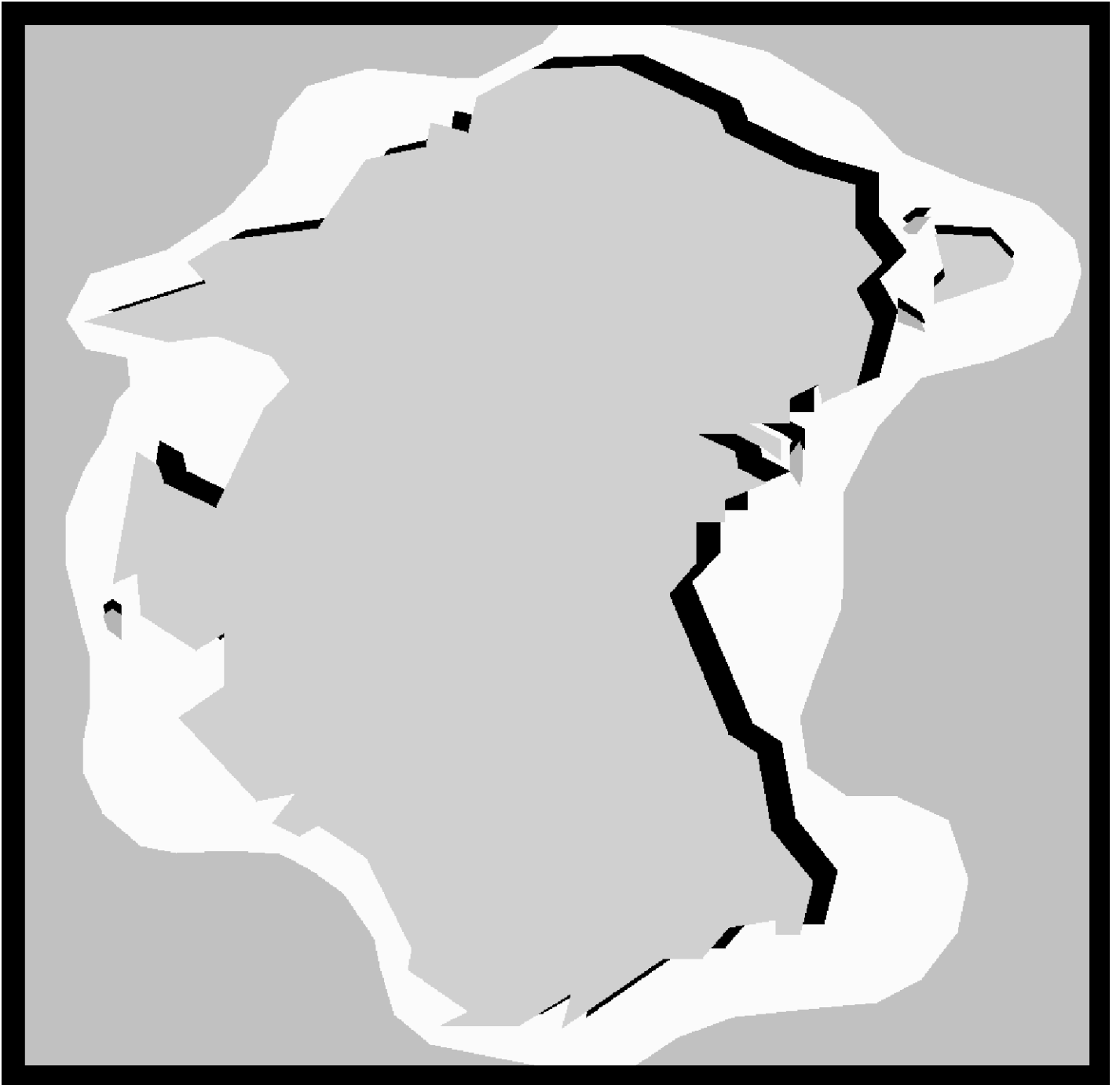
1. Collect relevant data and information for your topic.
2. Decide on the most important dates or time periods. Think about why these dates are important.
3. Choose an appropriate time period for your timeline (look at the information box below ↗).
4. Draw a line from the top to the bottom of your page allowing enough space on the right-hand side to include all your information (or you can draw an horizontal timeline).
5. On the left hand side of your line, mark on the dates for the time period you have chosen.
6. Write a short description of the significance of the date on the right had side of the line (or you can use drawings).

Choosing the Time Periods

Look at the overall time period. Do the dates cover 1 month, 1 year, 10 years, 100 years, more?

Choose a scale that will let you to include all your information, for example 1 centimetre for every 10 years to cover a period of 200 years, or 1 centimetre for every year to cover a period of 10 years.

Resource 5



Support material and references

Curriculum documents

- Queensland School Curriculum Council, 1999, *Science Years 1 – 10 Syllabus*, State of Queensland.
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Other print

- Admiralty, *Manual of Seamanship Volume 1*, 1951, Her Majesty's Stationery Office,
- Curriculum Corporation, 2003, *Making History Upper Primary Units: Investigating our Land and Legends*, Commonwealth of Australia.
- Curriculum Corporation, 2003, *Making History: A Guide for the Teaching and Learning of History in Australian Schools*, Commonwealth of Australia.
- Jacaranda Primary Atlas 2nd Edition* (with CD ROM), Jacaranda Press.

Websites

- ABC: The Navigators <http://www.abc.net.au/navigators/default.htm>
- Australian Maritime Explorers
<http://library.trinity.wa.edu.au/subjects/sose/austhist/maritime.htm>
- Eight Ways of Knowing: Exploring Multiple Intelligences <http://en.wikipedia.org/wiki/>
- Flinders and Baudin: a Surprise Meeting <http://hi.com.au/atlas/updates/bg.asp?subtopicid=3567>
- How Columbus and Apollo Astronauts Navigated
<http://vesuvius.jsc.nasa.gov/er/seh/navigate.htm>
- Latitude: the Art and Science of Fifteenth Century Navigation <http://www.ruf.rice.edu/~feegi/>
- Matthew Flinders and Australia <http://hi.com.au/atlas/updates/bg.asp?subtopicid=3516>
- National Centre for History Education <http://www.hyperhistory.org/>
- Ocean Currents Lesson Plan <http://www.teachervision.com/lesson-plans/lesson-2916.html>
- Queensland Studies Authority <http://www.qsa.qld.edu.au/index.html>.
- Royal Australian Navy: The Gun Plot <http://www.gunplot.net/>
- The 'Bounty Chronicles' Original Fine Art Collection <http://library.puc.edu/pitcairn/catalog-detail-2c.html>
- The Institute of Navigation Lesson plans <http://www.ion.org/satdiv/education.cfm>
- The National Maritime Museum: Tudor Exploration
<http://www.nmm.ac.uk/TudorExploration/NMMFLASH/index.htm>
- Weather on the Pacific Ocean <http://www.ruf.rice.edu/~feegi/PacificOcean.html>
- Weather on the South Atlantic <http://www.ruf.rice.edu/~feegi/weather.html>
- World Atlas.com <http://www.graphicmaps.com/aatlas/world.htm>

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