



STATE LIBRARY⁷
QUEENSLAND

Year 7

Chemical Sciences

Student research guide

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Date prepared: 24 November 2023

Date revised: 04 March 2026

Copyright information for teachers

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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 State Library. Information about joining State Library is [here](#).

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For more information about the use of copyright materials visit [Understanding copyright](#).

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.
- Complete the [Student research with State Library](#) module for a guide to navigating State Library's resources. Or visit the [One Search help page](#) for tips & tricks for searching One Search.
- You can search our [OneSearch catalogue](#) or begin exploring by clicking on some of the featured items contained in this research guide.

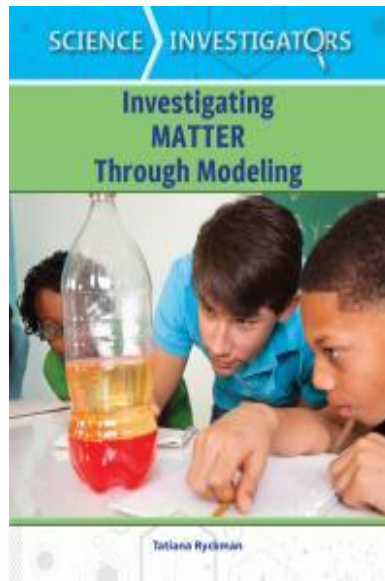
Student research with State Library

Feel more confident navigating State Library's resources to find high quality information sources for your assessments.

[Start module](#) 



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

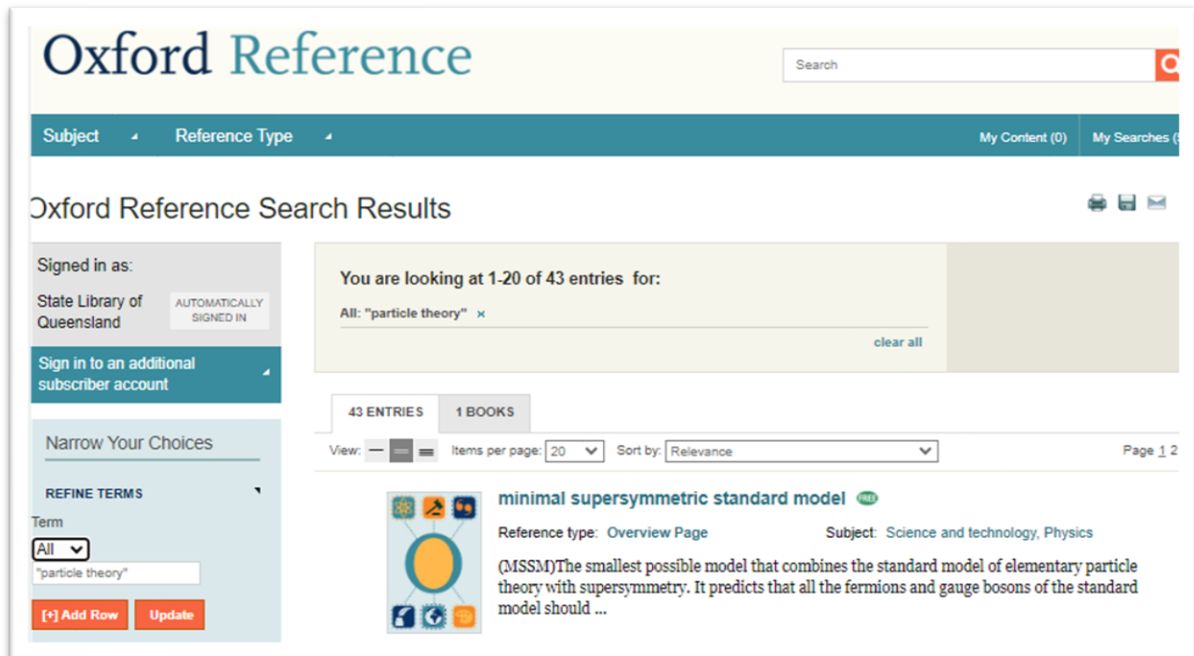
Use a particle model to describe differences between pure substances and mixtures and apply understanding of properties of substances to separate mixtures.

- 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.

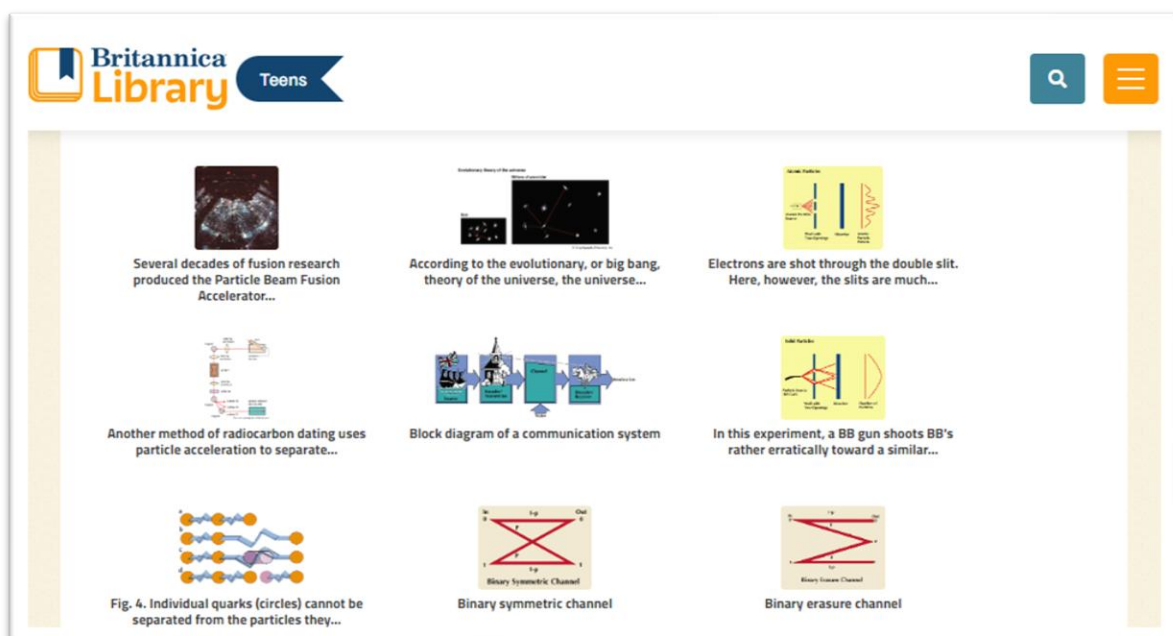
Featured databases

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.

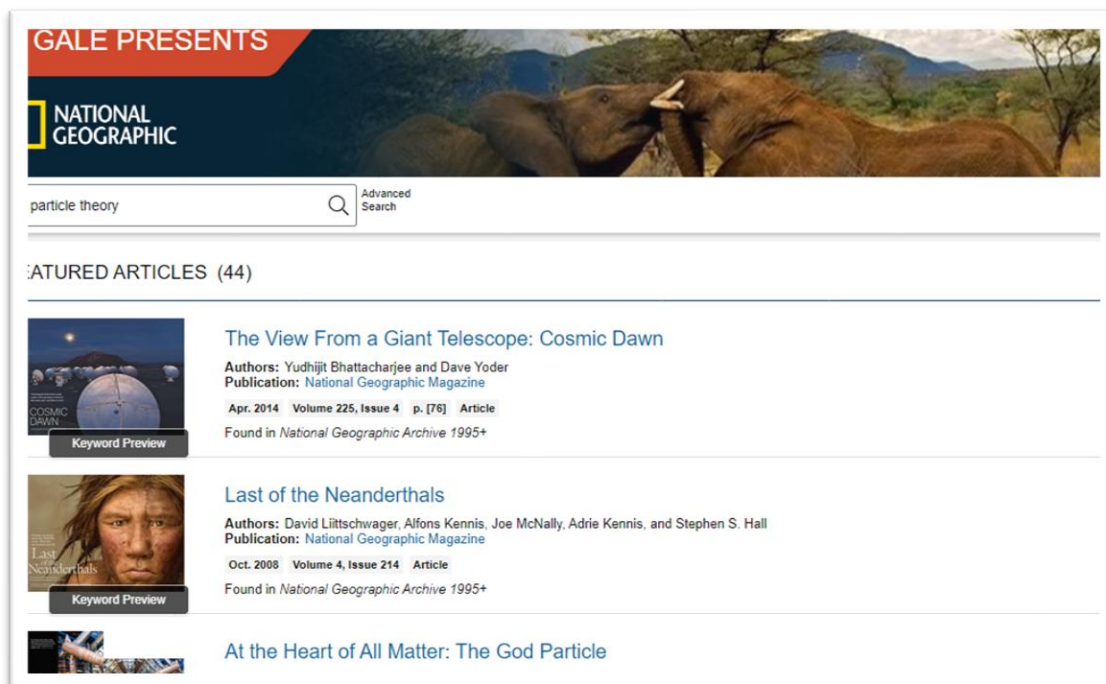


The [Britannica Library](#) has articles, images and more, with a selection of resources especially for teenagers.

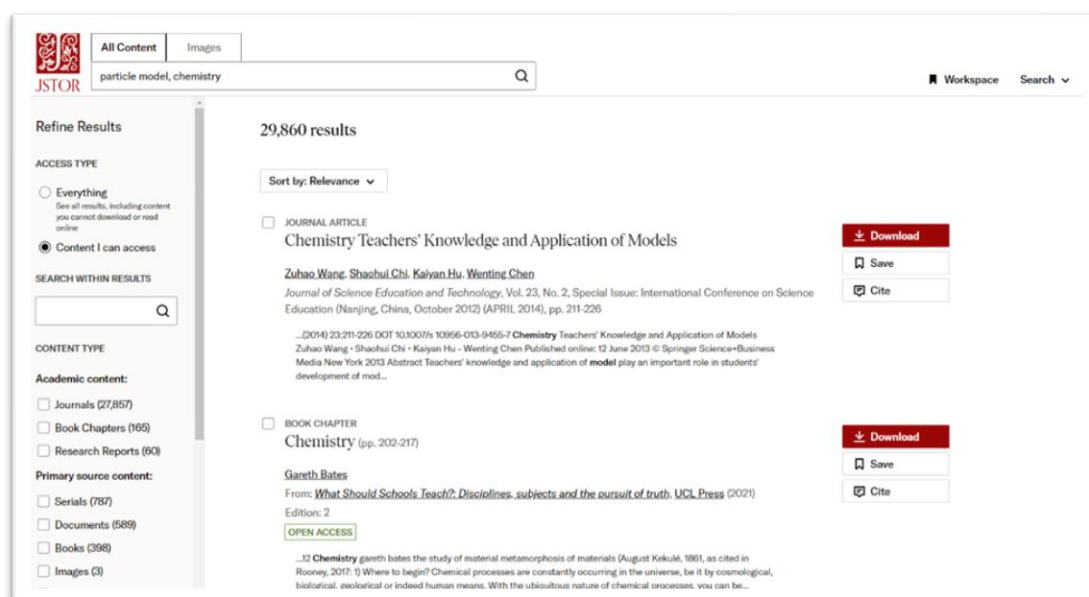


For engaging reading

[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.



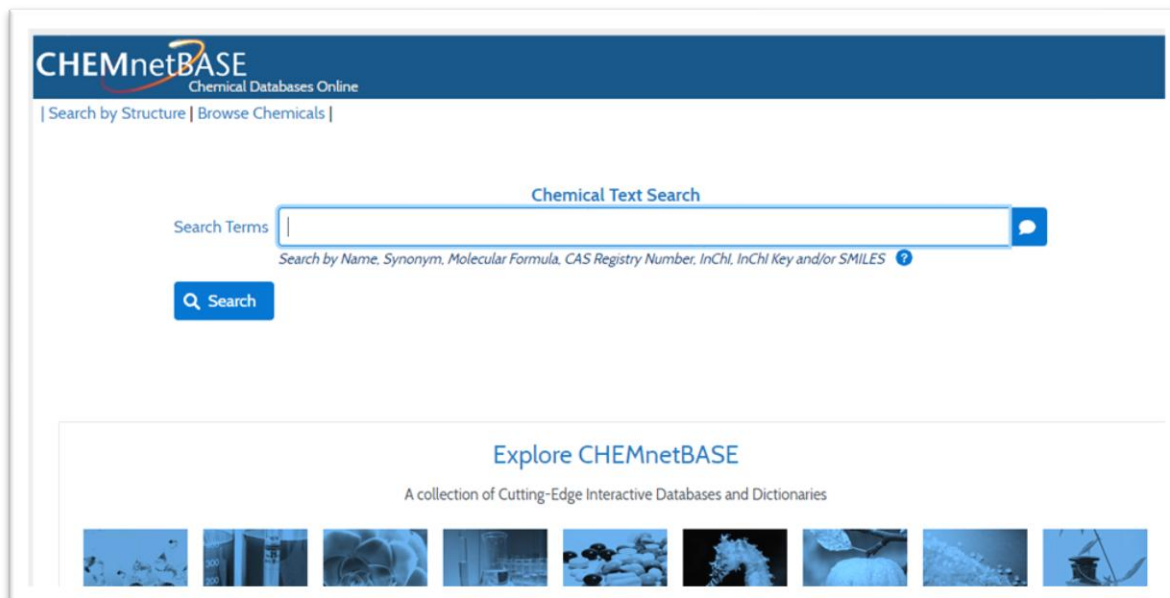
[JSTOR](#) provides access to more than 12 million scholarly journal articles and ebooks, and is especially good for primary sources.



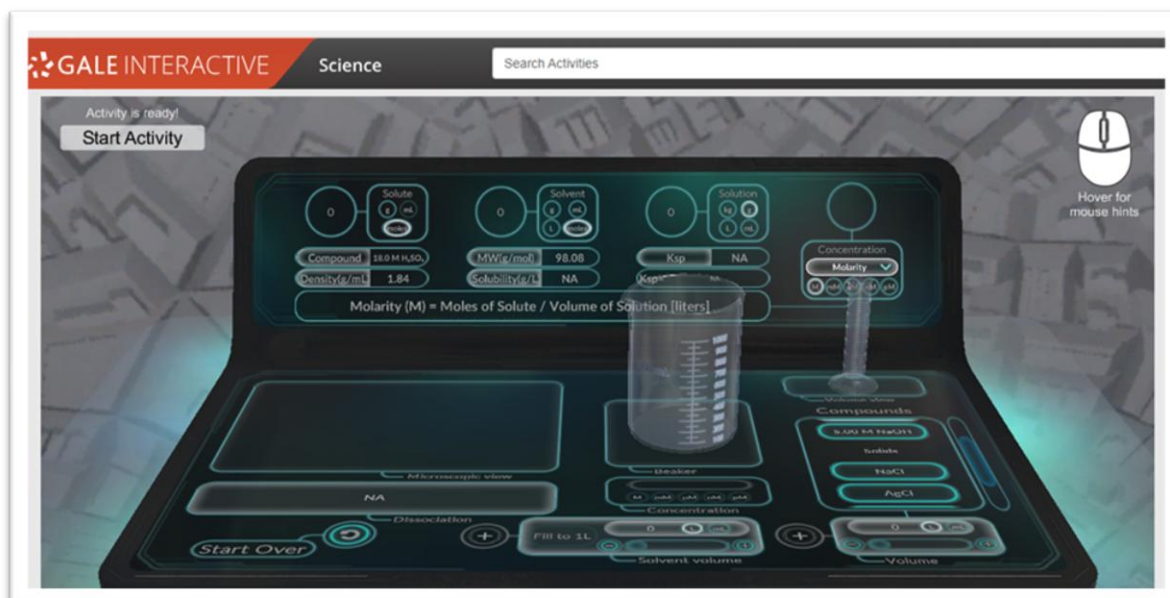
Specialist databases

Science

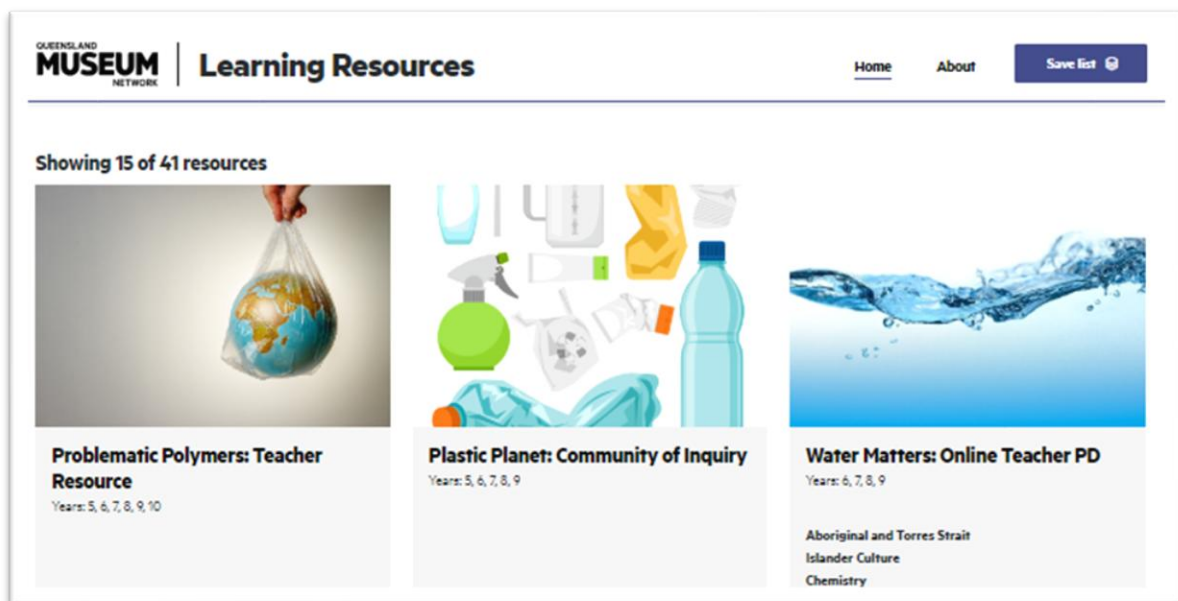
[CHEMnetBASE](#) provides a comprehensive database of chemicals and their uses, as well as chemical equations and properties.



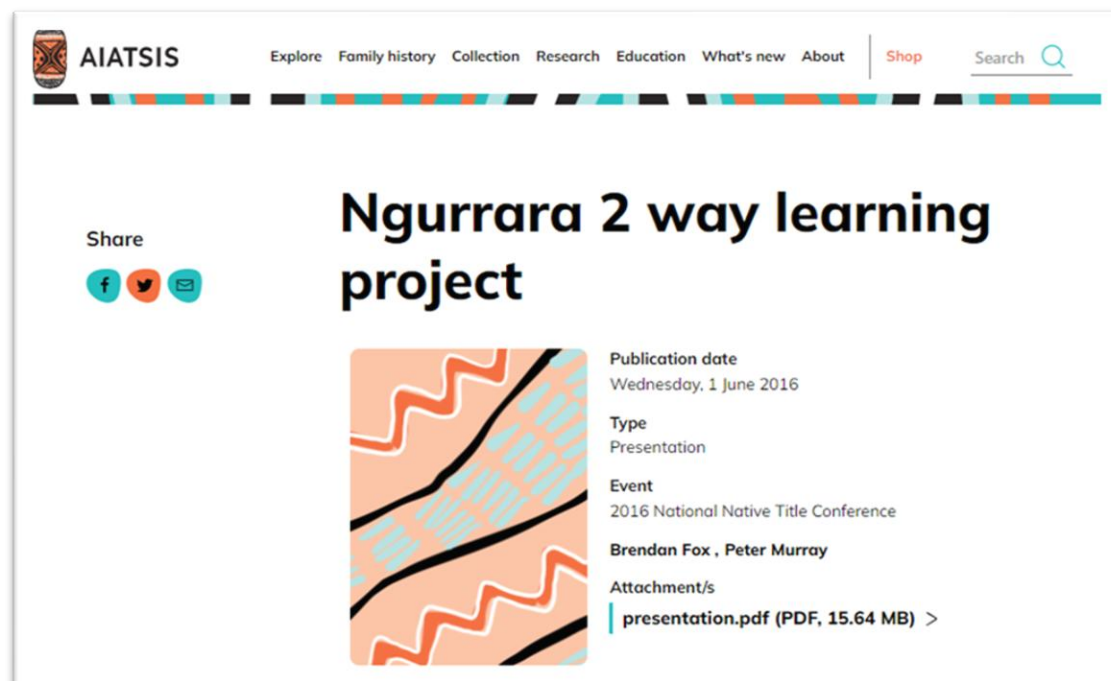
[Gale Interactive: Science](#) provides a comprehensive view of the most-studied science subjects. Authoritative, high-quality digital content is paired with interactive 3D models.



[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.



More research

Borrow items

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Ask a librarian

[State Library staff](#) are available to advise on keywords and search strategies and suggest databases to help you carry out independent research.

Please note that librarians can guide and support your research process, but they cannot complete your assessment, select sources for you or provide answers to assessment questions.