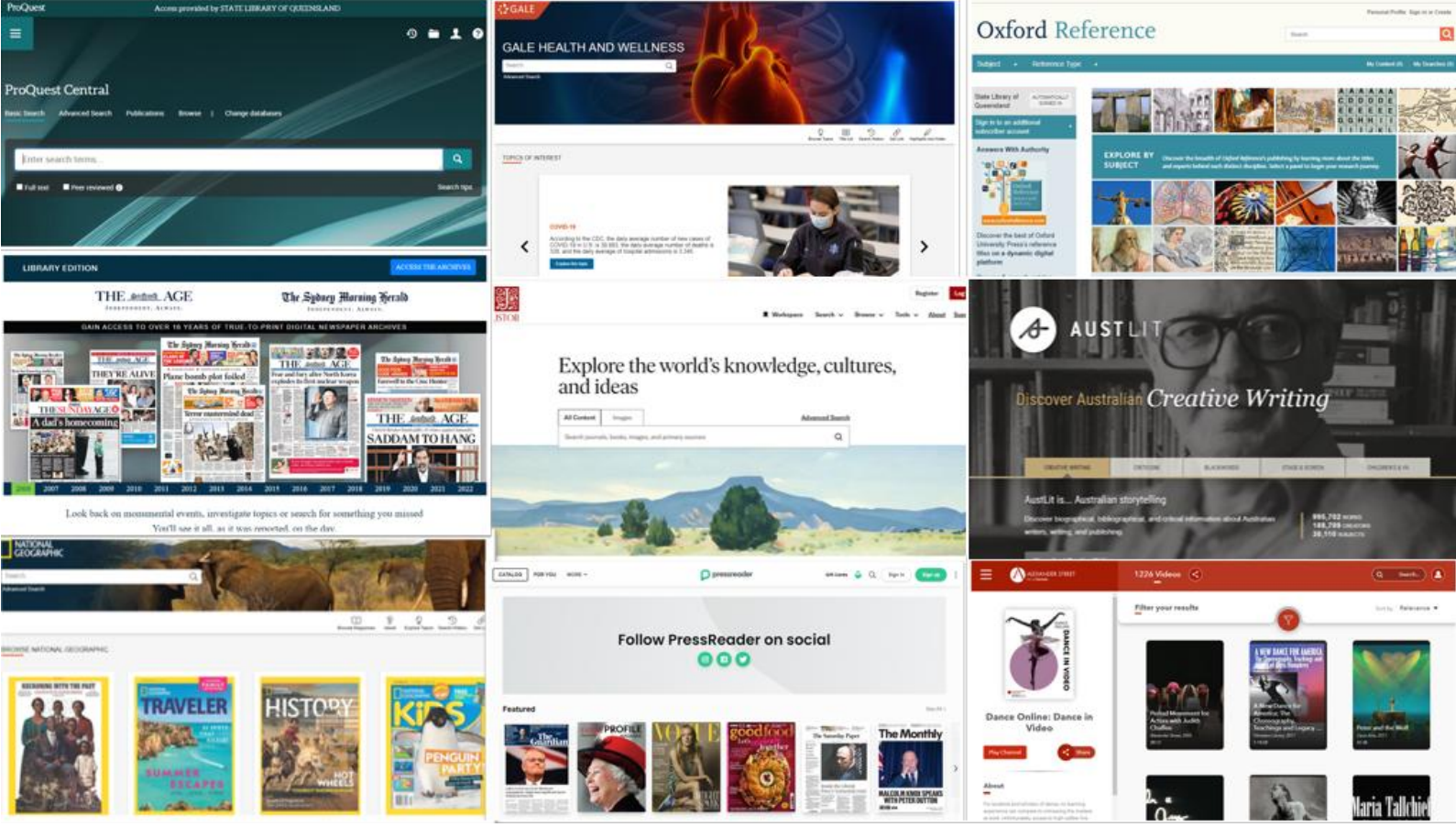



STATE LIBRARY
QUEENSLAND

# Year 7
# Chemical Sciences

Cover: Selection of databases available through State Library, 2023.

**Date prepared:** 04 March 2026

**Copyright information for teachers**

This research guide is designed for individual use by students.

Please note, due to licensing arrangements, State Library's subscription databases and eBooks are for private research and study purposes only. They may not be used as teaching resources in classroom environments in schools or other educational institutions and students must not be required to access specific databases or eBooks as part of the curriculum.

Teachers can advise students on State Library's resources and encourage their use to help with their studies and research. Students are encouraged to access State Library's resources at school, but not during class time.

Teachers are most welcome to advise students what is available via State Library, and to encourage students to make use of eBooks and databases to help with their studies. It is permissible for a teacher to demonstrate the use of State Library's catalogue, and to point out how various online material can be accessed.

It is also permissible for students to access State Library's online resources at school – but this must not be during class time. An example of permitted use might be where students have a spare period when they work on assignments or homework, and they are accessing databases as private members of the State Library. Information about joining the State Library is here.

Please also note that State Library has digitised a range of material such as diaries, and out of copyright publications held in our collections. There are no restrictions on the use of this material as part of a teaching program – and no requirement to be a member of the library to use this material. They are easily findable searching our catalogue using the "SLQ digitised collections" option in the dropdown menu.

For other information visit Understanding copyright or contact State Library at copyright@slq.qld.gov.au

## Overview

As Queensland's leading research library, State Library is a great place to find information to complete your research-based assessments.

State Library's One Search catalogue is the gateway to an extensive suite of national and international journals, databases, eBooks, encyclopedias, newspaper archives, and collections of thousands of historical images, letters, artworks, diaries, and artefacts to interrogate as sources.

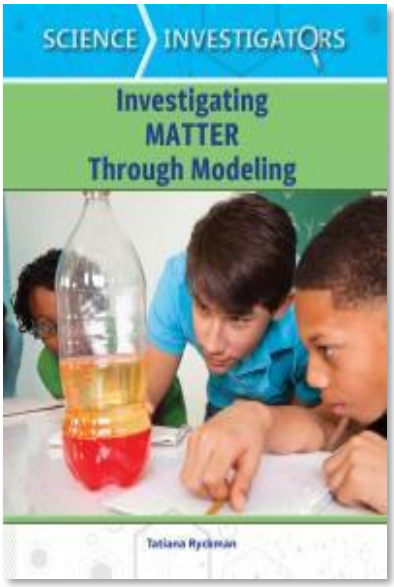
## Before you get started

Become a member of State Library of Queensland (it's free!).

Once you have joined State Library, log in to your account in One Search so you can use the links in this research guide to access the featured collection items.

You can search our OneSearch catalogue or begin exploring by clicking on some of the featured items contained in this research guide.

## Featured EBook



# Particle Theory

Use particle theory to describe the arrangement of particles in a substance, including the motion of and attraction between particles, and relate this to the properties of the substance.

- Using and constructing models, diagrams or virtual simulations to represent changes in particle arrangement as substances change state.
- Relating motion and energy of particles to distances between particles of the same substance in different states.
- Comparing attractive forces in the solid, liquid and gaseous states of the same substance and relating this to relative position and movement of particles.
- Examining how the changing motion and energy of particles is affected by the amount of heat energy absorbed or released.
- Comparing the properties of different states of matter and explaining differences using particle theory.
- Investigating properties of materials such as density, melting point and compressibility and explaining these in terms of particle arrangement.
- Explaining the process of diffusion in a liquid and a gas in terms of particles.

# Particle Model

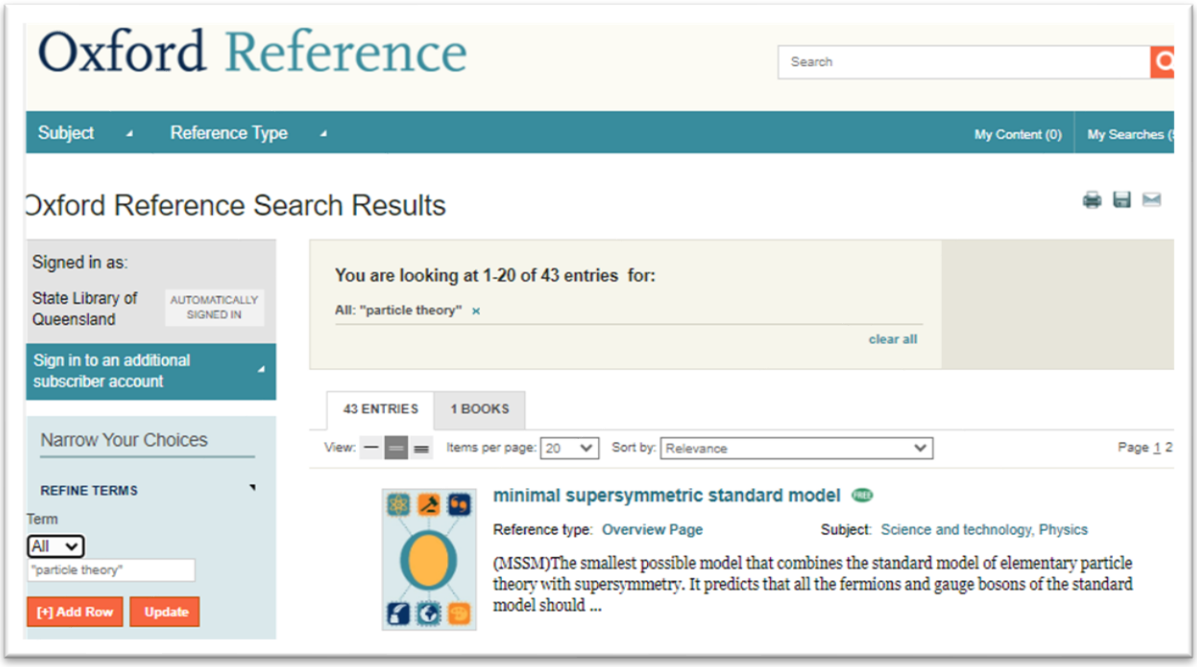
Use a particle model to describe differences between pure substances and mixtures and apply understanding of properties of substances to separate mixtures.

- Using representations of particles to show the difference between samples of pure substances and mixtures, and identifying examples of each.
- Examining different solutions and identifying the solvent and solute.
- Investigating and using a range of physical separation techniques such as filtration, decantation, evaporation, crystallisation, chromatography and distillation.
- Exploring and comparing separation methods used in a variety of situations such as in the home, recycling industries and purifying water.
- Analysing how the physical properties of substances in mixtures, such as particle size, density or volatility, determine the separation technique used.
- Investigating separation techniques used by First Nations Australians, such as hand-picking, sieving, winnowing, yandying, filtering, cold-pressing and steam distilling.

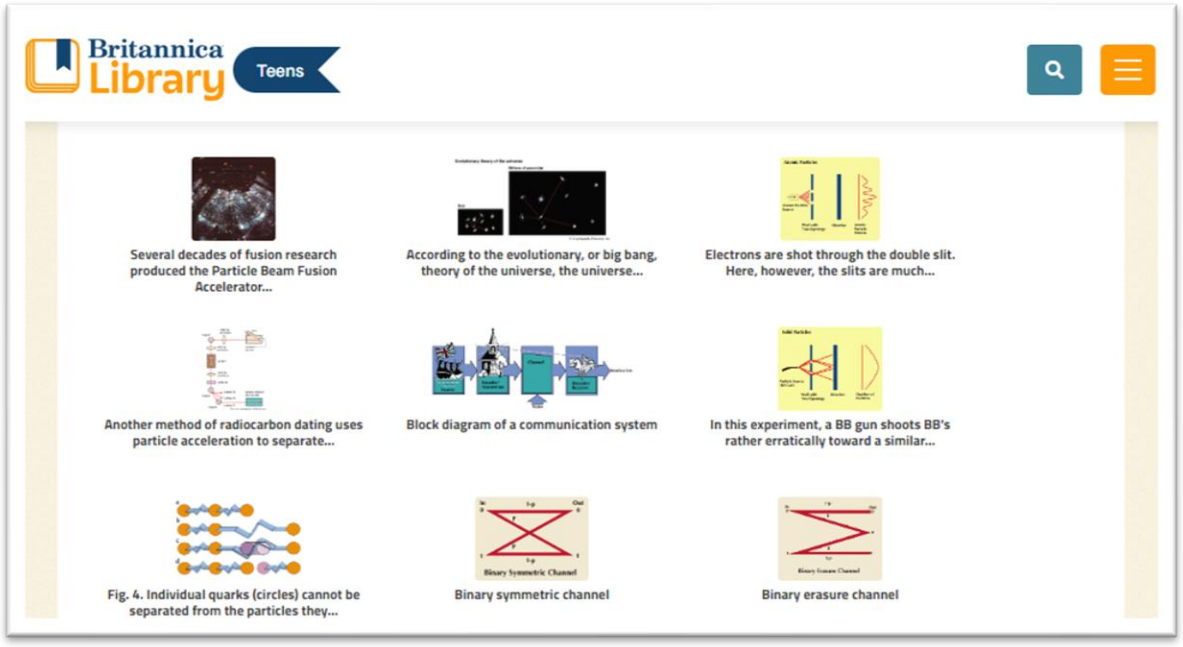
# Featured Databases

## For easy reference

Oxford Reference spans 25 different subject areas, bringing together 2 million digitised entries across Oxford University Press's dictionaries, companions, and encyclopedias.

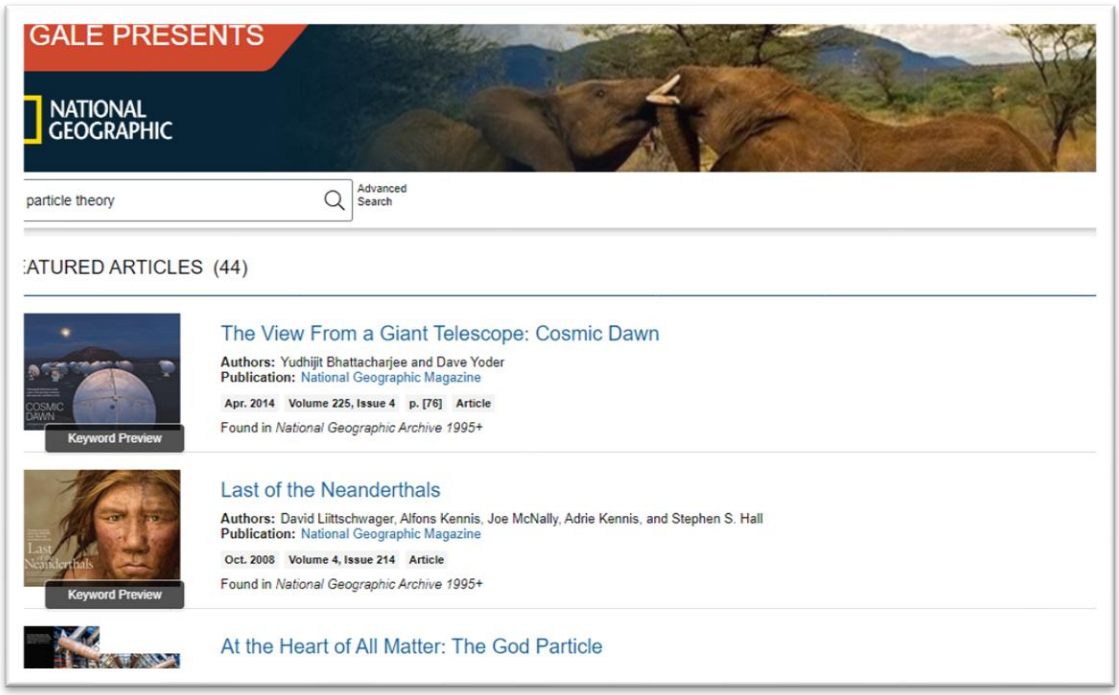



The Britannica Library has articles, images and more, with a selection of resources especially for teenagers.

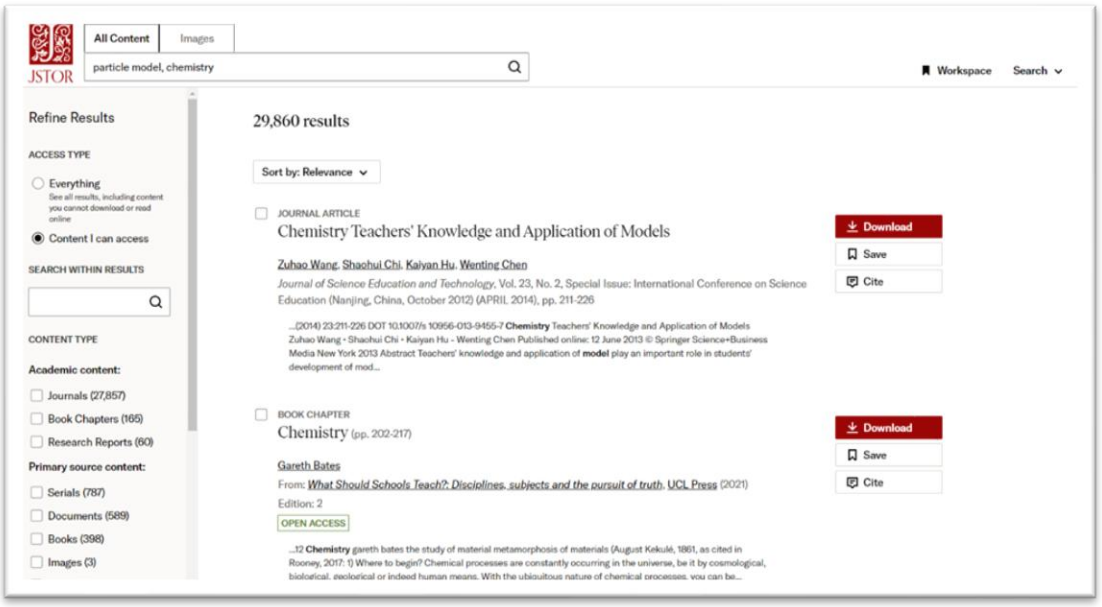


## For engaging reading

National Geographic Virtual Library is a powerful tool for research offering access to over 100+ years of magazines and hundreds of books, maps, videos, and images.



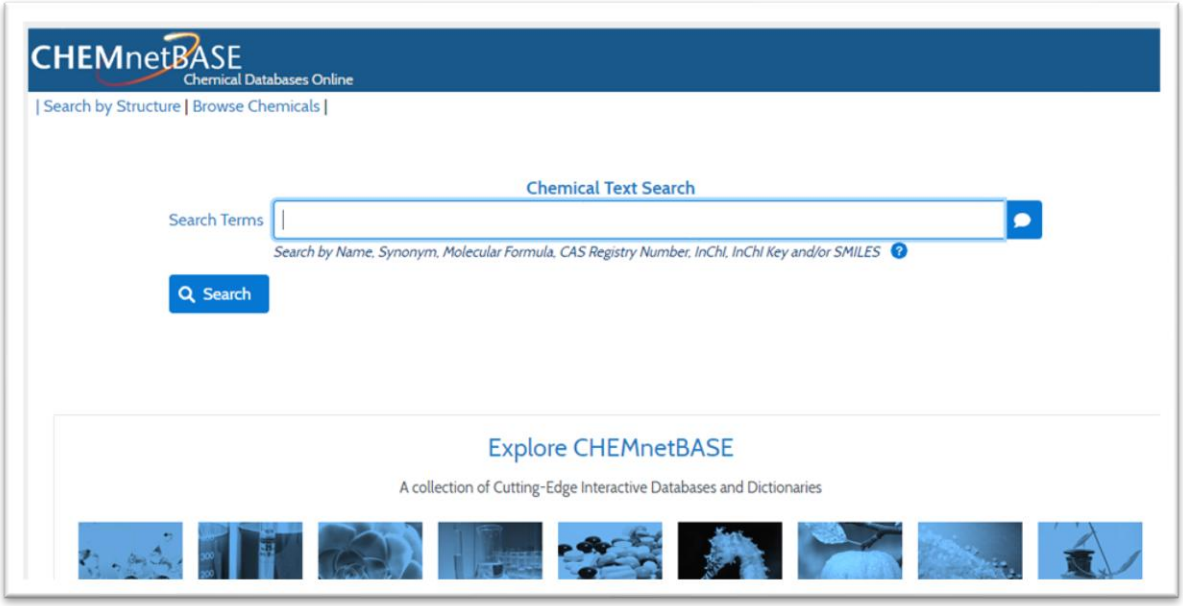

JSTOR provides access to more than 12 million scholarly journal articles and eBooks, and is especially good for primary sources.



# Specialist databases

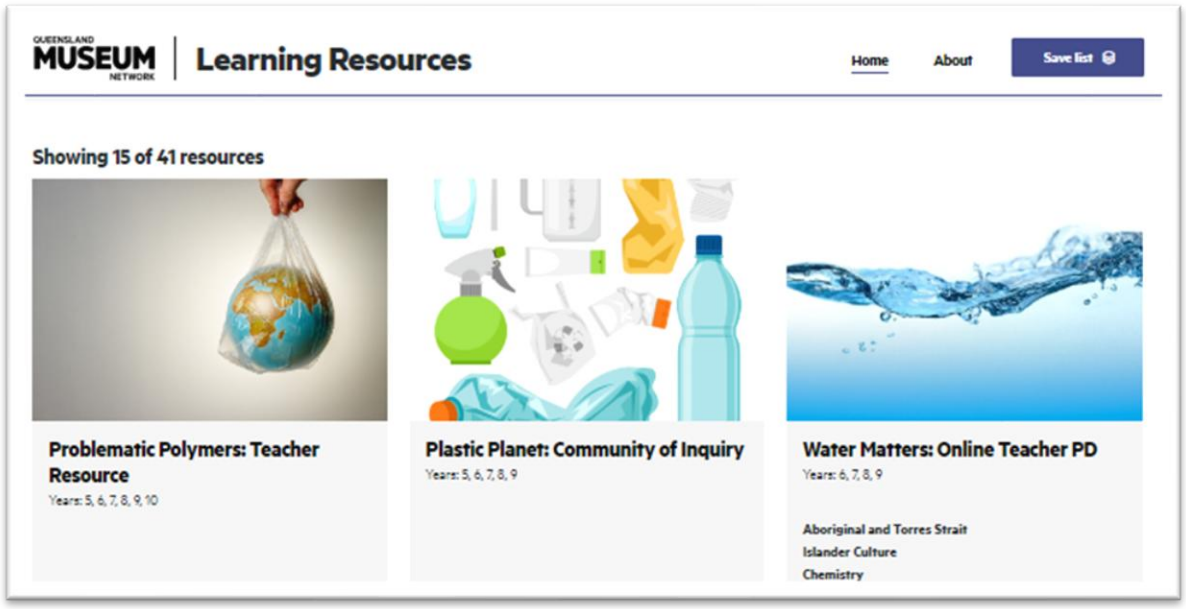
## Science

CHEMnetBASE provides a comprehensive database of chemicals and their uses, as well as chemical equations and properties.

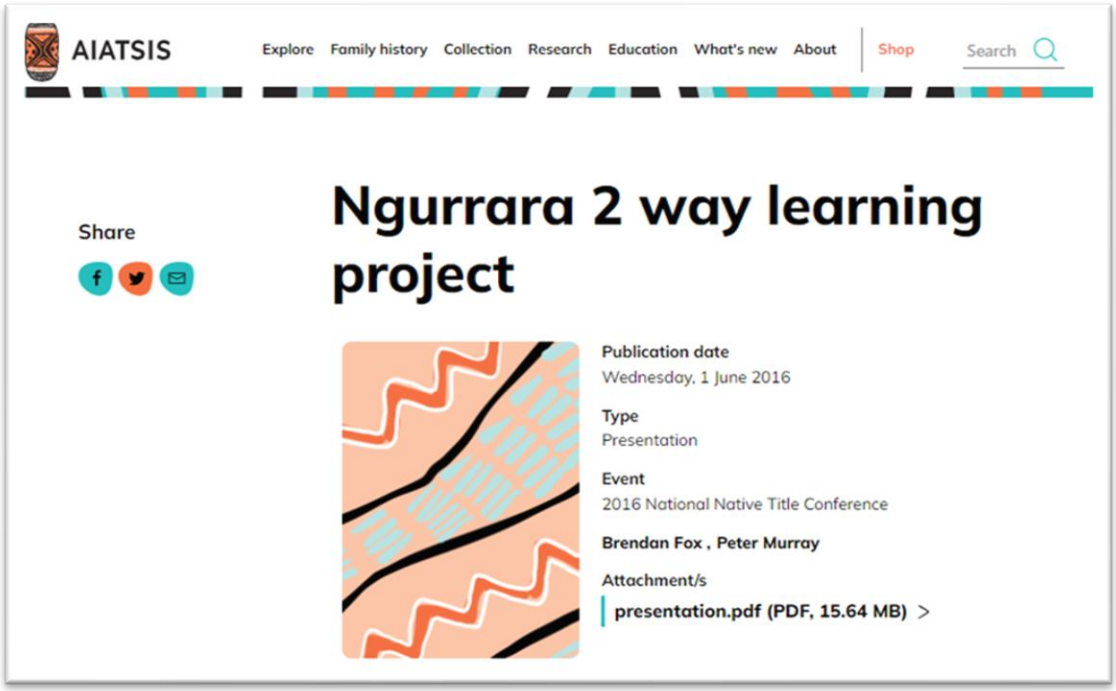



Gale Interactive: Science provides a comprehensive view of the most-studied science subjects. Authoritative, high-quality digital content is paired with interactive 3D models.

Queensland Museum provide Learning Resources website students with many activities, fact sheets, images, and videos.




The Australian Institute Aboriginal and Torres Strait Islander Studies is a powerful tool for First Nations reading and research. Their online database and research projects can provide incredible insight into science from the First Nations perspective.



### Borrow items.

Order items online through State Library's One Search catalogue and borrow items from State Library's collections when you visit us onsite.

### Ask a librarian

Ask one of State Library's expert librarians for help with your research inquiry.