

STATE LIBRARY
OF QUEENSLAND

Year 9 Earth Sciences

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

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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.

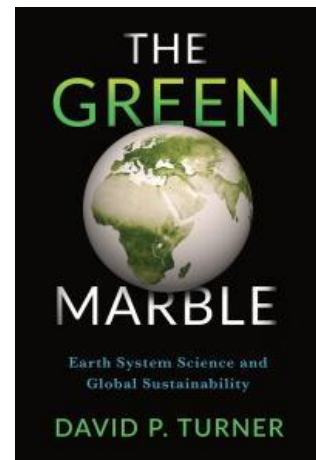
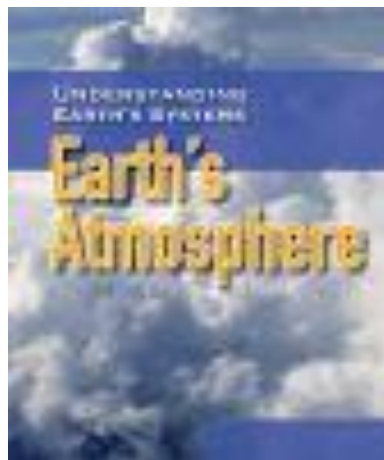
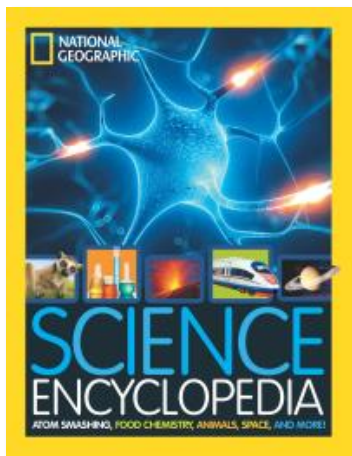
Before you get started

[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.

E-Books



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.

[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, the logo 'OXFORD Reference' is visible on the left, and a search bar is on the right. Below the logo, there are navigation tabs for 'Subject' and 'Reference Type'. On the right side of the header, there are links for 'My Content (0)' and 'My Searches (6)'. The main heading is 'Oxford Reference Search Results'. On the left, there is a sidebar with a 'Signed in as:' section for 'State Library of Queensland' and a 'Narrow Your Choices' section with a 'REFINE TERMS' dropdown. 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 filters for '796 ENTRIES' and '2 BOOKS', and a search bar with 'View: [grid icon] [list icon]', 'Items per page: 20', and 'Sort by: Relevance'. 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 for teens. At the top, the logo 'Britannica Library' is on the left, and a search bar is in the center. To the right of the search bar are links for 'Your Britannica Resources', 'Research Tools and Materials', 'Help', and 'My Britannica'. The main heading is 'You searched for "carbon cycle"'. Below this, it says 'DISPLAYING 1 - 6 OF 6 RESULTS.' There are navigation buttons for 'Reading Level' (1, 2, 3) and 'Advanced Search'. Below the search results, there are tabs for 'Articles', 'Images', 'Videos', and 'More'. The first result is 'Earth (planet, third from the Sun) - TOP 3 RESULTS. 2 MORE RESULTS IN EARTH.' Underneath, there are sections for 'Carbon cycle', 'Earth's Cycles', and 'Biosphere'. The 'Carbon cycle' section includes a definition: 'Carbon cycle | Carbon makes up only about 0.03 percent of Earth's crust by weight. Its principal form in the atmosphere— carbon dioxide —makes up only about ...'. The 'Earth's Cycles' section includes a definition: 'Earth's Cycles | Earth's materials are recycled in various ways through Earth's spheres. Life plays an essential role in many of these cycles, in effect regulating the environment, often in a way that is ...'. The 'Biosphere' section includes a definition: 'These phenomena are discussed in more detail below in several sections, including " Carbon Cycle " and " Carboniferous Period ." In recent decades, scientists ...'. The 'Natural Occurrence' section includes a definition: 'from the article greenhouse effect (atmospheric science) ☆ For example, plants absorb carbon dioxide through the process of photosynthesis. The full complement of processes that release and absorb ...'.

[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 'NATIONAL GEOGRAPHIC' and a search bar containing 'carbon cycle'. Below the search bar, there are navigation links: 'Browse Magazines', 'About', 'Explore Topics', and 'Search History'. The search results are categorized into 'Content Types', with 'Featured Articles (2)' and 'Brief Articles (4)' visible. A section titled 'INTENT TYPES' shows the search term 'carbon cycle' and a 'Revise Search' link. Below this, 'RELATED ARTICLES (2)' is displayed, featuring a preview for 'The Case of the Missing Carbon' by Tim Appenzeller and Peter Essick, published in National Geographic Magazine in February 2004. To the right, there are filters for 'SUBJECTS', 'PUBLICATION TITLE', 'DOCUMENT TYPE', and 'SEARCH WITHIN'. Further down, there are sections for 'TOPIC FINDER' and 'TERM FREQUENCY'.

[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 'Carbon Family'. On the left, there is a 'FILTER BY CATEGORY' sidebar with a tree view of subjects including Biology (91), Chemistry (74), Earth Science (23), Common Core State Standards (213), Next Generation Science Standards (164), and Human Anatomy (35). The main content area shows '5 SEARCH RESULTS'. The first result is 'Carbon Family', which includes an interactive periodic table and lists standards like NGSS-HS-PS1-1 and CCSS.ELA-Literacy.RST.9-10.2. The second result is 'Respiratory System: Lungs', featuring a 3D model of lungs and a description of gas exchange. The third result is 'Law of Conservation of Mass: Calcium Carbonate', with a 3D model of a reaction and a description of balanced equations. The fourth result is 'Respiratory System: Alveoli', with a 3D model of alveoli and a description of oxygen and carbon dioxide exchange. The fifth result is 'Photosynthesis', with a 3D model of a plant and a description of the process of capturing sunlight.

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

The screenshot shows the ProQuest Central interface. At the top, it says "Access provided by STATE LIBRARY OF QUEENSLAND". The search term "Carbon Cycle" is entered in the search bar. Below the search bar, it displays "345,702 results". On the left side, there are filters for "Sorted by" (set to Relevance), "Limit to" (Full text, Peer reviewed), "Source type" (Scholarly Journals: 656,971; Books: 142; Audio & Video Works: 5; Dissertations & Theses: 24,879; Newspapers: 95,194), and "Publication date" (1903 - 2024 decades). The main results area shows three items:

- Vegetation distribution and terrestrial carbon cycle in a carbon cycle configuration of JULES4.6 with new plant function** by Harper, Anna B., Wiltshire, Andrew J., Cox, Peter M., Friedlingstein, Pierre, Jones, Chris D., et al. *Geoscientific Model Development, Katlenburg Lindau* Vol. 11, Iss. 7, (2018): 2857-2873. Includes options for Abstract/Details, Full text, and Full text - PDF (5 MB). 44 on Web of Science, 46 References.
- Carbon Cycle Uncertainty in Regional Carbon Cycle Assessment and Processes (RECCAP)** by Enting, I. G., Rayner, P. J., Ciais, P. *Biogeosciences, Katlenburg-Lindau* Vol. 9, Iss. 8, (2012): 2889. Includes options for Abstract/Details, Full text, and Full text - PDF (333 KB).
- Coupled modeling of peatlands carbon cycle and carbon dioxide emission from their peat deposits** by Zavalishin, N. N. *IOP Conference Series. Earth and Environmental Science, Bristol* Vol. 1093, Iss. 1, (Sep 2022): 012009. Includes options for Abstract/Details, Full text, and Full text - PDF (333 KB).

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

The screenshot shows the ProQuest Ebook Central interface. The search term "carbon cycle" is entered in the search bar. It displays "49445 book results". On the left side, there are filters for "Refine your search" including "SORT BY" (Relevance), "RESULTS PER PAGE" (10), "BOOK STATUS" (Owned and subscribed to by my library, Unlimited Print, Copy, & Download, Course Reserve), "YEAR PUBLISHED" (2024: 11, 2023: 769, 2022: 1255), and "SUBJECT" (science / environmental science: 1681, technology & engineering / materials science / general: 1561, business & economics / general: 1239, nature / environmental conservation & protection: 1147). The main results area shows two books:

- Geomorphology and the Carbon Cycle** by Evans, Martin. John Wiley & Sons, Incorporated 2022. ISBN: 9781119393214, 9781119393245. SERIES: RGS-HBG Book Series. EDITION: 1. The first systematic examination of the role of geomorphological processes in the cycling of carbon through the terrestrial system. Argues that knowledge of geomorphological processes is fundamental to understanding the ways in which carbon is stored and recycled in the terrestrial environment integ... Available.
- The Phanerozoic Carbon Cycle : CO₂ and O₂** by Berner, Robert A. Oxford University Press, Incorporated 2004. ISBN: 9780195173338, 9780195346657. The term 'carbon cycle' is normally thought to mean those processes that govern the present-day transfer of carbon between life, the atmosphere, and the oceans. This book describes another carbon cycle, one which operates over millions of years and involves

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

The screenshot shows the JSTOR search results page for the query 'carbon cycle'. The page displays 130,571 results. On the left, there is a 'Refine Results' sidebar with options for 'ACCESS TYPE' (Everything, Content I can access), 'SEARCH WITHIN RESULTS', and 'CONTENT TYPE' (Academic content: Journals, Book Chapters, Research Reports; Primary source content: Serials, Documents, Books, Images). The main results area shows two journal articles. The first is 'THE CARBON CYCLE' by Bert Bolin, published in *Scientific American*, Vol. 223, No. 3 (September 1970), pp. 124-135. The second is 'Carbon cycle feedbacks and future climate change' by Pierre Friedlingstein, published in *Philosophical Transactions: Mathematical, Physical and Engineering Sciences*, Vol. 373, No. 2054, Discussion meeting issue: Feedbacks on climate in the Earth system (13 November 2015), pp. 1-14. Each article has a 'Download' button, a 'Save' button, and a 'Cite' button.

[Queensland Museum](#) provide Learning Resources website students with many activities, fact sheets, images, and videos.

The screenshot shows the Queensland Museum Learning Resources website. The header includes the Queensland Museum Network logo, the text 'Learning Resources', and navigation links for 'Home', 'About', and 'Save list'. Below the header, it says 'Showing 15 of 66 resources'. Three resource cards are visible: 'Carnivorous Sponges and Deep Sea Creatures' (Years: 5, 6, 7, 8, 9, 11, 12), 'Project DIG 3D Gallery | Sketchfab' (Years: Early Years, Prep, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Other), and 'Project DIG | Meet the Megafauna' (Years: Early Years, Prep, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Other). Each card features a representative image and is categorized under 'Biology'.

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.

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Ngurrara 2 way learning project

Publication date
Wednesday, 1 June 2016

Type
Presentation

Event
2016 National Native Title Conference

Brendan Fox , Peter Murray

Attachment/s
presentation.pdf (PDF, 15.64 MB) >

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