

STATE LIBRARY<sup>1</sup>  
QUEENSLAND

# Year 8 Biological Sciences

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

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## Overview

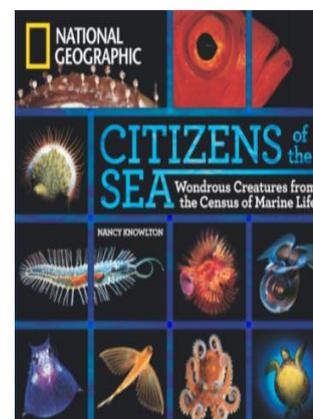
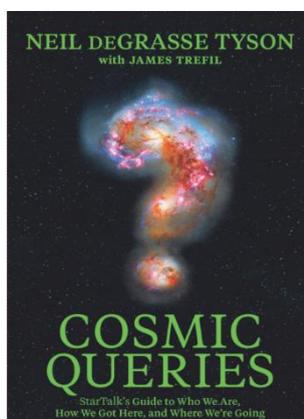
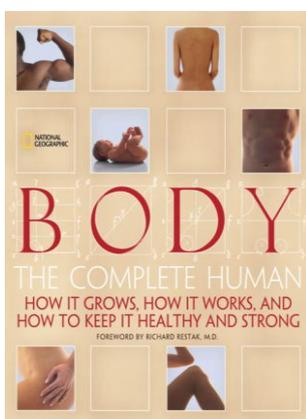
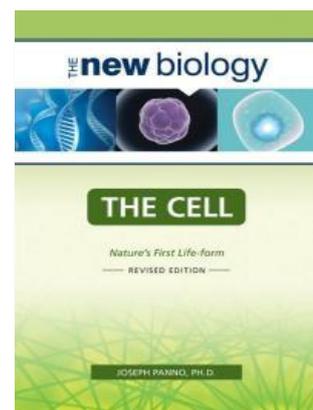
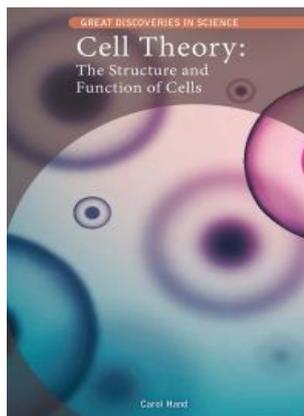
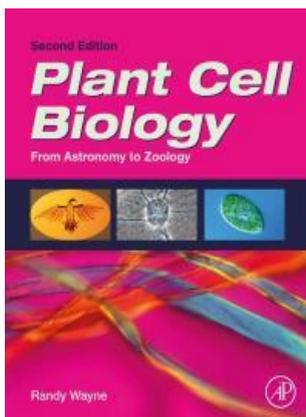
As Queensland's leading research library, State Library is a great place to find information to complete your research-based assessments. State Library's One Search catalogue is the gateway to an extensive suite of national and international journals, databases, eBooks, encyclopedias, newspaper archives, 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.

## Featured E-Books



# Cells: The Building Blocks

Recognise cells as the basic units of living things, compare plant and animal cells, and describe the functions of specialised cell structures and organelles.

- Exploring an augmented or virtual reality tour of a plant or animal to 'zoom in' and understand the scale of cells.
- Identifying the structure and function of organelles in cells including the nucleus, cell membrane, cell wall, cytoplasm, chloroplasts and vacuoles.
- Examining a variety of cells, including single-celled organisms, using a light microscope, a digital microscope, simulations and photomicrographs.
- Comparing the similarities and differences of plant cells and animal cells visible with a light microscope and represented in a digital or physical model.
- Designing a physical or digital model of a cell and explaining how the representation models the cell.
- Considering how the invention of the microscope has contributed to understanding of cell structure.

## For easy reference

[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 is a search bar and navigation tabs for 'Subject' and 'Reference Type'. The user is signed in as 'State Library of Queensland'. The search results for 'organ system' are displayed, showing 311 entries and 1 book. The results are sorted by relevance. The first result is 'organ system', with a subject of 'Medicine and health, Clinical Medicine'. A brief definition is visible: 'A group of organs in the human body that work together to carry out a vital body function'.

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 teenagers. The search results for 'cell' are displayed, showing 584 results. The results are filtered by reading level 2. The first result is 'cell (biology)', with a brief definition: 'The smallest unit of living matter that can exist by itself is the cell. Some organisms, such as bacteria, consist of only a single cell. Others, ...'. The second result is 'plant (life-form)', with a brief definition: 'Complex tissues | The complex tissues include the dermal and vascular tissues of plants. The epidermis is the outermost layer of cells on the plant body ...'. The third result is 'Plant Cells and Tissues', with a brief definition: 'Plant Cells and Tissues | All living things are made up of tiny units called cells, which are composed of organic substances such as carbohydrates, proteins ...'.

[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 interface. At the top, there is a search bar with the word "cell" entered. Below the search bar, the page is divided into two main sections: "FILTER BY CATEGORY" on the left and "18 SEARCH RESULTS" on the right.

**FILTER BY CATEGORY:**

- Biology** (91)
  - Cells (13)
  - Botany (14)
  - Ecosystems (4)
  - Microbiology (23)
  - Paleontology (8)
  - Zoology (31)
- Chemistry** (74)
  - Atoms (18)
  - Chemical Equations (10)
  - Chemical Reactions (15)
  - Molecules and Compounds (12)
  - Periodic Table (19)
- Earth Science** (23)
  - Astronomy (12)
  - Geology (11)
- Common Core State Standards** (213)

**18 SEARCH RESULTS:**

- Meiosis**: Meiosis is the type of cell division that creates sex cells, or gametes. Sperm and eggs are sex cells that have half the amount of DNA contained in a normal cell.
  - Standards: NGSS-HS-LS3-1, NGSS-HS-LS3-2, Cells, CCSS.ELA-Literacy.RST.11-12.4, CCSS.ELA-Literacy.RST.11-12.4
- Mitosis**: Mitosis is the process by which cells divide. It produces two daughter cells that are genetically identical to the parent cell.
  - Standards: Cells, NGSS-HS-LS1-4, CCSS.ELA-Literacy.RST.11-12.4, CCSS.ELA-Literacy.RST.9-10.4, NGSS-HS-LS1-1
- Cell Membrane**: A cell membrane, or plasma membrane, is a covering that envelopes all cells, including animal and prokaryote cells.
  - Standards: NGSS-HS-LS1-1, CCSS.ELA-Literacy.RST.11-12.2, CCSS.ELA-Literacy.RST.11-12.4, Cells
- Plant Cell**: Plant cells have some features that are different from those of animal cells, such as the cell wall and a vacuole.
  - Standards: NGSS-HS-LS1-2, NGSS-HS-LS1-5, CCSS.ELA-Literacy.RST.9-10.4, CCSS.ELA-Literacy.RST.9-10.5, Literacy.RST.9-10.7, Cells

[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 website interface. At the top, there is a search bar with the word "cell" entered. Below the search bar, the page is divided into several sections: "results", "Content Types", "Content Types", "FILTER YOUR RESULTS", and "SUGGESTED TOPICS".

**results:** 1846 RESULTS FOR cell

**Content Types:**

Reference (3,027)	Magazines (410,484)	Videos (681)	Images (310)
Audio (1,487)	News (787,044)	Academic Journals (233,845)	

**CONTENT TYPES:**

ms: Basic Search: cell [Revise Search](#)

filters: [Full Text](#)

**REFERENCE (3,027)**

**1 Cell Therapy**

by Margaret Alic  
 The Gale Encyclopedia of Neurological Disorders (Vol. 3, 4<sup>th</sup> ed.)  
 2,865 words [Topic overview](#)

cell therapy (SCT) utilizes stem cells to repair or replace damaged cells or tissues. Stem cells are

**FILTER YOUR RESULTS:**

<input type="checkbox"/> Subjects	<input type="checkbox"/> Publication Title	<input type="checkbox"/> Document Type
<input type="checkbox"/> Publication Date	<input type="checkbox"/> Sections	<input type="checkbox"/> Search

Full Text Documents  
 Document Contains Images  
 Consumer Health  
 En Español  
 Peer-Reviewed Journals

**SUGGESTED TOPICS**

[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. The search query is "cells, function, structure, organelles". The page displays 15,483 results. On the left, there are filters for "ACCESS TYPE" (Everything, Content I can access) and "CONTENT TYPE" (Academic content: Journals, Book Chapters, Research Reports; Primary source content: Documents, Serials, Books). The main results list includes:

- JOURNAL ARTICLE**: Population 75 trillion: Cells, organelles, and their functions. Authors: Katherine Grady, Bobby Jeanpierre. *Science Scope*, Vol. 34, No. 5, Assessment (JANUARY 2011), pp. 64-69.
- JOURNAL ARTICLE**: How Cells Know the Size of Their Organelles. Authors: Yee-Hung M. Chan, Wallace F. Marshall. *Science, New Series*, Vol. 337, No. 6099 (7 September 2012), pp. 1186-1189.

[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 search results page. The search query is "cells, function, structure, organelles". The page displays 8 book results. On the left, there are filters for "Refine your search" (SORT BY: Relevance, RESULTS PER PAGE: 10) and "SUBJECT" (science / general, science / life sciences / biology, etc.). The main results list includes:

- Outlines of Histology** by Slička, Jaroslav; Tonař, Zbyněk. Charles University in Prague, Karolinum Press 2017. ISBN: 9788024637433, 9788024637587. Edition 1. Available.
- Cells Biology** by Hill, Lisa. Global Media 2006. ISBN: 9788189940942. Available.
- Biology Terminology** by BarCharts, Inc. BarCharts Publishing, Inc. 2013.

# Cells and their Function: Organ Systems and Survival

Analyse the relationship between structure and function of cells, tissues and organs in a plant and an animal organ system and explain how these systems enable survival of the individual.

- Comparing 2-dimensional and 3-dimensional representations of organ systems to understand how organs are positioned within the body.
- Comparing the structure and function of analogous systems in a plant and an animal.
- Examining the specialised cells and tissues involved in structure and function of particular organs in an organ system.
- Describing the structure of each organ in a system and relating its function to the overall function of the system.
- Researching how a disorder in cells or tissues can affect how an organ functions, such as how hardening of the arteries can lead to poor circulation or heart disease.
- Investigating how an artificial organ mimics or augments the function or functions of a real organ.

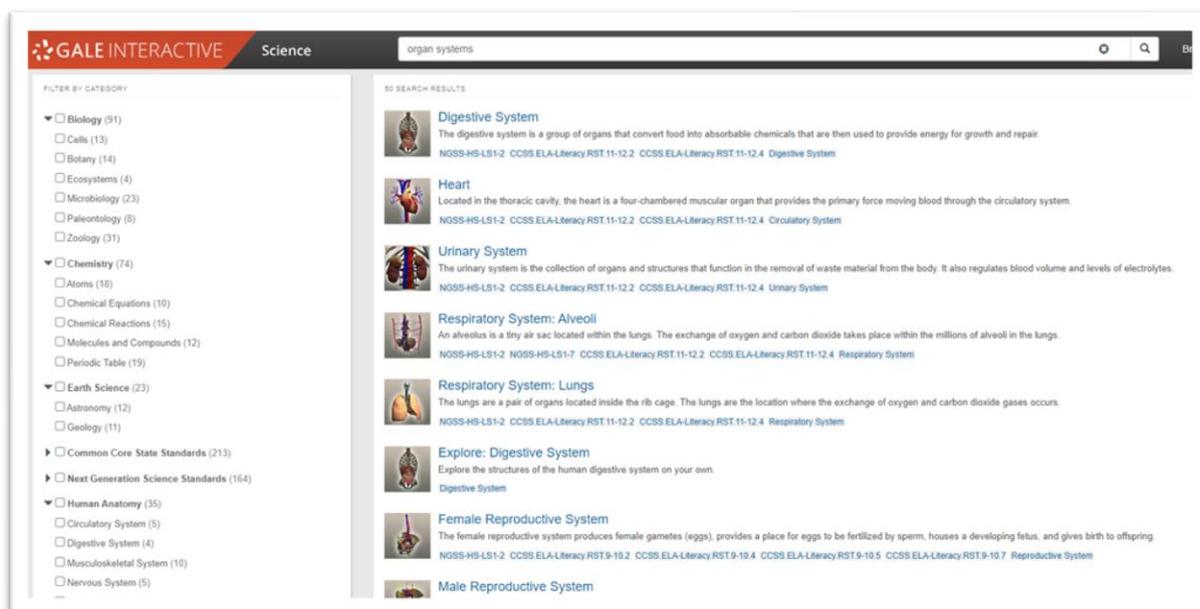
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The screenshot shows the Oxford Reference search results page. At the top, the 'Oxford Reference' logo is on the left, and a search bar is on the right. Below the logo, there are navigation tabs for 'Subject' and 'Reference Type'. The search results are for 'organ system', showing 1-20 of 311 entries. The page includes a 'Signed in as' section for 'State Library of Queensland', a 'Narrow Your Choices' section with 'REFINE TERMS' (set to 'All'), and a 'Did you mean' suggestion for 'organ system'. The main content area shows an overview of 'organ system' with the subject 'Medicine and health, Clinical Medicine' and a brief definition: 'A group of organs in the human body that work together to carry out a vital body function.'

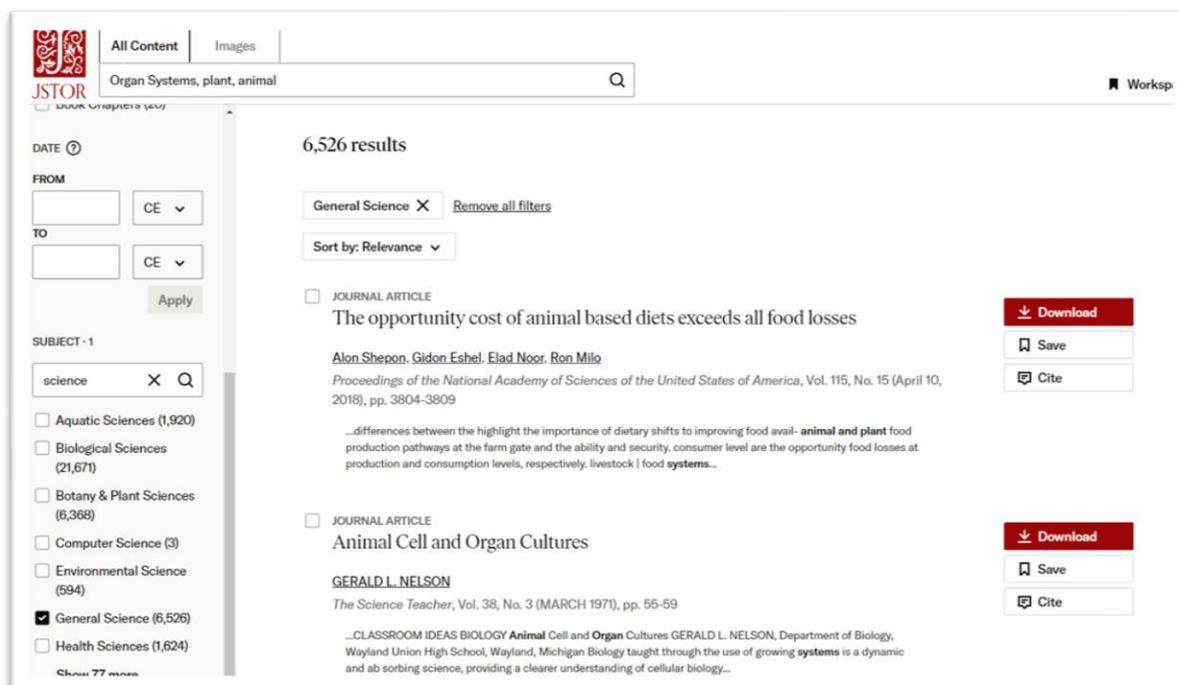
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The screenshot shows the Britannica Library article page for 'organ'. The page features a large background image of a human organ. The title 'organ' is prominently displayed. Below the title, there is a 'Reading Level' indicator set to '2' and a 'TABLE OF CONTENTS' icon. The article content includes an 'Introduction' section with the text: 'In biology, an organ is a structure composed of a group of different tissues that work together to perform a specific function. Most multicellular organisms have one or more organs. The stomach, liver, lungs, and heart are examples of organs found in animals. Stems and leaves are two types of organs found in plants. In higher organisms, organs are grouped into organ systems.' Below the text, there is a video thumbnail showing a person in a field. The page also includes social media sharing icons and a 'Related' section.

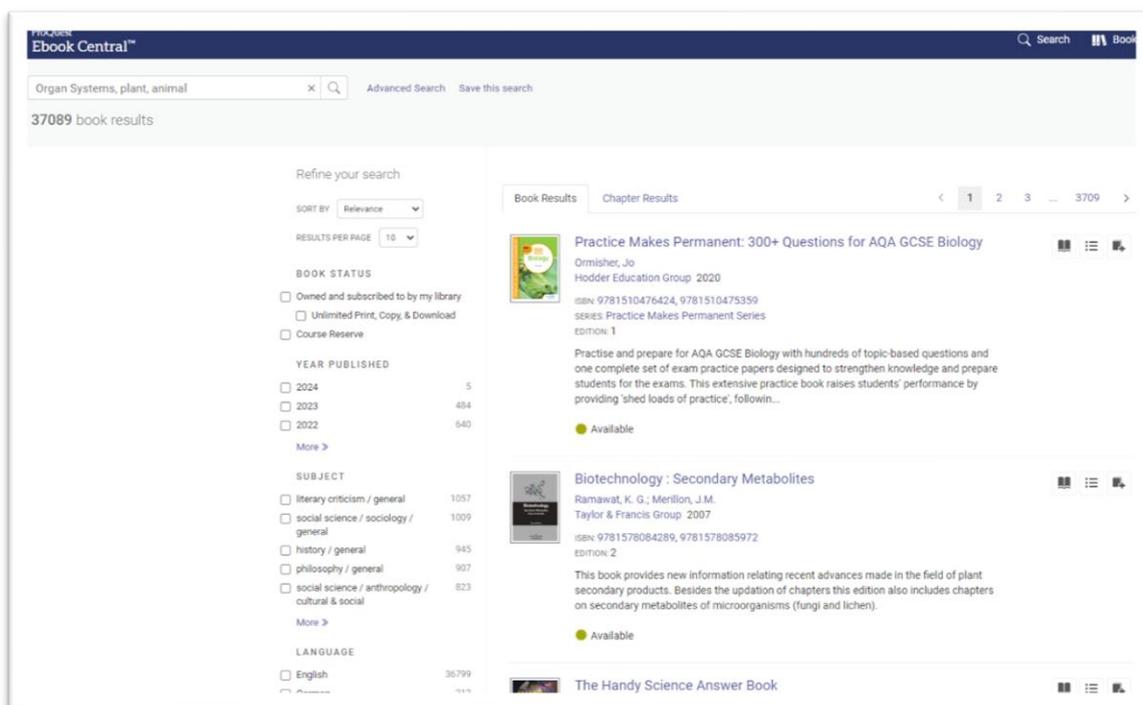
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