



STATE LIBRARY⁷
QUEENSLAND

Year 10

Physical Sciences

Student research guide

Cover: [Ted Elms winning pole vault at Lang Park, Brisbane 1949, 28118, Sunday Truth and Sunday Sun Newspaper Photographic Negatives](#), State Library of Queensland. Image number: 28118-0001-0995.

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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.

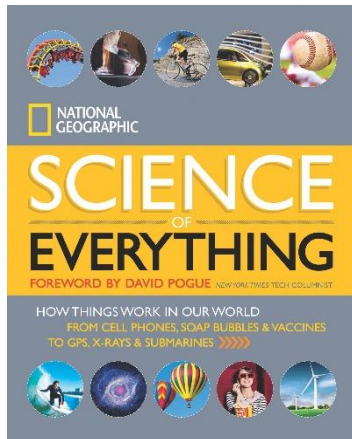
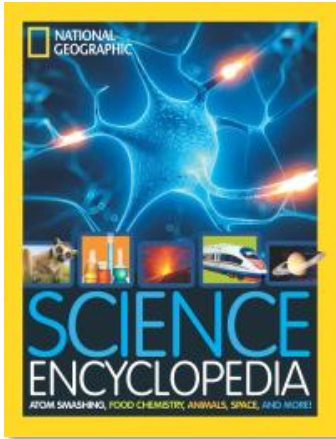
Student research with State Library

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

[Start module](#) 



Featured ebooks



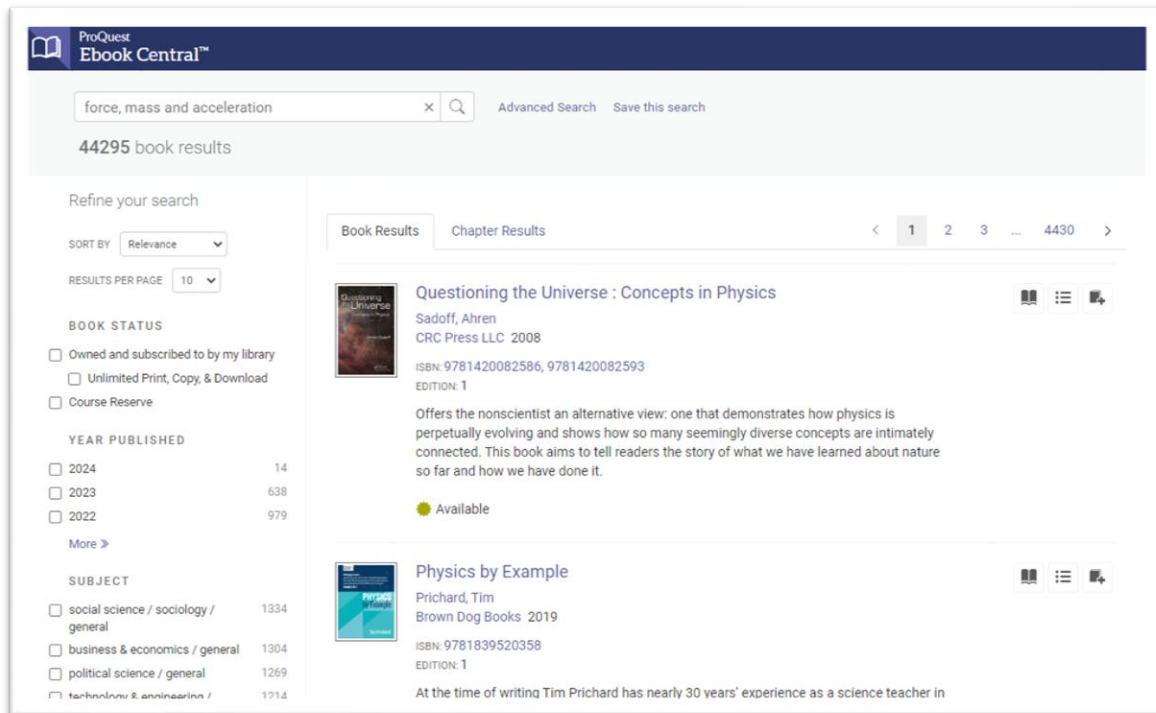
Newton's Laws of Motion

Investigate Newton's laws of motion and quantitatively analyse the relationship between force, mass and acceleration of objects.

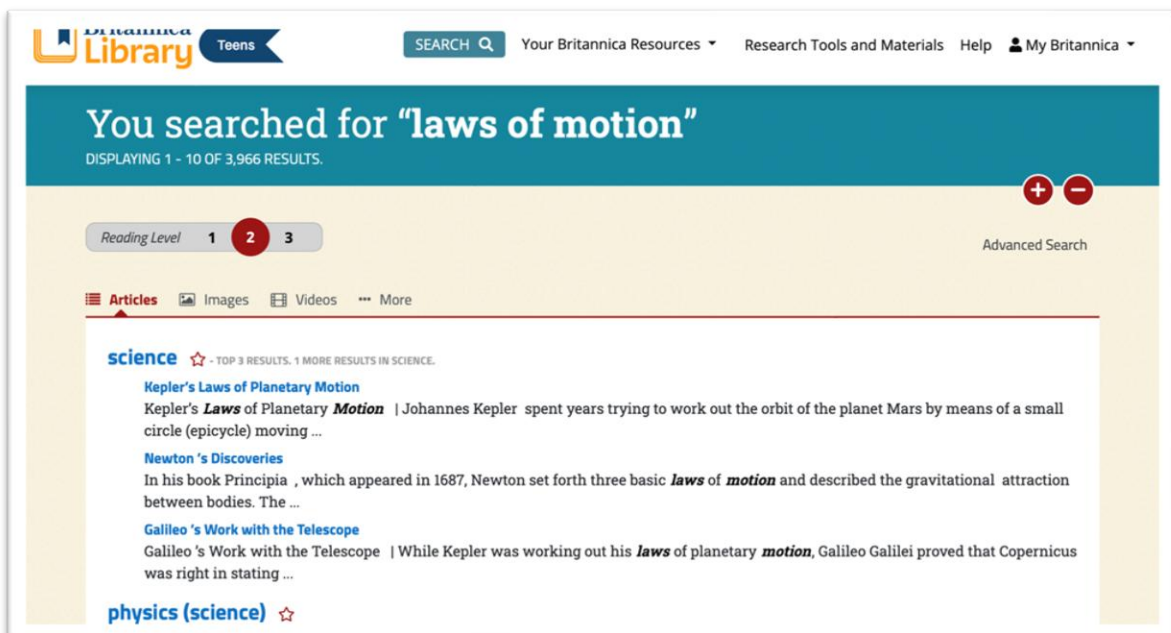
- Investigating a moving object to analyse and propose relationships between distance and time, speed, force and acceleration.
- Using mathematical representations including graphs and algebraic formulas to quantitatively relate force, speed, acceleration and mass.
- Investigating how First Nations Australians achieve an increase in speed and subsequent impact force through the use of spearthrowers and bows.
- Modelling how a change in net force acting on an object affects its motion and relating to the purpose of safety features such as seatbelts, airbags and crumple zones in vehicles.
- Investigating the application of Newton's laws in sport and how these are applied to improve an athlete's performance or safety.
- Constructing an argument, supported by data, to support lower speed limits near schools or for trucks in urban environments.
- Investigating how driverless vehicles apply Newton's laws of motion to brake in time.

Featured databases

[ProQuest Ebook Central](#) is a database of ebooks free to access through your State Library Membership.



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



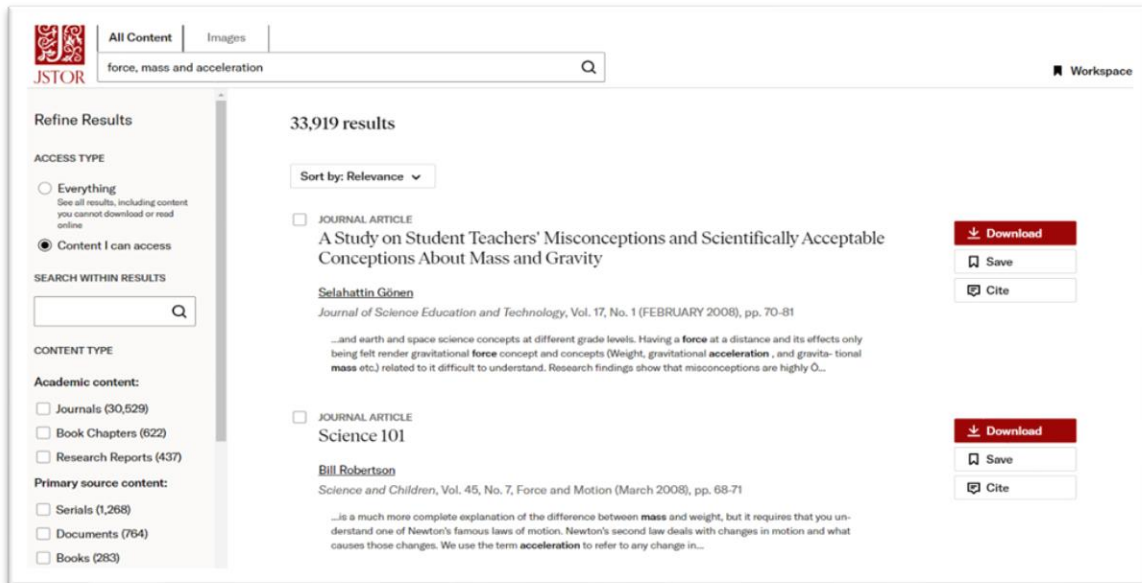
[Oxford Reference](#) spans 25 different subject areas, bringing together 2 million digitised entries across Oxford University Press's dictionaries, companions, and encyclopedias.

The screenshot shows the Oxford Reference search results page. At the top, the 'Oxford Reference' logo is on the left, and a search bar is on the right. Below the logo, there are tabs for 'Subject' and 'Reference Type'. The search results are displayed under the heading 'Oxford Reference Search Results'. On the left, there is 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 137 entries for: All: force, mass and acceleration x Science and technology x'. Below this, there are filters for '137 ENTRIES' and '1 BOOKS', and a 'View' section with 'Items per page: 20' and 'Sort by: Relevance'. The first result is 'gravity', with a reference type of 'Overview Page' and a subject of 'Science and technology'. The definition provided is: '1 the attractive force that moves or tends to move bodies towards the centre of any celestial body such as the earth or the moon. 2 the attribute of having weight.[...]'.

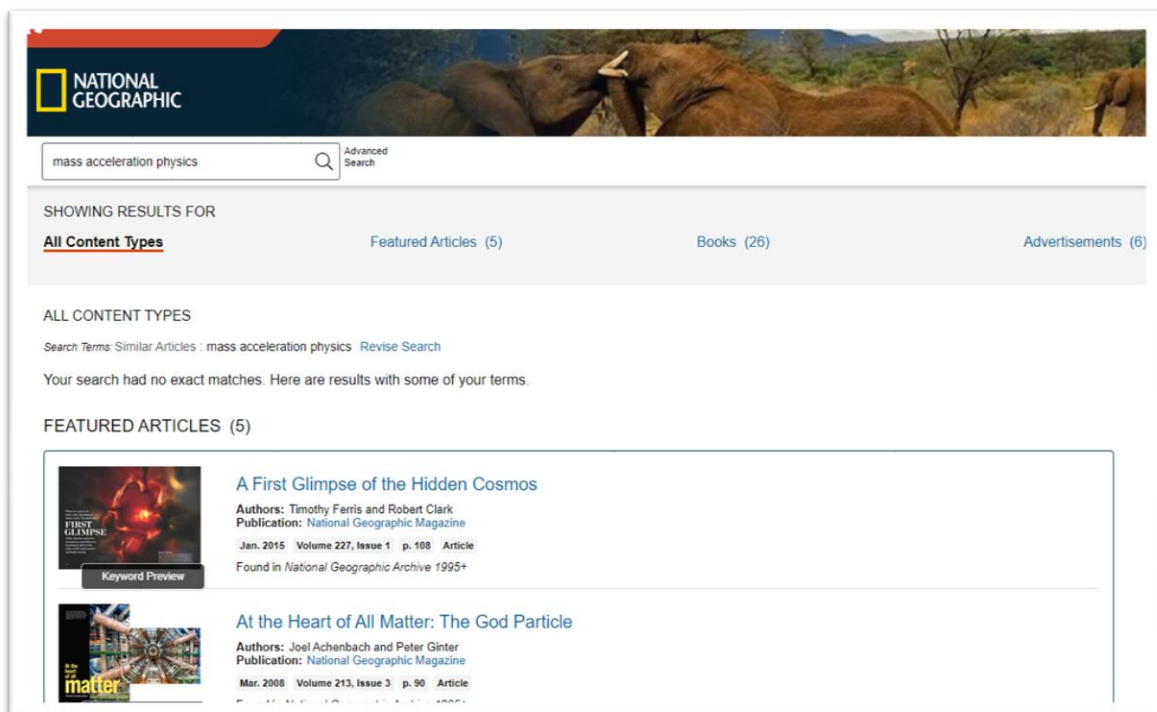
[ProQuest Central](#) brings together 47 databases across 175 subject areas, providing easy intuitive access to an incredibly broad and comprehensive range of content.

The screenshot shows the ProQuest Central search results page. At the top, the 'ProQuest' logo is on the left, and 'Access provided by STATE LIBRARY OF QUEENSLAND' is on the right. Below the logo, there is a search bar with the text 'force, mass and acceleration'. The search results are displayed under the heading '268,258 results'. On the left, there is a sidebar with 'Sorted by: Relevance', 'Limit to' (Full text, Peer reviewed), 'Source type' (Scholarly Journals (156,661), Books (41), Audio & Video Works (2), Dissertations & Theses (14,476), Newspapers (7,076)), and 'Publication date' (1016 - 2024 (decades)). The main content area shows a list of results. The first result is 'McKeon's Law of Motion; Lack of Force x Mass = Marlin's Acceleration: [FINAL Edition]' by Shipley, Amy, from 'The Washington Post', dated 09 Sep 2003. The second result is 'Gravito-diamagnetic forces for mass independent large spatial superpositions' by Zhou, Run, Marshman, Ryan J, Bose, Sougato, Mazumdar, Anupam, from 'arXiv.org: Ithaca', dated Dec 1, 2023. The third result is 'The unsteady aerodynamics of insect wings with rotational stroke accelerations, a systematic numerical study' by van Veen, Wouter G, van Leeuwen, Johan L, van Oudheusden, Bas W, Muijres, Florian T, from 'Journal of Fluid Mechanics', dated (Apr 2022).

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



[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 [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.

The screenshot shows the AIATSIS website interface. At the top, there is a navigation bar with the AIATSIS logo and links for Explore, Family history, Collection, Research, Education, What's new, and About. A 'Shop' link and a search bar are also present. The main content area features the title 'Ngurrara 2 way learning project' in large, bold text. To the left of the title are social media share icons for Facebook, Twitter, and Email. Below the title is a square image with a traditional Indigenous pattern of orange, black, and white wavy lines. To the right of the image, there is a list of details: 'Publication date: Wednesday, 1 June 2016', 'Type: Presentation', 'Event: 2016 National Native Title Conference', 'Brendan Fox, Peter Murray', and 'Attachment/s: presentation.pdf (PDF, 15.64 MB) >'. A 'Share' button is located above the social media icons.

[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 logo, the text 'Learning Resources', and links for Home, About, and a Save list button. The main section is titled 'Explore our resources' and features a search bar. Below the search bar are four filter buttons: '10 - 12', 'Physics', 'All types', and 'All museums', each with a dropdown arrow. A 'Clear filter' link is also present. A paragraph of text describes the resources: 'Queensland Museum's Learning Resources website provides teachers and educators with practical, high-quality, and engaging resources to use in the classroom. While targeted at educators, there are many activities, fact sheets, images, videos, and loans kits relevant to parents, carers and many other members of the community.' At the bottom, it says 'Showing 6 of 6 resources' and displays three thumbnail images of educational resources.

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.

Visit State Library with your class

Ask your teacher to [bring your classroom to State Library](#) and explore exhibitions, research for your assessments or undertake independent study.