



STATE LIBRARY⁷
QUEENSLAND

Year 8

Earth Sciences

Student research guide

Unit 1 – Plate Tectonics

Unit 2 – The Rock Cycle

Cover: [Aerial view of the open cut Hayricks opal mine, 2008](#), Len Cram, [Len Cram photographs of Hayricks Opal Mine](#), State Library of Queensland. Image number: 32258-0001-0016. [CC-BY-NC-SA 4.0](#)



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- [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.

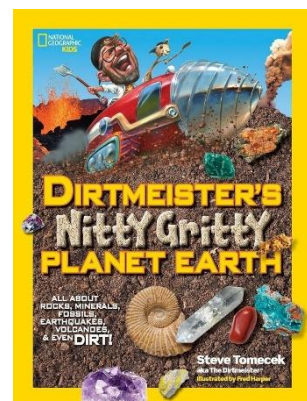
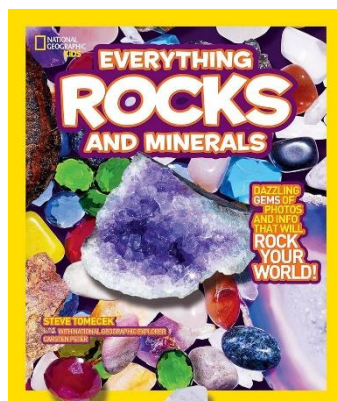
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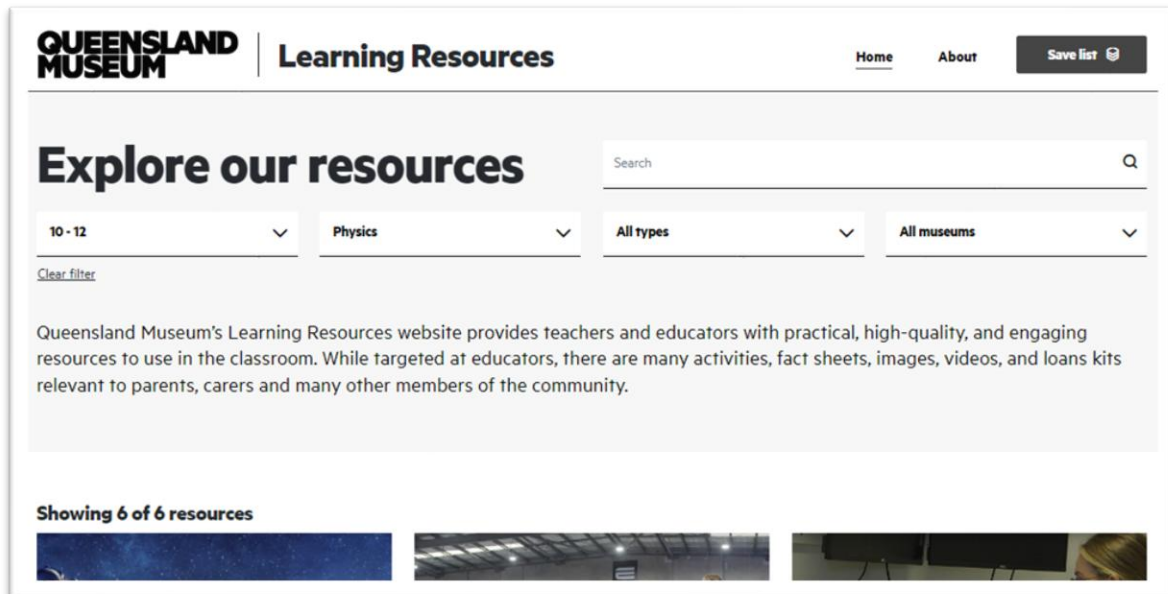


Featured ebooks



Featured databases

[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.

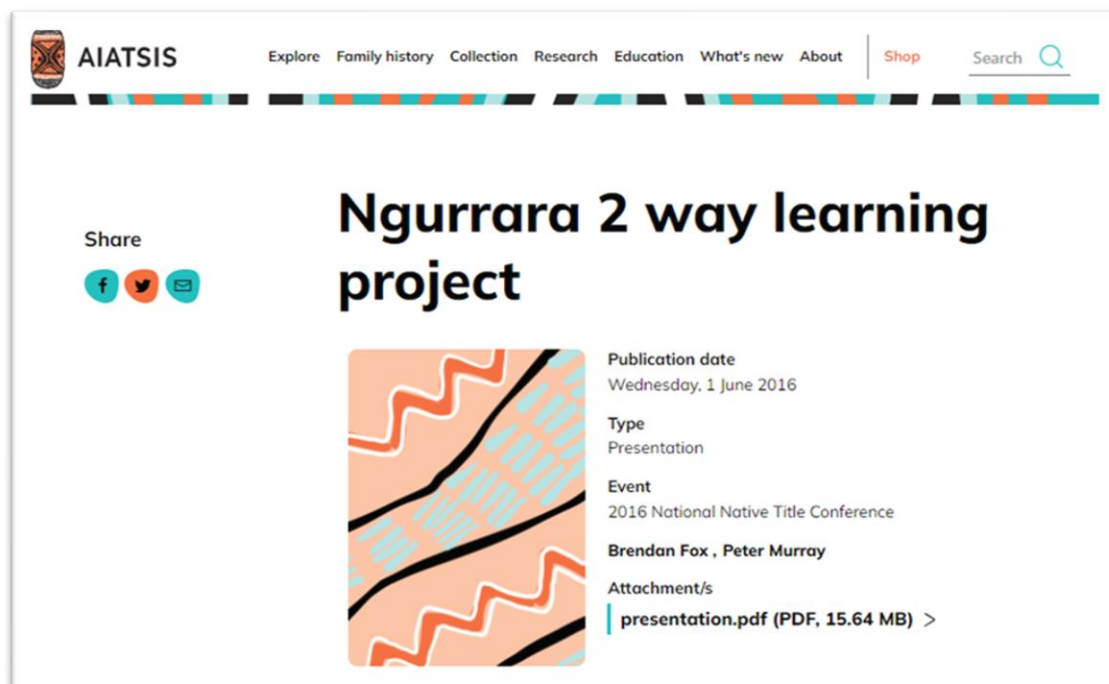


Plate Tectonics

Investigate tectonic activity including the formation of geological features at divergent, convergent and transform plate boundaries and describe the scientific evidence for the theory of plate tectonics

- Examining patterns of earthquake and volcanic activity over time and proposing explanations.
- Evaluating the impact of tectonic events on human populations and examining engineering solutions designed to reduce the impact.
- Modelling interactions at plate boundaries.
- Investigating the relative significance of different forces involved in tectonic plate movement including slab pull, ridge push and convection.
- Relating the extreme age and stability of a large part of the Australian continent to its plate tectonic history.
- Constructing a timeline of evidence to show the development of the theory of plate tectonics.
- Exploring how geologist and oceanographic cartographer Marie Tharp's topographic maps of the Atlantic ocean floor provided support for the acceptance of the theory of plate tectonics.
- Researching First Nations Australians' cultural accounts that provide evidence of earthquakes and volcanoes.

Featured databases

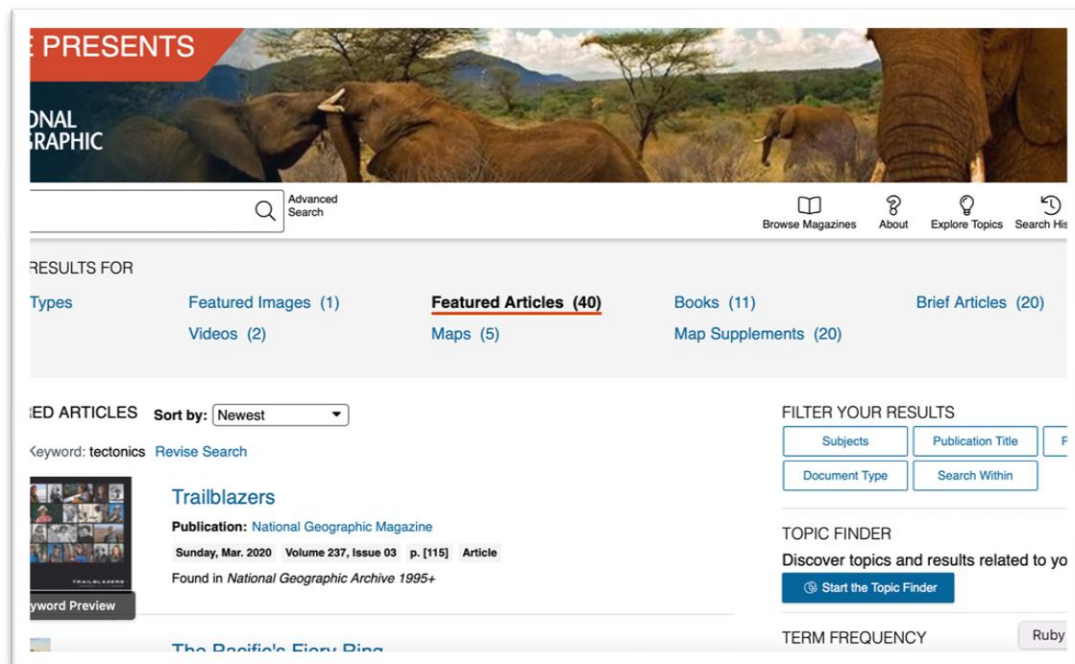
[Oxford Reference](#) spans 25 different subject areas, bringing together 2 million digitised entries across Oxford University Press's dictionaries, companions, and encyclopedias.

The screenshot shows the Oxford Reference website interface. At the top, 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 page is titled 'Oxford Reference Search Results'. On the left, there's a sidebar with 'Signed in as: State Library of Queensland' and a 'Sign in to an additional subscriber account' button. Below that, a 'Narrow Your Choices' section shows 'REFINE TERMS' with a dropdown menu set to 'All' and a search bar containing 'plate tectonics'. The main content area shows 'You are looking at 1-20 of 571 entries for: All: plate tectonics'. There's a 'Did you mean tectonic plates' suggestion with a 'clear all' link. Below this, there are tabs for '571 ENTRIES' and '2 BOOKS'. The 'View' section shows 'Items per page: 20' and 'Sort by: Relevance'. The 'OVERVIEW' section for 'plate tectonics' includes the subject 'Science and technology, Earth Sciences and Geography' and a brief description: 'The concept that the Earth's lithosphere consists of a number of distinct oceanic and continental plates, whose relative positions alter over the course of geological time, driven by ...'.

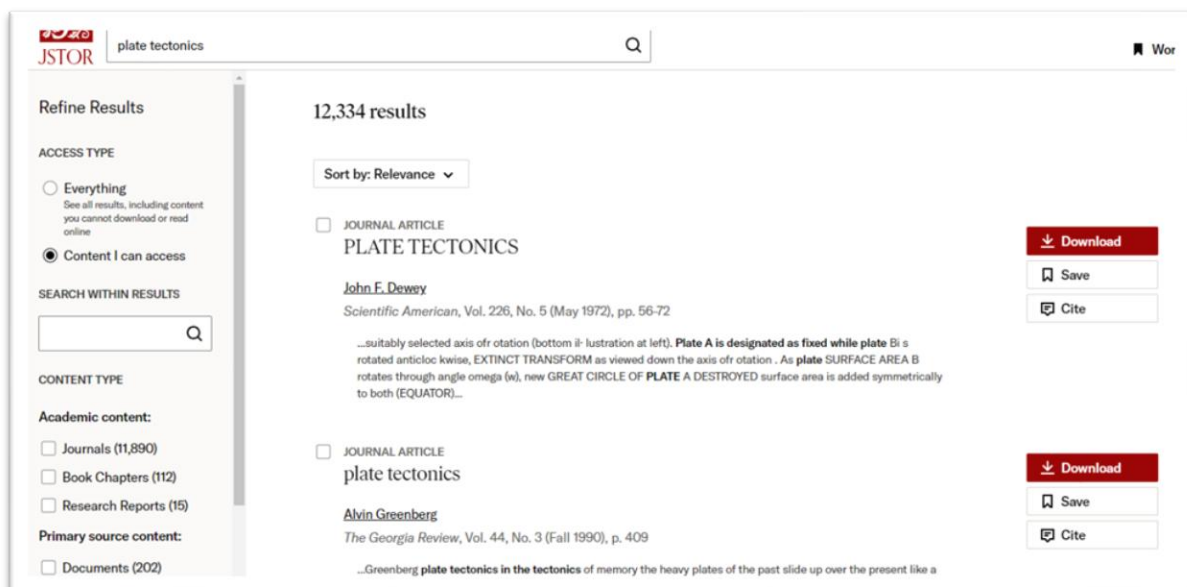
The [Britannica Library](#) has articles, images and more, with a selection of resources especially for teenagers.

The screenshot shows the Britannica Library website interface. At the top, the 'Britannica Library' logo is on the left, and a search bar is on the right. Below the logo, there's a 'Teens' tab. The search results page is titled 'You searched for "plate tectonics"'. Below this, it says 'DISPLAYING 1 - 10 OF 41 RESULTS.' There's a 'Reading Level' section with tabs for '1', '2', and '3', where '2' is selected. On the right, there's an 'Advanced Search' button. Below the 'Reading Level' section, there are tabs for 'Articles', 'Images', 'Videos', and 'More'. The 'Articles' tab is selected, showing a list of results. The first result is 'plate tectonics (geology)' with a star icon. Below it, there's a brief description: 'plate tectonics | The modern theory of the motions of Earth's outer layers is called plate tectonics. It provides a framework for understanding many of ...'. The second result is 'Earth (planet, third from the Sun)' with a star icon. Below it, there's a brief description: 'Earth (planet, third from the Sun) - TOP 3 RESULTS. 2 MORE RESULTS IN EARTH.' The 'Plate Tectonics' section includes a brief description: 'Plate Tectonics | A number of distinctive features on Earth beg for an explanation. Earthquakes and volcanoes are concentrated in certain regions of the world ...'. The 'Water cycle' section includes a brief description: 'As the various plates of the lithosphere move, the seafloor on one plate is sometimes pushed against the edge of a continent on another. The denser oceanic crust is forced under ...'.

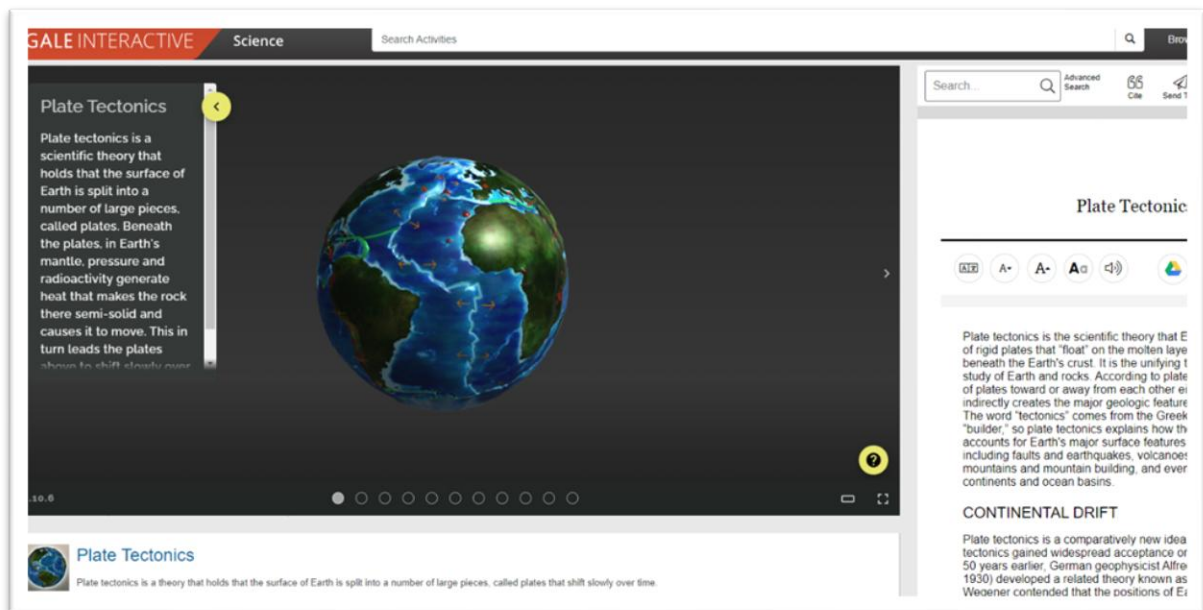
[National Geographic Virtual Library](#) is a powerful tool for research offering access to over 100+ years of magazines and hundreds of books, maps, videos, and images.



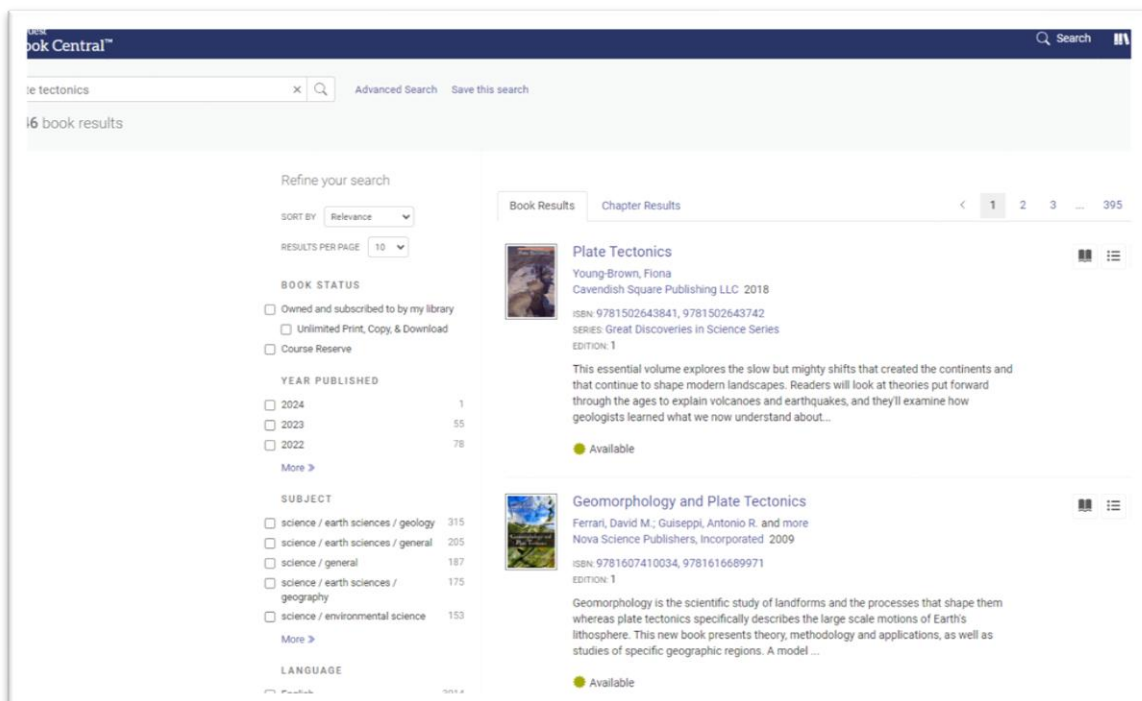
[JSTOR](#) provides access to more than 12 million scholarly journal articles and ebooks, and is especially good for primary sources.



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



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



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 for the query 'plate tectonics'. The page header indicates 'Access provided by STATE LIBRARY OF QUEENSLAND'. The search results are displayed in a list format, with filters on the left and a bar chart showing publication dates from 1953 to 2024. The results include three main entries:

- 1. OUR PATCHWORK PLANET: The Story of Plate Tectonics**
Kirkus Reviews; Austin Iss. 8, (Apr 15, 1995)
... A comprehensive introduction to plate tectonics, written in a...
... of tectonic plates, of continents and mountains, and the various ways of dealing...
Trade Journal
Abstract/Details Full text
- 2. PLATE TECTONICS: The Insiders' History of the Modern Theory of the Earth**
Kirkus Reviews; Austin Iss. 23, (Dec 1, 2001)
... Firsthand reports of the birth of modern plate tectonics, the once...
... tectonics' would join the revolution only much later.) Though many of the...
... theory of the existence of the Juan de Fuca plate, Neil Opdyke (who studied...
Trade Journal
Abstract/Details Full text
- 3. Plate tectonics in the twenty-first century**
Zheng, Yong-Fei. Science China. Earth Sciences; Dordrecht Vol. 66, Iss. 1, (Jan 2023): 1-40.
... tectonics through lithospheric subduction...
... remote effect. Thus, plate tectonics is recognizable in rock records produced by...
... tectonics are associated with a series of plate divergent-convergent coupling...
Scholarly Journal
Abstract/Details Full text - PDF (3 MB) Times cited 14 on Web of Science 297 References

At the bottom, a snippet of a fourth result is visible: "It changed how we understand the world: A revolutionary theory of plate tectonics came out of Newfoundland - but that isn't all".

The Rock Cycle

Describe the key processes of the rock cycle, including the timescales over which they occur, and examine how the properties of sedimentary, igneous and metamorphic rocks reflect their formation and influence their use.

- Comparing the observable properties of different types of rocks and identifying them using a provided dichotomous key.
- Exploring the major processes of the rock cycle including weathering, erosion, deposition, melting, crystallisation, uplift, heat and pressure in the formation of different types of rocks.
- Analysing the role of forces and heat energy in the formation of different types of rocks and comparing how quickly or slowly different processes can occur.
- Examining fossil evidence, such as body, trace or opalised fossils, to predict how and when a rock was formed.
- Explaining the uses of different types of rocks with reference to their properties and formation.
- Exploring the traditional geological knowledges of first nations australians that are used in the selection of different rock types for different purposes.
- Investigating how first nations australians have used quarrying to access rocks for use as or production of everyday objects such as grindstones, hammerstones, anvils and cutting tools.
- Exploring how the mining of ores and minerals impacts on local environments and examining environmental rehabilitation initiatives.

Featured databases

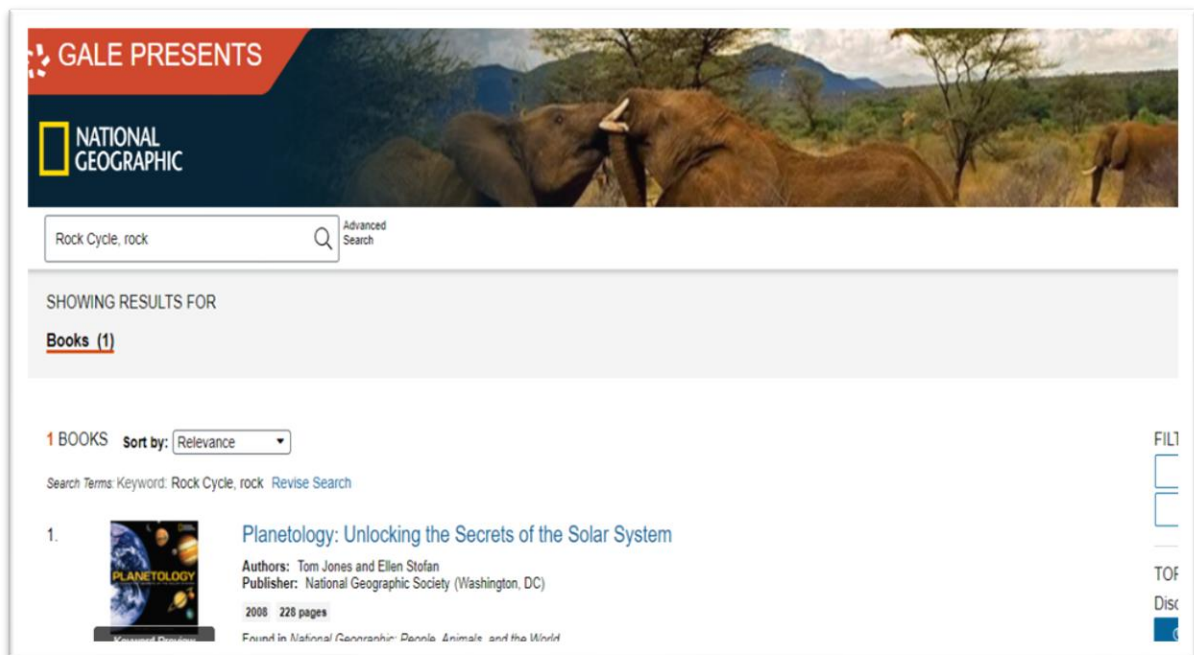
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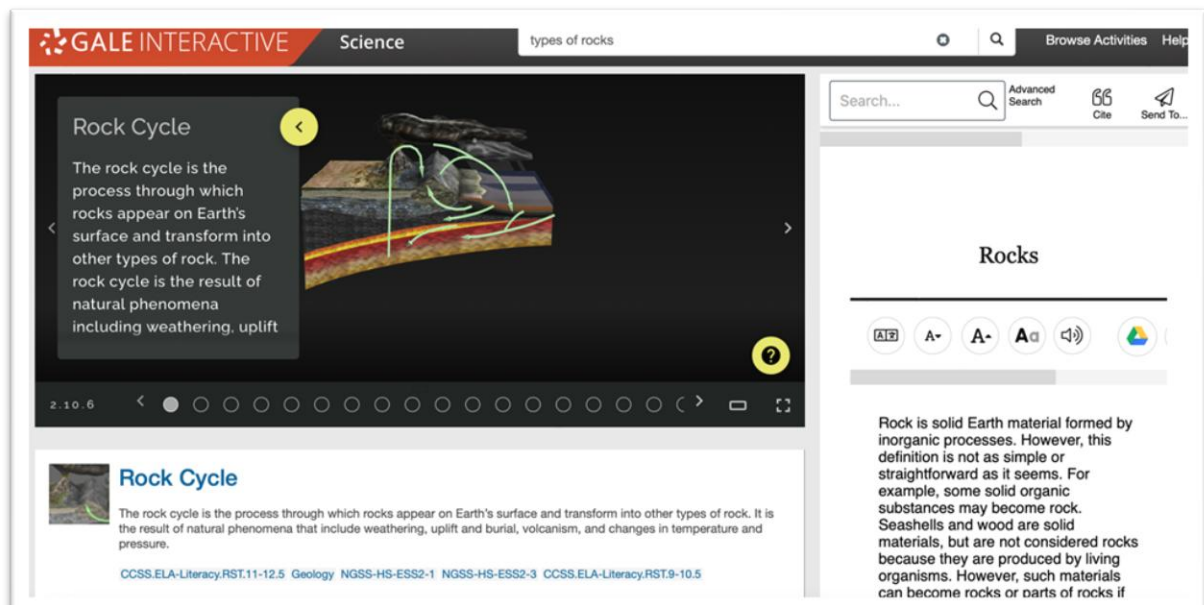
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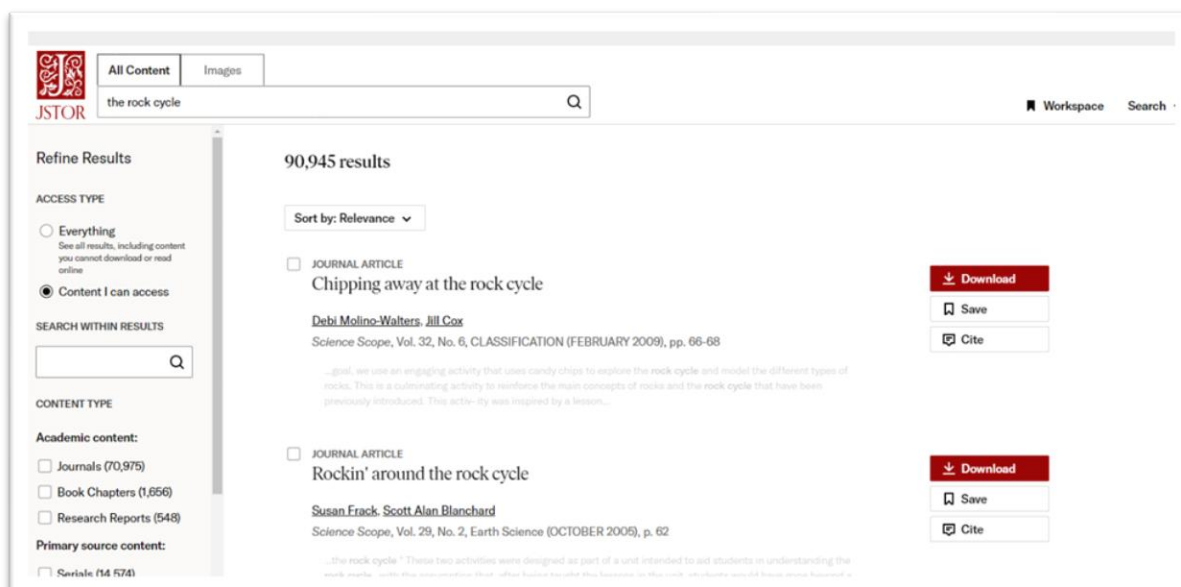
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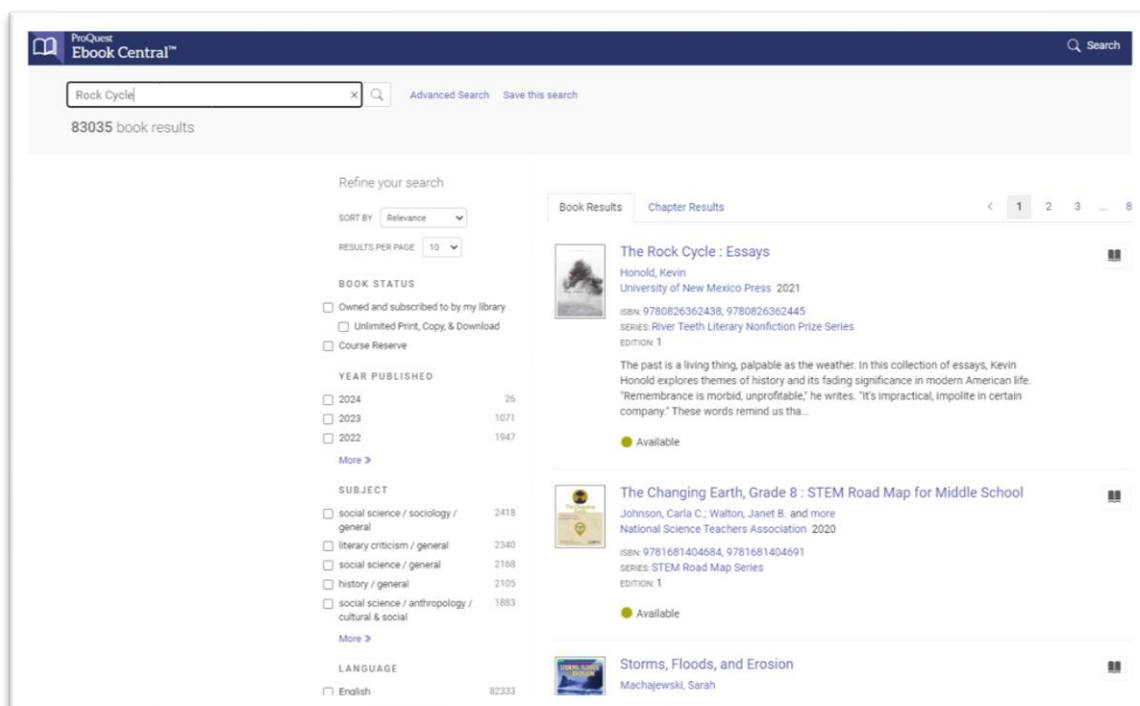
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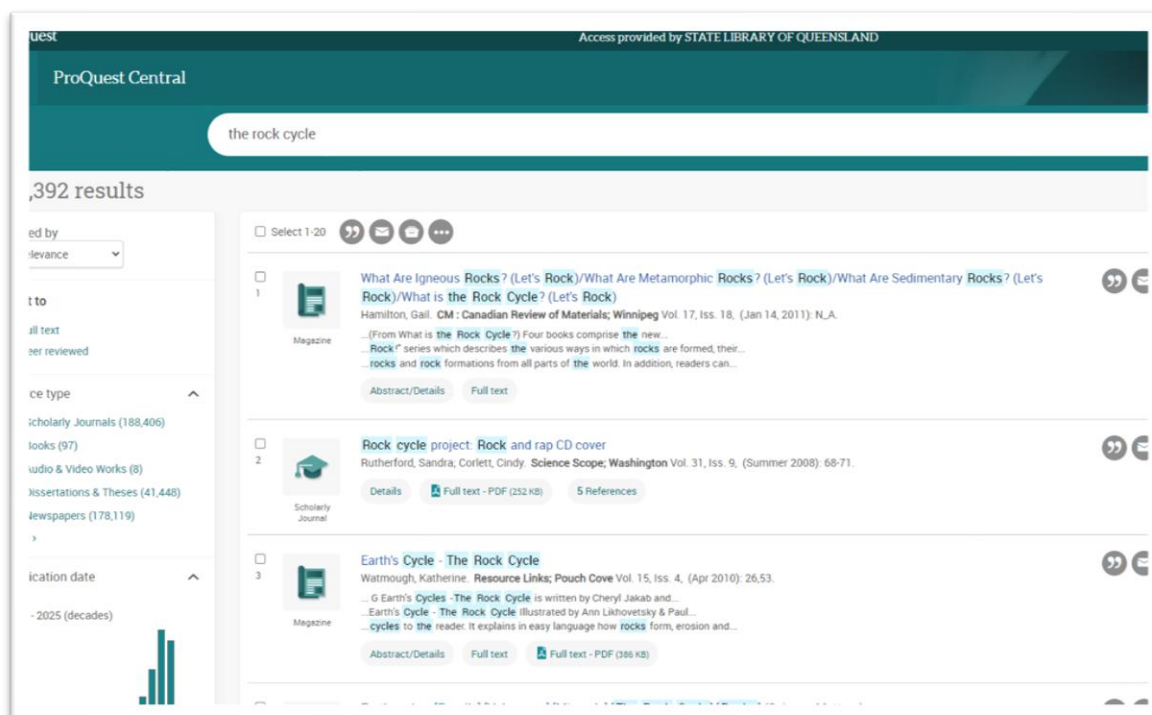
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