



STATE LIBRARY⁷
QUEENSLAND

Year 9

Earth Sciences

Student research guide

Cover: [Dallas Bond walking through a recently burnt patch of bush during a cool burn event, Cherbourg, 2024](#), Dean Saffron, [Photographs of cool burning at Cherbourg](#), State Library of Queensland. Image number: 34419-0001-0017.

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Copyright information for teachers

This research guide is designed for individual use by students.

Please note, due to licensing arrangements, State Library of Queensland'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 State Library. Information about joining 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. This type of material can easily be found, [searching State Library's One Search catalogue](#) using the "SLQ digitised collections" option in the dropdown menu.

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.

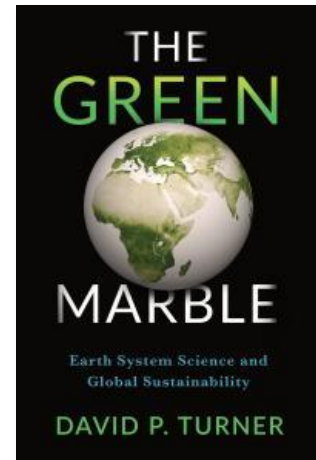
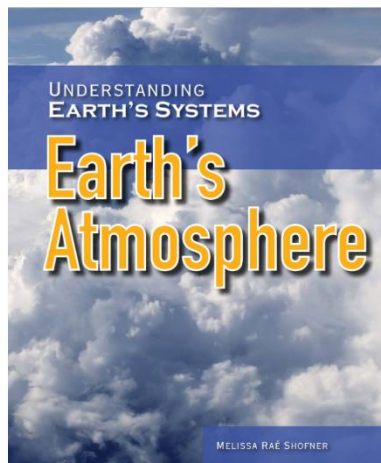
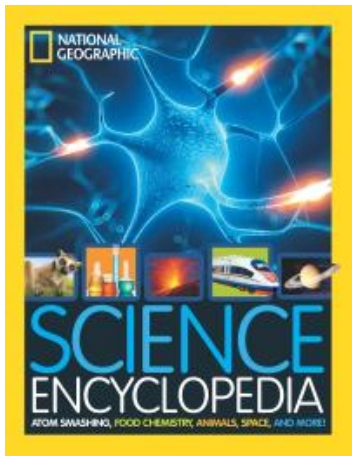
Student research with State Library

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

[Start module](#) 



Featured ebooks



This is an advanced reading resource

The Carbon Cycle

Represent the carbon cycle and examine how key processes including combustion, photosynthesis and respiration rely on interactions between Earth's spheres (the geosphere, biosphere, hydrosphere and atmosphere).

- Identifying Earth as a system, describing Earth's spheres and discussing examples of interactions between different spheres.
- Examining the carbon cycle using diagrams, animations or simulations and explaining the role of photosynthesis and respiration in that cycle.
- Identifying the impact of combustion reactions as a result of human activity on the carbon cycle.
- Investigating the greenhouse effect and relating it to the role carbon dioxide plays in maintaining temperatures that support life on Earth.
- Conducting a field investigation to evaluate carbon sequestration in an ecosystem, such as measuring tree biomass, deadwood, leaf litter and soil depth, and using formulas to calculate approximate carbon storage.
- Investigating how First Nations Australians use fire-mediated chemical reactions to facilitate energy and nutrient transfer through the practice of firestick farming.
- Investigating how First Nations Australians are reducing Australia's greenhouse gas emissions through the reinstatement of traditional fire management regimes.
- Identifying how carbon dioxide is captured and stored naturally or through the use of technologies.
- Calculating an individual's carbon footprint, examining the impact of human activities and suggesting strategies to reduce carbon dioxide emissions.

Featured databases

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

The screenshot shows the Oxford Reference website interface. At the top, there's a search bar and navigation links for 'Subject' and 'Reference Type'. Below the search bar, it says 'Oxford Reference Search Results'. On the left, there's a sidebar with 'Signed in as: State Library of Queensland' and a 'Narrow Your Choices' section with 'REFINE TERMS'. The main content area shows 'You are looking at 1-20 of 796 entries for: All: carbon cycle'. It includes a 'Did you mean carbon cycles' suggestion and a 'clear all' link. Below this, there are tabs for '796 ENTRIES' and '2 BOOKS'. The 'Overview' section for 'carbon cycle' is displayed, with the subject 'Science and technology, Physics' and a brief description: 'A series of nuclear reactions in which four hydrogen nuclei combine to form a helium nucleus with the liberation of energy, two positrons, and two neutrinos. The process is believed to be ...'.

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

The screenshot shows the Britannica Library website interface. At the top, there's a search bar and navigation links for 'Your Britannica Resources', 'Research Tools and Materials', 'Help', and 'My Britannica'. Below the search bar, it says 'You searched for "carbon cycle" DISPLAYING 1 - 6 OF 6 RESULTS.' There's a 'Reading Level' indicator showing levels 1, 2, and 3, with level 2 selected. Below this, there are tabs for 'Articles', 'Images', 'Videos', and 'More'. The main content area shows the first result, 'Earth (planet, third from the Sun)', with a sub-section for 'Carbon cycle'. The text describes the carbon cycle and its role in the atmosphere. It also mentions 'Earth's Cycles' and 'Biosphere'. At the bottom, there's a 'Natural Occurrence' section with a link to 'greenhouse effect (atmospheric science)'.

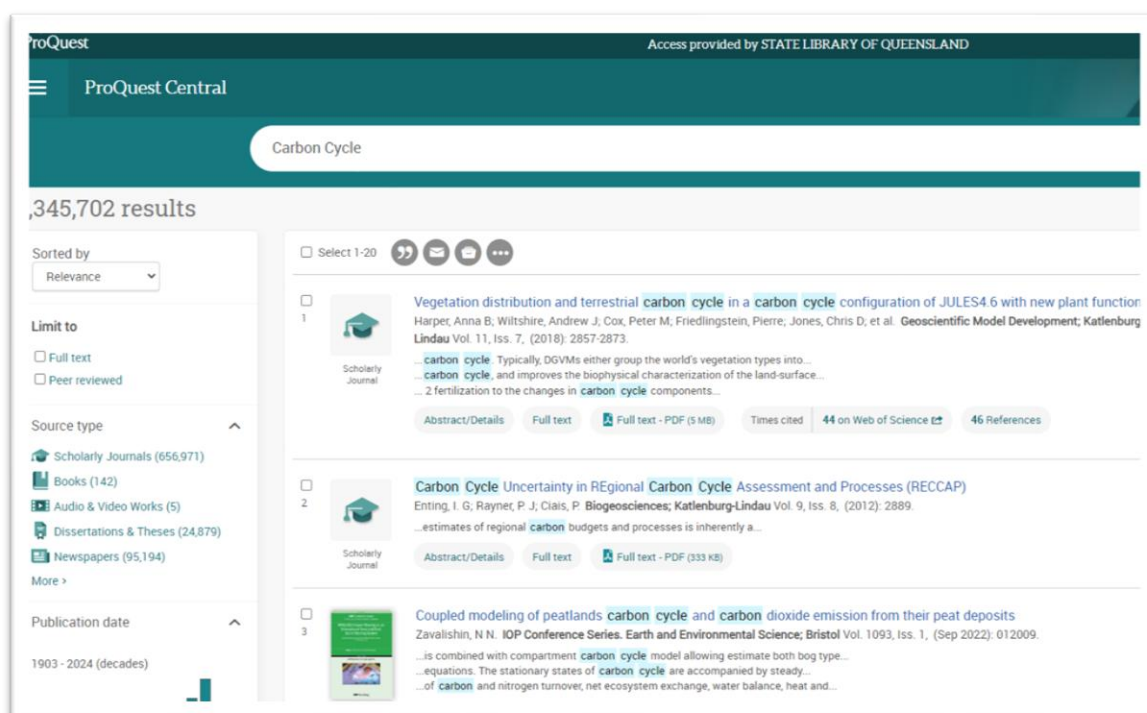
[National Geographic Virtual Library](#) is a powerful tool for research offering access to over 100+ years of magazines and hundreds of books, maps, videos, and images.

The screenshot shows the National Geographic Virtual Library search results for the keyword 'carbon cycle'. The page features a header with a large image of elephants and the text 'NATIONAL GEOGRAPHIC'. Below the header is a search bar with the text 'carbon cycle' and a magnifying glass icon. To the right of the search bar are links for 'Advanced Search', 'Browse Magazines', 'About', 'Explore Topics', and 'Search History'. The main content area displays 'SEARCH RESULTS FOR' followed by 'Content Types' (underlined), 'Featured Articles (2)', and 'Brief Articles (4)'. Below this, there is a section for 'CONTENT TYPES' with a search filter 'Keywords: carbon cycle' and a 'Revise Search' link. The 'FEATURED ARTICLES (2)' section shows a preview of 'The Case of the Missing Carbon' by Tim Appenzeller and Peter Essick, published in National Geographic Magazine in February 2004. To the right of the featured articles is a 'FILTER YOUR RESULTS' section with buttons for 'Subjects', 'Publication Title', 'Document Type', and 'Search Within'. Below this is a 'TOPIC FINDER' section with a 'Start the Topic Finder' button and a 'TERM FREQUENCY' section with a 'Term Frequency' button.

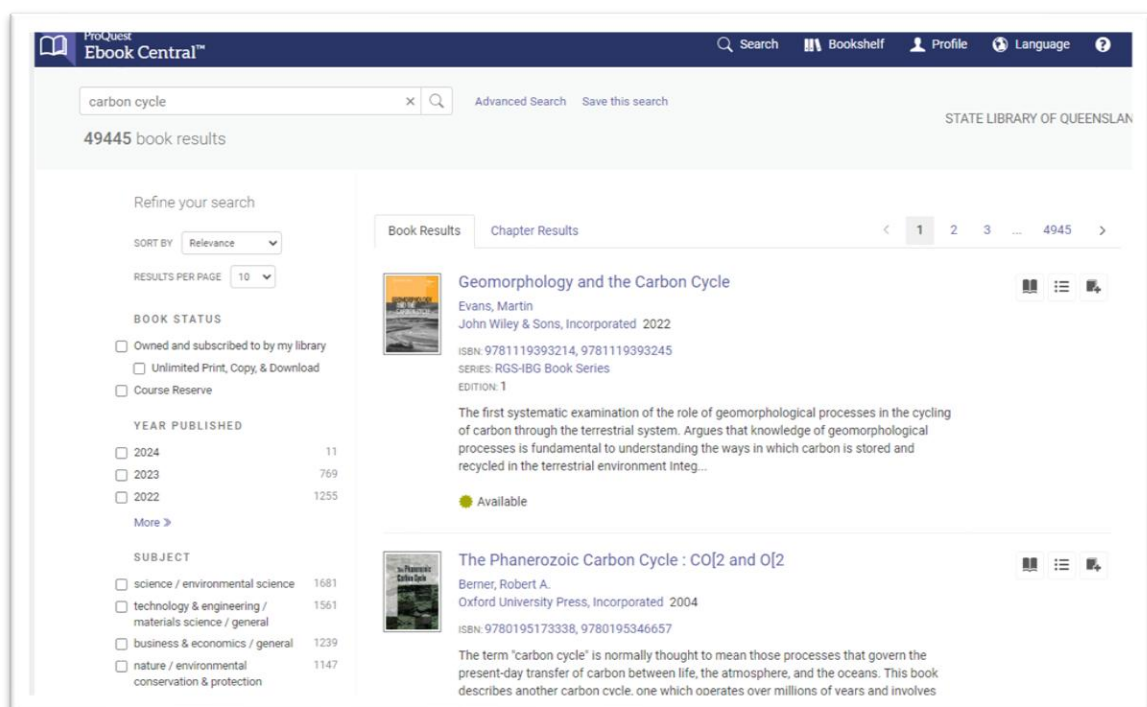
[Gale Interactive: Science](#) provides a comprehensive view of the most-studied science subjects. Authoritative, high-quality digital content is paired with interactive 3D models.

The screenshot shows the Gale Interactive: Science search results for the keyword 'Carbon Family'. The page features a header with a large image of a carbon atom and the text 'Gale Interactive: Science'. Below the header is a search bar with the text 'Carbon Family' and a magnifying glass icon. To the right of the search bar are links for 'Browse Magazines', 'About', 'Explore Topics', and 'Search History'. The main content area displays '5 SEARCH RESULTS'. The first result is 'Carbon Family', which includes a description of the interactive periodic table and links to various standards. The second result is 'Respiratory System: Lungs', which includes a description of the lungs and links to various standards. The third result is 'Law of Conservation of Mass: Calcium Carbonate', which includes a description of the law of conservation of mass and links to various standards. The fourth result is 'Respiratory System: Alveoli', which includes a description of the alveoli and links to various standards. The fifth result is 'Photosynthesis', which includes a description of the process and links to various standards. On the left side of the page is a 'FILTER BY CATEGORY' section with a list of categories and their counts: Biology (91), Chemistry (74), Earth Science (23), Common Core State Standards (213), Next Generation Science Standards (164), and Human Anatomy (35). Each category has a list of sub-categories with checkboxes.

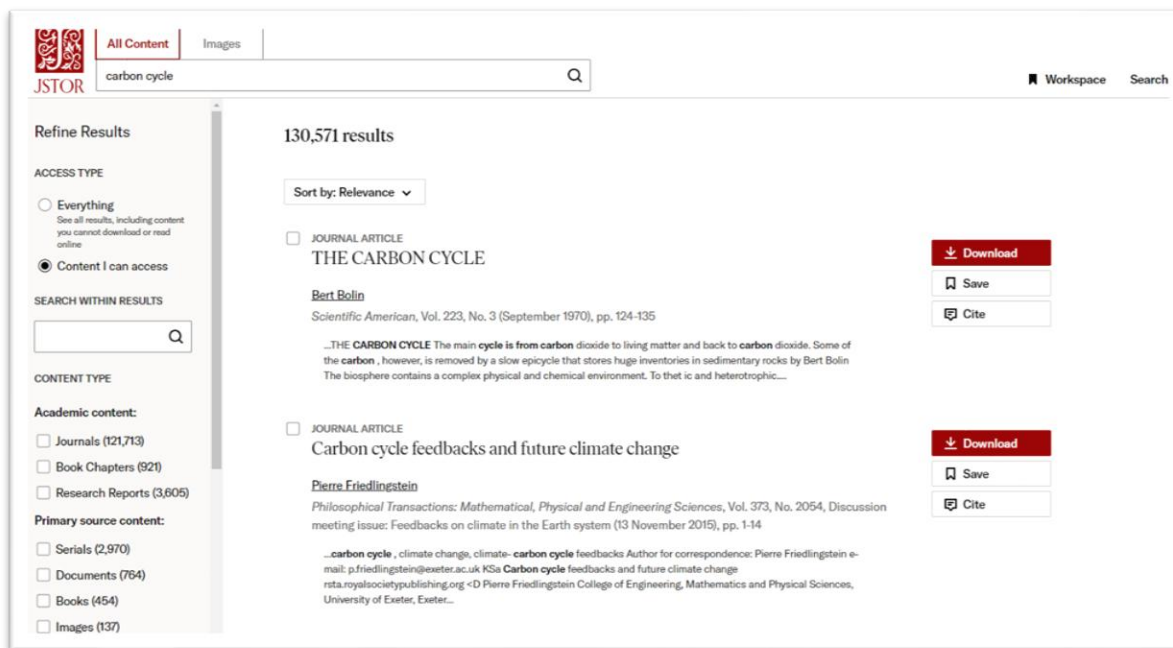
[ProQuest Central](#) brings together 47 databases across 175 subject areas, providing easy intuitive access to an incredibly broad and comprehensive range of content.



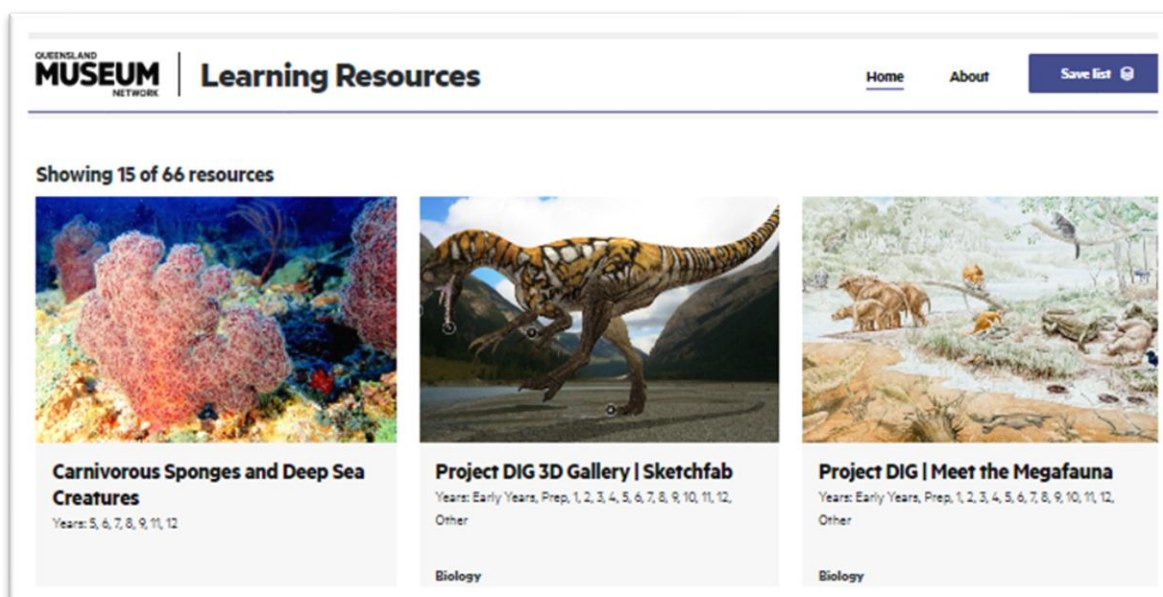
[ProQuest Ebook Central](#) Compiles a library of topic specific ebooks for you to access free through your State Library membership.



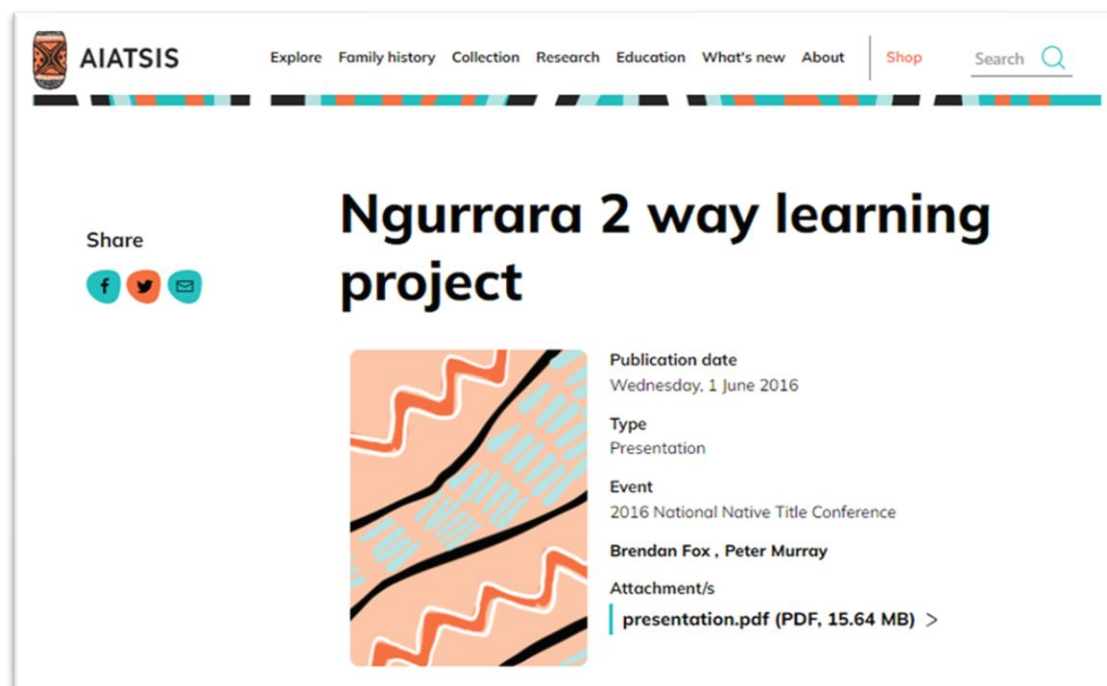
[JSTOR](#) provides access to more than 12 million scholarly journal articles and ebooks, and is especially good for primary sources.



[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

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

[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.