

STATE LIBRARY<sup>1</sup>  
QUEENSLAND

# Year 10 Biological Sciences

Unit 1 – Meiosis, Mitosis, Chromosomes and DNA.

Unit 2 – Evolution and Natural Selection.

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

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**Date prepared:** 04 March 2026

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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.

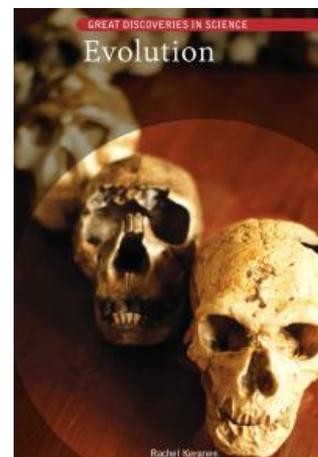
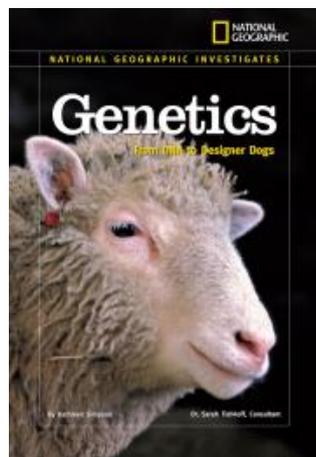
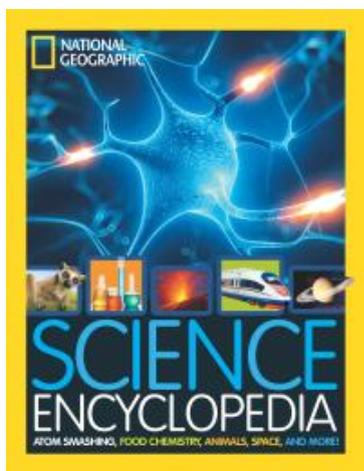
## Before you get started

[Become a member](#) of State Library of Queensland (it's free!).

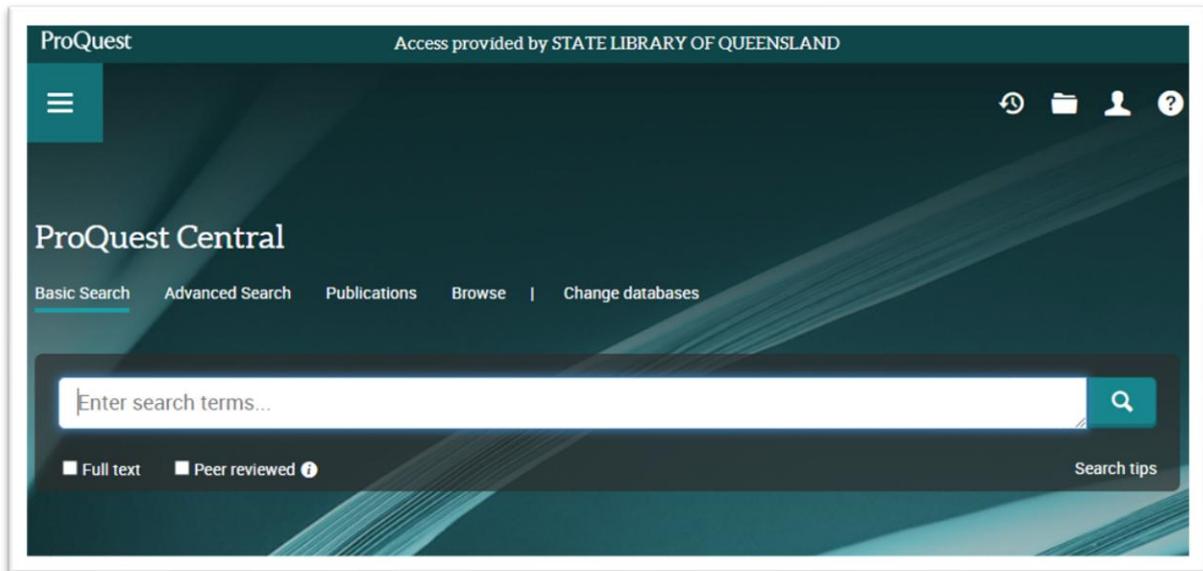
Once you have joined State Library, [log in](#) to your account in One Search so you can use the links in this research guide to access the featured collection items.

You can search our [OneSearch catalogue](#) or begin exploring by clicking on some of the featured items contained in this research guide.

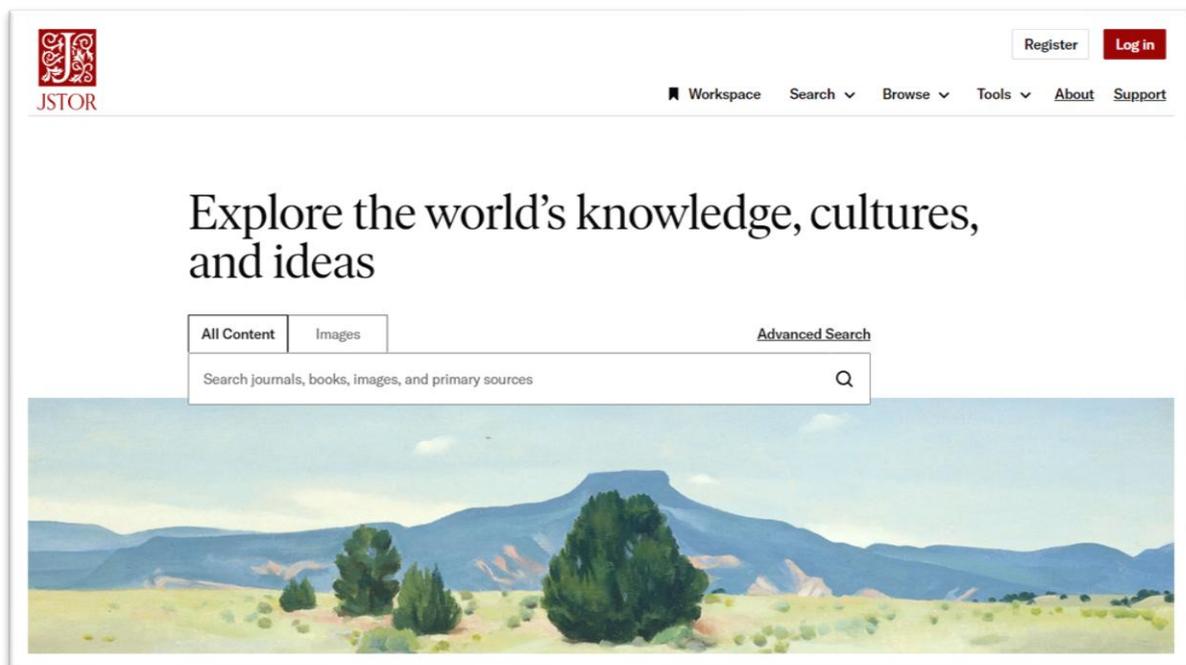
## E-Books



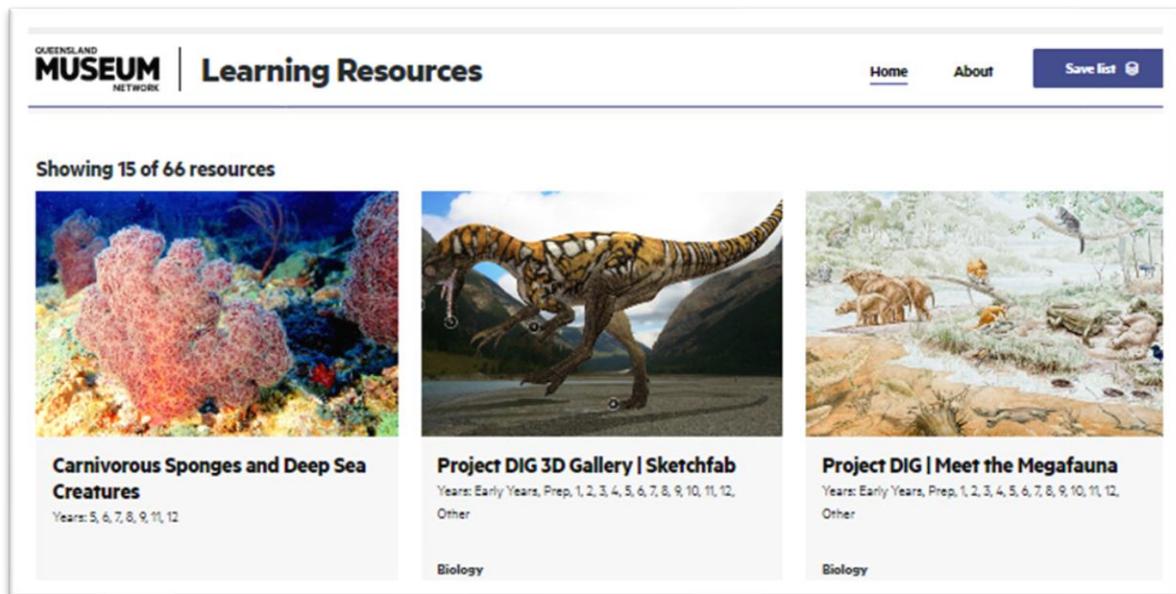
[ProQuest Central](#) brings together 47 databases across 175 subject areas, providing easy intuitive access to an incredibly broad and comprehensive range of content.



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



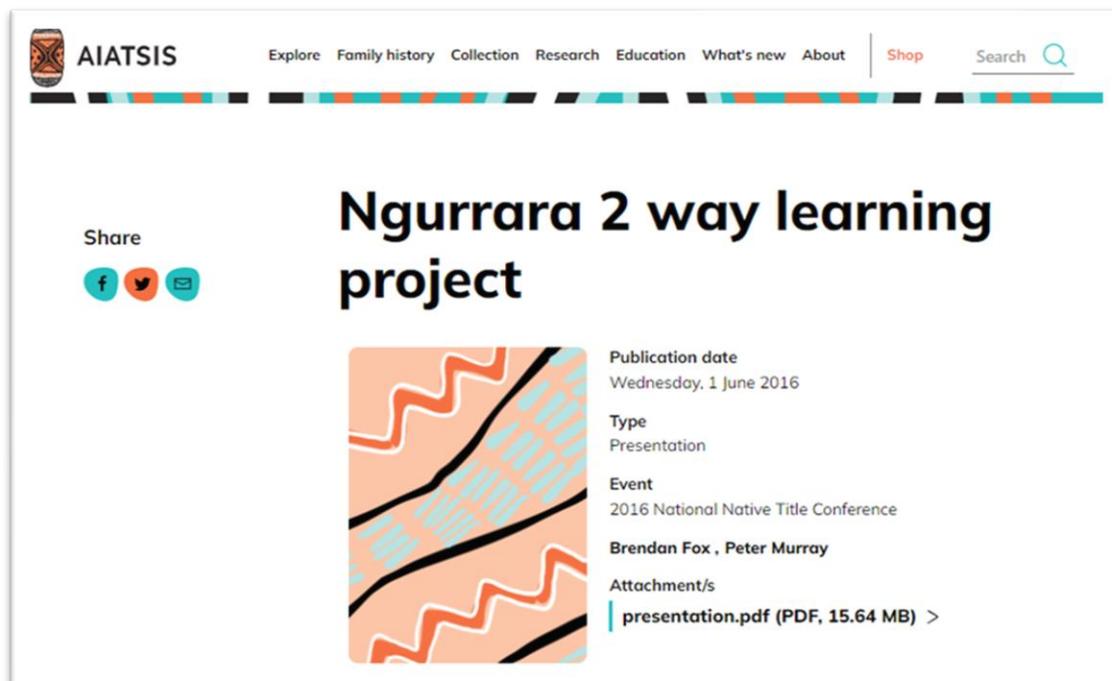
[Queensland Museum](#) provide Learning Resources website students with many activities, fact sheets, images, and videos.



The screenshot shows the Queensland Museum Learning Resources website. The header includes the Queensland Museum Network logo, the title "Learning Resources", and navigation links for "Home", "About", and "Save list". Below the header, it states "Showing 15 of 66 resources". Three resource cards are displayed:

- 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  
Biology
- Project DIG | Meet the Megafauna**  
Years: Early Years, Prep, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Other  
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.



The screenshot shows the AIATSIS website. The header includes the AIATSIS logo, navigation links for "Explore", "Family history", "Collection", "Research", "Education", "What's new", "About", "Shop", and a search bar. The main content area features the title "Ngurrara 2 way learning project" and a "Share" button with social media icons. Below the title is a decorative graphic with orange, black, and white wavy lines. To the right of the graphic, the following information is displayed:

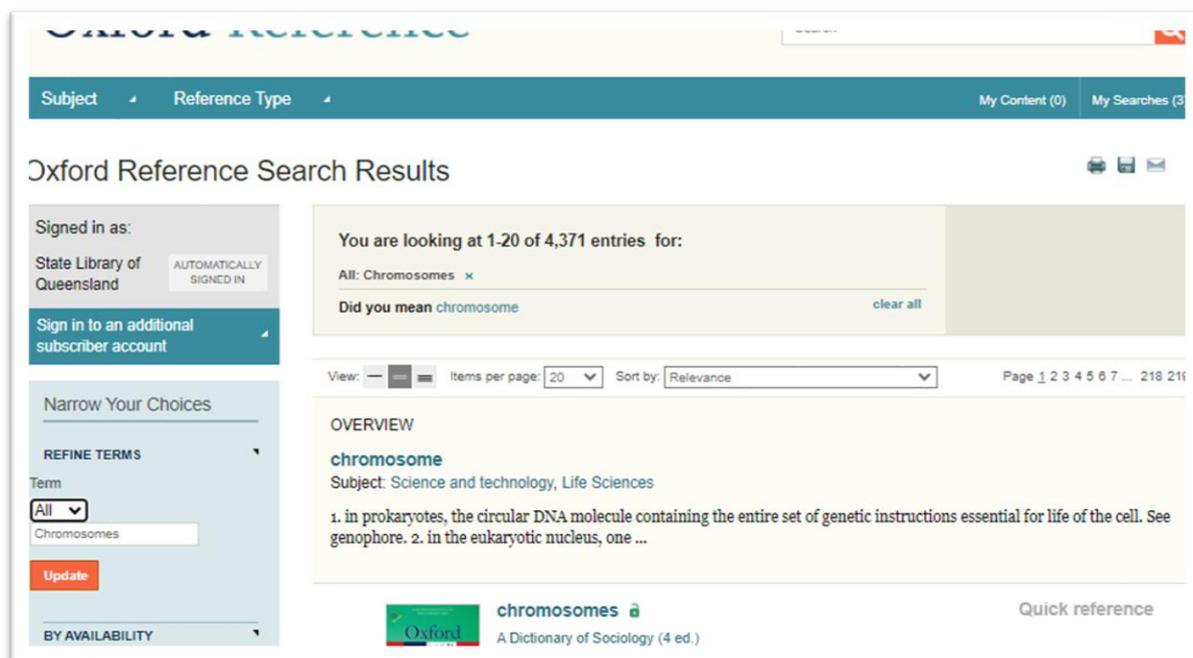
- Publication date**  
Wednesday, 1 June 2016
- Type**  
Presentation
- Event**  
2016 National Native Title Conference
- Brendan Fox , Peter Murray**
- Attachment/s**  
[presentation.pdf \(PDF, 15.64 MB\) >](#)

# DNA, Chromosomes and Genetics

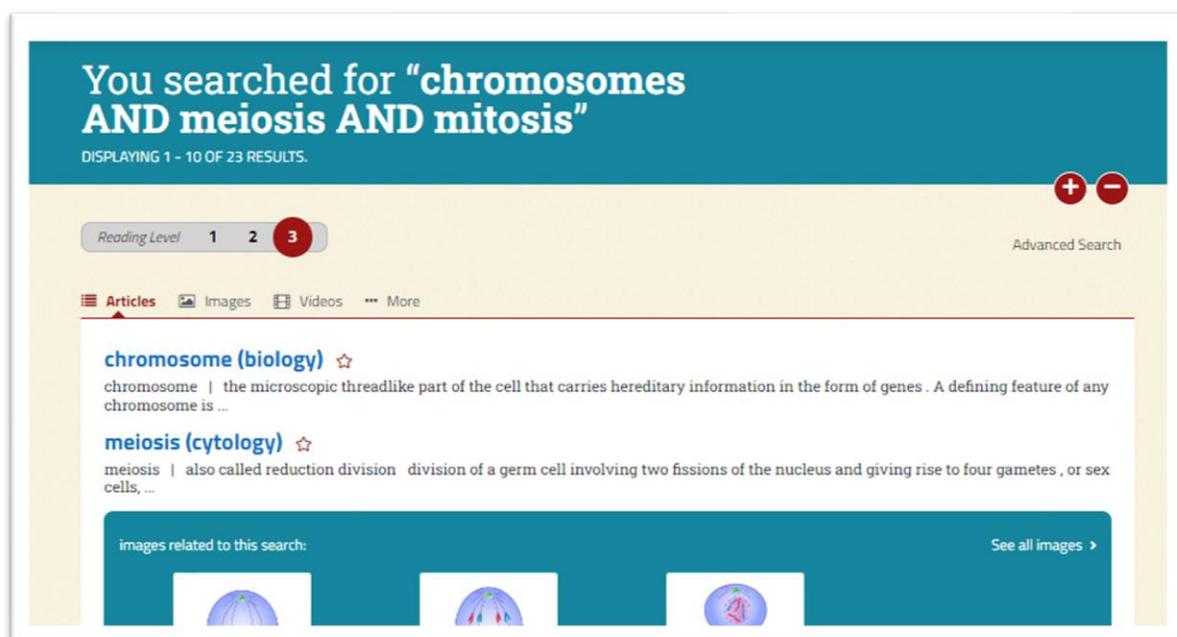
Explain the role of meiosis and mitosis and the function of chromosomes, DNA and genes in heredity and predict patterns of Mendelian inheritance.

- Using models and diagrams to represent the relationship between genes, chromosomes, and DNA of an organism's genome.
- Explaining how genetic information passed on to offspring from both parents by meiosis and fertilisation.
- Using Mendelian inheritance to predict the ratio of offspring genotypes and phenotypes in monohybrid crosses involving dominant and recessive alleles or in genes that are sex-linked increases the variation of a species.
- Using pedigree diagrams to show patterns of inheritance of simple dominant and recessive characteristics through multigenerational families.
- Investigating First Nations Australians' knowledges of heredity as evidenced by the strict adherence to kinship and family structures, especially marriage laws.
- Exploring environmental and other factors that cause mutations and identifying changes in DNA or chromosomes.
- Exploring the role of DNA in cancer or genetic disorders such as haemochromatosis, sickle cell anaemia, cystic fibrosis or Klinefelter syndrome.

[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.



[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.

GALE PRESENTS  
NATIONAL GEOGRAPHIC

Chromosomes  Advanced Search

FEATURED ARTICLES (5)

**For Girls in Science, the Time is Now**  
Authors: Claudia Kalb and Dina Litovsky  
Publication: National Geographic Magazine  
Friday, Nov. 2019 p. 119 Article  
Found in National Geographic Archive 1995+

**A Fin Is a Limb Is a Wing: How Evolution Fashioned its Masterworks**  
Authors: Rosamond Purcell and Carl Zimmer  
Publication: National Geographic Magazine  
Nov. 2006 Volume 210, Issue 5 p. 111 Article  
Found in National Geographic Archive 1995+

**The Greatest Journey: The Trail of Our DNA**

## Science

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

GALE INTERACTIVE Science  Search Activities

**Mitosis**

Mitosis is the process by which cells divide. It produces two daughter cells that are genetically identical to the original cell.

Mitosis is an essential component of growth and for renewing cells that wear out.

[Gale Health and Wellness](#) provides access to trusted medical reference materials including journals, pamphlets, and health-related videos and articles from over 2,200 publications.

The screenshot shows the Gale Health and Wellness search interface. At the top, the search bar contains the term 'genes' and is labeled 'Advanced Search'. Navigation icons for 'Browse Topics', 'Search History', 'Get Link', and 'Highlights And More' are visible. Below the search bar, the page indicates 'Showing results for' and provides a breakdown of content types: Reference (1,090), Magazines (166,813), Videos (180), Images (61), Audio (583), News (299,741), and Academic Journals (142,217). The 'Reference (1,090)' category is selected. On the left, there are options for 'Full Text' and 'Full Text Documents'. On the right, a 'FILTER YOUR RESULTS' section includes buttons for 'Subjects', 'Publication Title', 'Document Type', 'Publication Date', 'Sections', and 'Search With'. Below the filters, a 'TOPIC FINDER' section is present with a 'Start the Topic Finder' button. The main content area displays the search results for 'Gene Therapy', including author information (Katherine Hunt, Teresa G. Odle, and L. Lee Culvert) and a brief description of the topic.

# Evolution and Natural Selection

Use the theory of evolution by natural selection to explain past and present diversity and analyse the scientific evidence supporting the theory.

- Outlining processes involved in natural selection including variation, isolation and selection.
- Examining biodiversity as a function of evolution.
- Analysing evidence for the theory of evolution by natural selection including the fossil record, chemical and anatomical similarities, and geographical distribution of species.
- Investigating changes caused by natural selection in a particular population as a result of a specified selection pressure such as artificial selection in breeding for desired characteristics.
- Relating genetic characteristics to survival and reproductive rates.
- Investigating some of the structural and physiological adaptations of first nations australians to the australian environment.

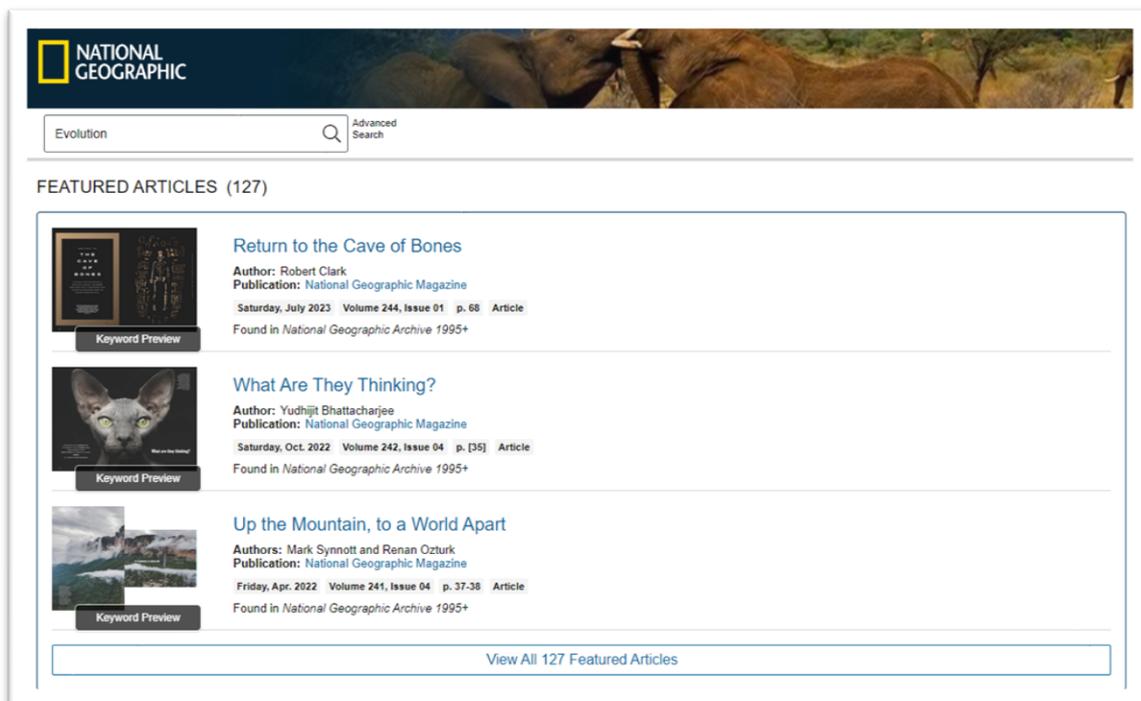
[Oxford Reference](#) spans 25 different subject areas, bringing together 2 million digitised entries across Oxford University Press’s dictionaries, companions, and encyclopedias.

The screenshot shows the Oxford Reference search results interface. At the top, there are navigation tabs for 'Subject' and 'Reference Type', along with 'My Content (0)' and 'My Searches (0)'. The main heading is 'Oxford Reference Search Results'. On the left, a sidebar shows the user is signed in as 'State Library of Queensland' and offers options to 'Narrow Your Choices' and 'REFINE TERMS'. The search query is 'evolution AND "natural selection"'. The main content area displays 'You are looking at 1-20 of 779 entries for: All: evolution AND "natural selection"'. Below this, there are filters for '779 ENTRIES' and '3 BOOKS', and options to 'View' and 'Sort by: Relevance'. The first result is 'Constraints on Adaptation', an 'Overview Page' on 'Science and technology, Life Sciences'. The second result is 'non-Darwinian evolution', also an 'Overview Page' on 'Science and technology, Psychology'.

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

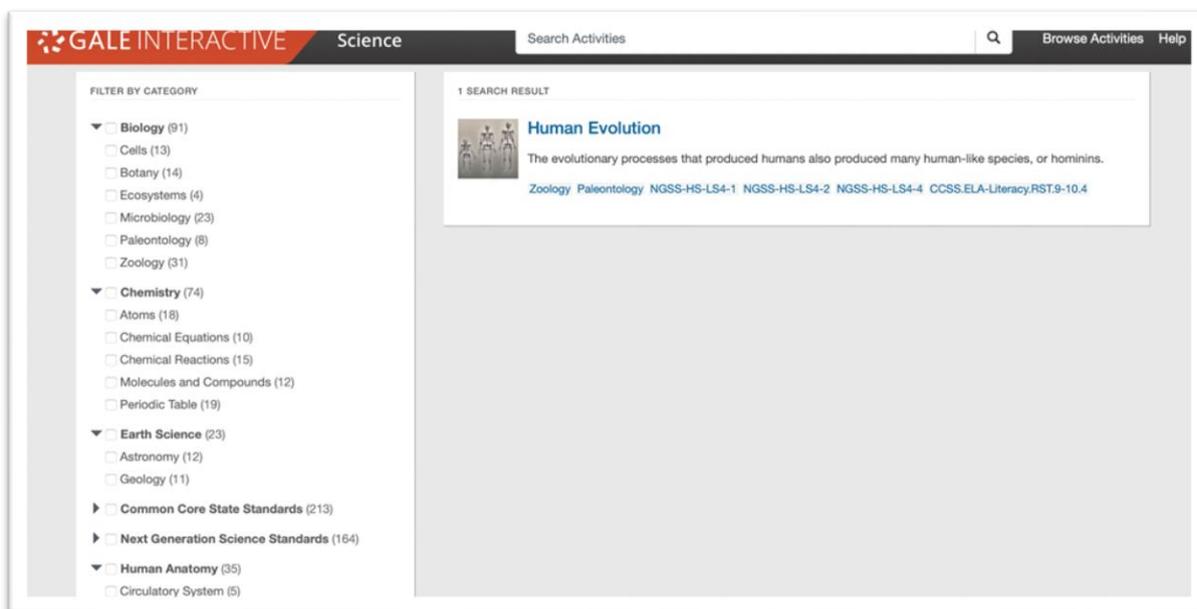
The screenshot shows the Britannica Library search results page. The top banner reads 'You searched for "natural selection AND evolution" DISPLAYING 1 - 10 OF 65 RESULTS.' Below this, there is a 'Reading Level' filter set to '2' and an 'Advanced Search' button. The results are categorized by 'Articles', 'Images', and 'Videos'. The first result is 'evolution (scientific theory)', which has 'TOP 3 RESULTS. 1 MORE RESULTS IN EVOLUTION.' The top three results are: 'Natural Selection Directs Evolution', 'Genetic Factors in Evolution', and 'Rates of Evolutionary Change'. Each result includes a brief description starting with 'evolution | People have always wondered how life originated and how so many different kinds of plants and animals arose. Stories of a supernatural creation ...'.

[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 interface. At the top, there is a search bar with the word "Evolution" entered and a magnifying glass icon. Below the search bar, the text "FEATURED ARTICLES (127)" is displayed. Three featured articles are listed, each with a thumbnail image, a title, author, publication information, and a "Keyword Preview" button. The first article is "Return to the Cave of Bones" by Robert Clark, published in National Geographic Magazine on Saturday, July 2023, Volume 244, Issue 01, p. 68. The second article is "What Are They Thinking?" by Yudhijit Bhattacharjee, published on Saturday, Oct. 2022, Volume 242, Issue 04, p. [35]. The third article is "Up the Mountain, to a World Apart" by Mark Synnott and Renan Ozturk, published on Friday, Apr. 2022, Volume 241, Issue 04, p. 37-38. At the bottom of the featured articles section, there is a button that says "View All 127 Featured Articles".

[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 website. The top navigation bar includes the Gale Interactive logo, the word "Science", a search bar with "Search Activities" and a magnifying glass icon, and links for "Browse Activities" and "Help". On the left side, there is a "FILTER BY CATEGORY" section with a list of categories and their respective 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 dropdown arrow and a list of sub-categories. On the right side, there is a "1 SEARCH RESULT" section. The search result is for "Human Evolution", which includes a thumbnail image of a human skeleton, the title "Human Evolution", a brief description: "The evolutionary processes that produced humans also produced many human-like species, or hominins.", and a list of standards: Zoology, Paleontology, NGSS-HS-LS4-1, NGSS-HS-LS4-2, NGSS-HS-LS4-4, and CCSS.ELA-Literacy.RST.9-10.4.

## **Borrow items.**

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