

ABORIGINAL AND TORRES STRAIT ISLANDER
HISTORIES AND CULTURES

DEPARTMENT OF
EDUCATION
learners first

LIVING CULTURES – FIBRES

YEAR 10

The
Orb

FIBRES

IT'S ALL OUR BUSINESS – TASMANIA'S DISAPPEARING KELP FORESTS

Learners conduct an inquiry into the disappearing Kelp Forests of Tasmania to understand the contributing factors. They will then make decisions around the causes of the disappearing kelp forests and create a multimodal presentation for assessment. Learners will also consider the impact of this on Tasmanian Aboriginal culture and cultural activities.

CROSS CURRICULUM PRIORITY**Aboriginal and Torres Strait Islander Histories and Cultures***Organising idea 3*

Aboriginal and Torres Strait Islander Peoples have holistic belief systems and are spiritually and intellectually connected to the land, sea, sky and waterways.

Organising idea 5

Aboriginal and Torres Strait Islander Peoples' way of life are uniquely expressed through ways of being, knowing, thinking and doing.

ACHIEVEMENT STANDARDS**Science**

Students describe and analyse interactions and cycles within and between Earth's spheres. They construct evidence-based arguments and select appropriate representations and text types to communicate science ideas for specific purposes.

CONTENT DESCRIPTORS**Science**

Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere (ACSSU189).

*Investigating the effect of climate change on sea levels and biodiversity

Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (AC SIS208).

GENERAL CAPABILITIES**Intercultural understanding***Recognising culture and developing respect*

Explore and compare cultural knowledge beliefs and practices

Level 6 – critically analyse the complex and dynamic nature of knowledge, beliefs and practices in a wide range of contexts over time

Critical and Creative Thinking

Inquiring – identifying, exploring and organising information and ideas:

Identify and clarify information and ideas

Level 6 – clarify complex information and ideas drawn from a range of sources

Learning Goals

Learners will:

- » Describe the various reasons for the disappearing kelp forests of Tasmania.
- » Understand the impact of climate change and make these links.
- » Reflect on the impact that the disappearing kelp forests will have on Tasmanian Aboriginal culture.
- » Create a multimodal presentation including recommended actions to prevent further damage.

Learning Sequence**Activating and Engaging***Story Sharing**Community links*

Warm up the class with a balloon activity. Throw a balloon around the room and ask students to say an activity that they often like to do with their friends or family (a cultural activity). For example, cooking, AFL, cricket, fishing, diving, dance, days at the beach etc.

Ask students how they would feel if they were no longer able to do these activities due to changes beyond their individual control.

Generate a discussion about what the impact might be on people's health and wellbeing when you remove cultural activities.

Read the picture book aloud to the class *The Hidden Forest* by Jeannie Baker. Generate a class discussion with the following questions:

- » What is this story about?
- » What are the main themes presented?

- » What do you think the author's views are?
- » Why do you think the author has written this story?

Read the last page highlighting that scientists believed then that the Giant Kelp was disappearing at the time of publication, which was 2000. 18 years later and the Giant kelp has in fact almost entirely disappeared from the East Coast of Tasmania.

Exploring and Discovering

Learning Maps

Advise students that they will be conducting an inquiry regarding the disappearance of the Giant Kelp forests of Tasmania and the contributing factors.

Ask students to also comment on what action or steps could have been taken in 2000 to possibly prevent the disappearance and what steps can be taken in the future to reduce the impact of climate change on Tasmania.

Begin by watching the following YouTube clip: [Tasmania's Disappearing Kelp Forests](#)

Ask students to take notes while they are watching regarding some of the contributing factors mentioned.

Handout the list of websites for students to use as a guide for their research:

[Tasmanian kelp forests dying...](#)

[Is Tassie kelp beyond help?](#)

[Underwater health check...](#)

[Australia's vast kelp forests...](#)

[Global Warming Destroys Tasmanian...](#)

[Students hunt invasive sea urchins](#)

[Huge online global marine species...](#)

[As Oceans Warm, the World's...](#)

[Marine Protected Areas](#)

[Summer sea surface temperature...](#)

[Marine and Coastal Habitats](#)

[Redmap Tasmania Report Card](#)

[Long Spined Sea Urchin Project](#)

Ask students to use these guiding questions when conducting their research.

- » Why are the Giant Kelp forests of Tasmania disappearing? What steps could have been taken to prevent this and what can be done now to reduce the impact of climate change in the future?
- » What is being done now?
- » What are the impacts on Tasmanian Aboriginal cultural activities?

Synthesising and Applying

Deconstruct-Reconstruct

Once the research has been completed students will create a multimodal presentation with the results of their investigation and evidence as to why the Giant Kelp forests of Tasmania are disappearing.

Issues to be explored include:

- » Increase in water temperature – why?
- » What impact does the increase in water temperature have?
- » Influx of sea urchin – why?
- » Decrease of rock lobster – why?

Stress to students that they must come to a conclusion and provide data and evidence to support their argument. They should then make some recommendations as to what could have been done in 2000 to possibly prevent the disappearance by 2017 and what can be done to reduce the impact of climate change in the future.

You should also invite an Aboriginal community member into the classroom to do some work with the students using kelp. This is arranged via an application to the Aboriginal Sharers of Knowledge program.

Success Criteria

Learners:

- » Participate in various class discussions.
- » Conduct an investigation and draw conclusions regarding the contributing factors to Tasmania's disappearing Giant Kelp forests making the connections to climate change.
- » Recommend action to prevent further damage due to climate change.
- » Create a multimodal presentation as assessment.

Resources

- » [The Orb](#)
- » [Australian Curriculum](#)
- » [Aboriginal Sharers of Knowledge \(ASK Program\) Guidelines](#)
- » [Aboriginal Sharers of Knowledge \(ASK Program\) Application Form](#)
- » The Aboriginal Education Library: email Aboriginal.education.library@education.tas.gov.au or telephone 03 6165 5480 for more resources, including the ones listed below.
- » The Eight-Way Framework of Aboriginal Pedagogy
- » Baker, J 2000 *The Hidden Forest* 1st ed London: Walker Books Ltd

Glossary

Kelp

A large brown seaweed that typically has a long, tough stalk with a broad frond divided into strips. 

Climate change

A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels. 



[Oxford Online Dictionary](#)



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