DARK WATER · TEACHER PACK

Episode 2

Morning Reef

The Houtman Abrolhos, 1629 and 1963. The Batavia is wrecked on her maiden voyage and a mutiny follows. A cray fisherman finds the wreck in 1963, and the episode covers what has been learned from it since.

FOR

Marine and Maritime Studies ATAR Years 11 and 12

RUNNING TIME

13 min 17 sec

INSIDE

Teacher notes, listening guide, a sand grain dating task, archive images, sources, answers

A PODCAST FROM scitech

Made for listeners 16 and over.

About this episode

Early on 4 June 1629 the Batavia hit Morning Reef in the Houtman Abrolhos on her maiden voyage. While the commander went for help, the under-merchant Jeronimus Cornelisz organised the killing of about 125 survivors. The episode covers that briefly and without detail.

Most of it covers how the wreck was found and what forensic and geological work has learned from it since. The Year 12 syllabus names the Batavia, so this is the strongest fit in the series.

> **BEFORE YOU PLAY IT**
>
> This episode is about a massacre. It repeats the WA Museum's warning that the events involved murder, sexual assault, torture and execution, but describes none of them. It also discusses human remains found on Beacon Island. Please preview it before class and give students notice and a way to step out. Near the end it gives Lifeline's number, 13 11 14.

WHERE IT FITS

COURSE AND UNIT	SYLLABUS CONTENT	IN THE EPISODE
MMS ATAR Year 12, Unit 4	The Batavia shipwreck. Historical background	2:52 to 6:17
MMS ATAR Year 12, Unit 4	The Batavia shipwreck. Location process	6:17 to 7:57, Drake-Brockman and the 1963 dives
MMS ATAR Year 12, Unit 4	Survey of underwater and land sites, excavation and safe retrieval of artefacts	6:17 to 8:48, the 1963 recoveries, the WA Museum excavation and the Beacon Island graves
MMS ATAR Year 12, Unit 4	Conservation and interpretation of artefacts	8:48 to the end, the portico and the hull timbers in Fremantle
MMS ATAR Year 12, Unit 3	Methods of locating shipwrecks. Historical records	6:17, finding the site from a 1629 journal
MMS ATAR Year 11, Unit 1	Historic sea routes	1:15 to 2:52, the Roaring Forties and the turn north
MMS ATAR Year 11, Unit 2	Historical information found within a shipwreck	7:57 to 8:48 and 11:48

References are to the SCSA Marine and Maritime Studies ATAR syllabuses for teaching from 2026 (Year 11) and 2027 (Year 12). Check against the version your school is using.

Episode map

Times are from the start of the file. The show sting runs for the first ten seconds.

TIME	SECTION	WHAT HAPPENS
0:10	1963	Dave Johnson sees shapes on Morning Reef from his cray boat.
1:15	The Abrolhos and the route	Why low reefs are hard to see at night and how Dutch ships used the Roaring Forties and had to guess when to turn north.
2:52	The wreck	The people on board, the wreck on 4 June 1629, Pelsaert leaving in the longboat and Cornelisz marooning the soldiers.
4:52	The massacre and the soldiers	The number killed, how Wiebbe Hayes's men survived and the hangings.
6:17	Finding the wreck	Drake-Brockman's reading of the journal, the 1963 dives and the WA Museum's excavation.
7:57	The bones	Forensic osteology and a skull from 1964 matched to a skeleton found in 2015.
8:48	The portico	Dating sand grains to trace the ship's stone gateway to two German quarries.
10:49	What isn't known	What Pelsaert recorded about the skipper's plan to leave the fleet, what he wrote about the wreck itself, and the uncertain numbers.
11:48	Where it is now	The timbers in Fremantle, the portico in Geraldton, the heritage listing and the 1972 agreement with the Netherlands.

START HERE

Ask what an archaeologist can learn from a wreck that the written record can't tell them, and the other way round. Put two columns on the board and fill them in after listening.

TAKE IT FURTHER

Pelsaert recorded Cornelisz saying, under threat of torture, that the skipper planned to leave the fleet. Students write a paragraph on how a historian should treat evidence like that, and compare it with what Pelsaert wrote himself on the morning of the wreck.

Listening guide

The time next to each question tells you roughly where to find it.

1 1:15 Why were the Abrolhos so hard to see from a ship at night?

2 1:15 Explain why Dutch ships heading for the East Indies sometimes ended up on the WA coast. Use the words latitude and longitude.

3 2:52 Who were Pelsaert, Jacobsz and Cornelisz, and what was each one's job?

4 4:52 Give two reasons from the episode why Wiebbe Hayes's soldiers survived.

5 6:17 How did Henrietta Drake-Brockman help find the wreck before anyone dived on it?

6 6:17 What was recovered in 1963, and what is an astrolabe used for?

7 7:57 What can a forensic osteologist learn from a skeleton? How was a skull found in 1964 matched to a skeleton found in 2015?

8 8:48 Explain how dating sand grains can show which quarry a block of sandstone came from.

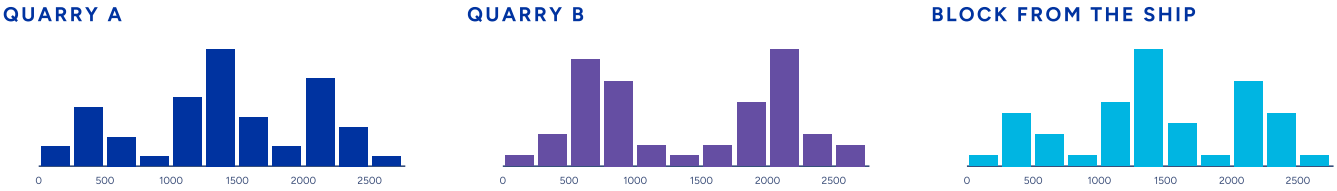
9 10:49 Pelsaert wrote down a claim about the skipper's plans. Where did it come from, and why should a historian be careful with it?

10 11:48 Where are the hull timbers and the portico now, and what protects the wreck site?

Read the grains

Each grain of sand in a sandstone block came from an older rock, and some grains can be dated. One grain tells you little. Date many and you get a spread of ages that differs from quarry to quarry.

The charts show how many grains fall in each age range for two quarries and for one block from a ship. **The numbers are made up for this exercise.**



Age of grain in millions of years. Each bar is a 250 million year range.

1 Describe the main peaks in each chart, giving the age range of each peak.

2 Which quarry did the block most likely come from? Give two pieces of evidence from the charts.

3 Suppose you had dated only one grain from the block and it came out at about 1,350 million years. Could you tell which quarry it came from? Explain.

4 The real study dated more than 150 grains from one block. Why would a scientist want that many?

5 Name one other object from a wreck that could be traced to where it was made, and say how you might do it.

From the archive

These are records from the time or close to it. Each was made by someone with their own reasons, so treat them as sources.



Hessel Gerritsz's chart of the WA coast

1627, TWO YEARS BEFORE THE WRECK

The VOC's own map of the coast. It marks Houtman's Abrolhos ("Fr. Houtmans abrolhos"), sighted in 1619, but only roughly. North is on the left.

Detail. Hessel Gerritsz, Caert van't Landt van d'Eendracht, 1627. State Library of New South Wales, ML ZM2 850/1627/1. Public domain.

Why is a rough mark on a chart little help to a ship arriving at night?



The wreck, from Pelsaert's book

PUBLISHED IN AMSTERDAM, 1647

The usual reading is the Batavia under sail, then wrecked on the reef as boats take people off.

Plate 1, Ongeluckige voyagie van 't schip Batavia, 1647. State Library of New South Wales, SAFE/C 530. Out of copyright.

The artist probably never saw the Abrolhos. What here would you trust, and what wouldn't you?



The rescue, from the same book

PUBLISHED IN AMSTERDAM, 1647

Usually read as the Sardam arriving at the islands, with smoke rising and a camp of tents.

Plate 4, Ongeluckige voyagie van 't schip Batavia, 1647. State Library of New South Wales, SAFE/C 530. Out of copyright.

The book sold well. Why would a publisher in 1647 want pictures like these?

Sources

The WA Museum has a page written for this syllabus unit, which is the best place to start.

WA Museum. Year 12 Unit 4, Batavia
web.archive.org/web/2026/museum.wa.gov.au/marine-maritime-studies-student-resources/year-12-unit-4-batavia
Resources built for the Marine and Maritime Studies unit, with reading levels marked. Links to Pelsaert's journal, the Beacon Island burials and the hull. Archived copy, because the museum's old address no longer loads (checked 3 November 2026).

WA Museum. Batavia's history 1628 to 1963
visit.museum.wa.gov.au/batavias-history-1628-1963
The story from Texel in 1628 to the 1963 discovery, including Drake-Brockman's prediction.

WA Museum shipwreck database. Batavia
web.archive.org/web/2026/museum.wa.gov.au/maritime-archaeology-db/wrecks/id-812
The museum's database record. Compare its figures with the other sources. Archived copy, because the museum's old address no longer loads (checked 3 November 2026).

National Museum of Australia. Defining moments, wreck of the Batavia
nma.gov.au/defining-moments/resources/wreck-of-the-batavia
A short overview with the main numbers.

UWA, 10 February 2015. Final days of expedition reveal new Batavia burials
www.news.uwa.edu.au/archive/201502107339/research/final-days-expedition-reveal-new-batavia-burials
The 2015 finds on Beacon Island, from the team that did the forensic work.

Franklin and others (2023). Bioarchaeological analysis of a murder victim associated with the Batavia mutiny of 1629
research-repository.uwa.edu.au/en/publications/bioarchaeological-analysis-of-a-murder-victim-associated-with-the/
The paper that matched the 1964 skull to the skeleton excavated in 2015. For stronger students.

WA Museum. Batavia expeditions 1967 to 2018
visit.museum.wa.gov.au/wa-museum-batavia-expeditions-1967-2018
The museum's account of its Batavia fieldwork, including the 1972 to 1976 excavation of the wreck site.

WHERE THE SOURCES DISAGREE

They make a good exercise in reading sources.

- The number on board varies. WA Museum pages give 341 and 322, and the National Museum of Australia says about 330.
- The museum's current pages date the wreck-site excavation 1972 to 1976. Its older database says 1970 to 1974.

Answers

Suggested answers. Accept anything that shows the same understanding.

LISTENING GUIDE

1. They sit low in the water with no cliffs to show against the night sky.
2. Ships ran east in the Roaring Forties, then turned north for Java. Latitude could be read from the sun, but longitude was a guess from speed and time, so a ship that turned too late ran into the WA coast.
3. Pelsaert was the commander of the whole venture. Jacobsz was the skipper who sailed the ship. Cornelisz was the under-merchant, a former apothecary, who led the mutiny.
4. Any two of: they found water, they were trained and didn't scatter when attacked and every attack had to cross about eight kilometres of sea.
5. She worked out from Pelsaert's own descriptions in his journal that the wreck had to be in the Wallabi Group, and published it.
6. Four cannons, two astrolabes, coins and ceramics. An astrolabe is a brass instrument for reading latitude from the sun.
7. Age, sex, build, old injuries and how someone died. Features of the bone showed the skull and the skeleton belonged to the same person.
8. Each grain came from an older rock upstream. Some grains can be dated by radioactive decay. Dating many grains gives a spread of ages, and that spread matches the rocks feeding a particular river and so a particular quarry.
9. Because it comes from Cornelisz's questioning, when he had been tied up ready for torture. Pelsaert's own account of the wreck blames the skipper's "reckless inattention": he saw white water ahead, was told it was moonlight, and kept going.
10. The hull timbers are in the WA Shipwrecks Museum in Fremantle beside a replica of the portico. The portico blocks are in the Museum of Geraldton. The site went on the National Heritage List on 6 April 2006, and recovered material falls under a 1972 agreement between Australia and the Netherlands.

TASK

1. Quarry A peaks at 250 to 500, 1,250 to 1,500 (the largest) and 2,000 to 2,250 million years. Quarry B peaks at 500 to 1,000 and 2,000 to 2,250 (the largest). The block peaks at 250 to 500, 1,250 to 1,500 and 2,000 to 2,250.
2. Quarry A. The block shares A's peaks at 250 to 500 and 1,250 to 1,500, and it doesn't have B's large peak at 500 to 1,000.
3. Not with certainty. Both quarries have grains of that age. Quarry A has many more, so it points to A, but one grain can't rule out B.
4. So the pattern is reliable. Some peaks, like 2,000 to 2,250, appear in both quarries and can't separate them, so it takes the whole spread to tell them apart.
5. Open. For example ceramics from the chemistry of their clay, coins from their mint marks and dates or cannons from foundry marks.