



AccessScience
User Guide
AccessScience
用戶指南

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About AccessScience

關於 AccessScience

What Is AccessScience?

什麼是 AccessScience ?

AccessScience is an authoritative and dynamic online resource that contains incisively written, high-quality educational material covering all major scientific disciplines. An acclaimed gateway to scientific knowledge, AccessScience is continually expanding the ways it can demonstrate and explain core, trustworthy scientific information that inspires and guides users to deeper knowledge.

AccessScience 是一項權威和動態在線資源，包含涵蓋所有主要科學學科的深入全面的高質量教育材料。AccessScience 作為廣受讚譽的科學知識數據庫，正在不斷引入多種方法來展示和解釋值得信賴的核心科學信息，以激發和引導用戶獲得更深入的知識。

AccessScience's dedicated editorial team comprises staff editors with subject-matter expertise, in collaboration with thousands of prominent scientists and engineers, including 46 Nobel Prize winners as well as recipients of other major scientific prizes, such as Franklin Institute Awards. With its roots in McGraw-Hill's world-famous scientific publishing program—encompassing the *McGraw-Hill Encyclopedia of Science & Technology* and *McGraw-Hill Yearbook of Science & Technology*—AccessScience draws on and continues a deep tradition of presenting rigorously vetted scientific knowledge and concepts in ways that are both engaging and accessible.

AccessScience 的專職編輯團隊由具有專業知識的編輯人員組成，與數千名傑出的科學家和工程師合作，其中包括 46 名諾貝爾獎獲得者如富蘭克林研究所獎。AccessScience 源於 McGraw-Hill 舉世聞名的科學出版計劃——包括 McGraw-Hill Encyclopedia of Science & Technology 和 McGraw-Hill Yearbook of Science & Technology。AccessScience 繼承並延續了一項深厚的傳統：以引人入勝和易於理解的方式呈現經過嚴格審查的科學知識和概念。

AccessScience offers:

AccessScience 提供：

- **THOUSANDS OF ARTICLES** covering all major scientific disciplines, regularly reviewed and updated
- 定期審查和更新的**數千篇文章**，涵蓋所有主要科學學科
- **115,000+ DEFINITIONS** from the McGraw-Hill Dictionary of Scientific and Technical Terms, built into search results
- McGraw-Hill Dictionary of Scientific and Technical Terms 中的**115,000 多個定義**，內置於搜索結果。
- **HUNDREDS OF BRIEFINGS** on relevant concepts in science and technology—a great starting place for research topic ideas
- **數百份**關於科學和技術相關概念的**簡報**——研究主題思路的極佳起點
- **3000+ BIOGRAPHIES** about well-known scientific figures
- **3000 多篇**知名科學人物**傳記**；
- **20,000+ IMAGES, VIDEOS, AND ANIMATIONS** illustrating key concepts in engaging and meaningful ways
- **20,000 多張**圖片、**視頻和動畫**，以引人入勝和有意義的方式說明關鍵概念；
- **VIDEO BIOGRAPHIES** highlighting the life and work of award-winning scientists
- 突出獲獎科學家的生活和工作的**視頻傳記**。
- **20 BOOKS** including nine textbooks and 11 Schaum's Outlines that faculty can use with students in their classes, with more on the way
- **20 本書**，包括 9 本教科書和 11 本 Schaum's Outlines，可供教師在課堂上與學生一起使用，未來還將提供更多資源。
- **PERSISTENT LINKS TO CITABLE LITERATURE** supporting research assignments through primary

sources of information

- 通過主要信息來源支持研究任務的可引用文獻的持久鏈接；
- **INTERACTIVE CITATION GENERATORS** save time and effort when preparing papers
- **互動式引文生成器**，幫助用戶在編制論文時節省時間和精力；
- **REMOTE ACCESS** allows easy, anytime site access when away from campus
- **遠程訪問**，允許在遠離校園時隨時輕鬆訪問站點。

Consulting editors

諮詢編輯

A board of Consulting Editors, comprising internationally recognized leaders in their respective fields, is committed to choosing the highest quality and most rigorously vetted content for inclusion in AccessScience.

諮詢編輯委員會由各自領域的國際公認的領導者組成，致力於選擇最高質量和最嚴格審查的內容納入 AccessScience。

Contributing authors

供稿作者

The thousands of highly distinguished contributors to AccessScience reflect the editorial team's firm belief that readers are best served by solicited expositions of topics written by identified, acknowledged experts in these topics, based on the knowledge of the factual, original literature. The list includes 46 Nobel Prize Laureates and Franklin Award winners.

AccessScience的數千名傑出貢獻者反映了編輯團隊的堅定信念：即基於對事實和原始文獻的瞭解，由主題領域公認的專家撰寫主題解釋對讀者最為有利。這份名單包括46位諾貝爾獎得主和富蘭克林獎得主。

Homepage

首頁

Check Out the New Homepage

查看新首頁

- Streamlined top level menu for ease of browsing content
- 簡化頂層菜單便於瀏覽內容
- Rotator display of new and highlighted content
- 旋轉器顯示新內容和重點內容
- Persistent site search bar
- 持久站點搜索欄
- Content blocks emphasizing available content types
- 強調可用內容類型的內容塊

Access through your institution

通過您的機構訪問

AccessScience is available through institutional subscriptions. A message saying “Access via [Your Institution]” will appear in the top right corner of AccessScience if you have been properly authenticated and the site is recognizing your affiliation.

AccessScience可通過機構訂閱獲取。如果您已通過適當身份驗證，並且該網站正在識別您與機構的關係，則AccessScience的右上角將顯示“通過[您的機構]訪問”的消息。

If you are not sure if your institution subscribes, or are not seeing the access message after authenticating, contact Customer Success for assistance.

如果您不確定您的機構是否訂閱，或者在身份驗證後未看到訪問消息，請聯繫Customer Success尋求幫助。

My Account

我的帳戶

Log in to your personal account, create a new account, or see content saved to your account using the “My Account” button in the site header. See the section on [Personal Accounts](#) for more on creating a personal account and available features.

登入到您的個人帳戶，創建新帳戶，或使用網站標題中的“我的帳戶”按鈕查看保存到您的帳戶的內容。有關創建個人帳戶和可用功能的更多信息，請參閱[個人帳戶](#)部分。



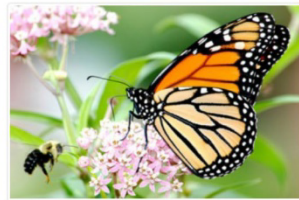
Content Topics Information for About My account

LEARN FROM WORLD LEADERS IN SCIENCE

Award-winning experts contribute to AccessScience

Learn more

Search AccessScience for... Search



Nice try, butterfly

Some insect predators have evolved the same resistance to plant toxins as monarch butterflies.

> More Editorial Briefings



Machine learning

Machines can learn from real-life examples and teach themselves how to solve problems.

> More Articles



James E. West

This award-winning engineer helped invent and develop the tiny electret microphone.

> More Video Biographies

Searching

搜索

The general search bar is available in the site header from all AccessScience pages and can be used to search across all content on the site. Boolean search techniques, such as ‘AND’ ‘OR’ and ‘NOT’ are supported.

通用搜索欄位於所有AccessScience頁面的站點標題中，可用於搜索站點上的所有內容。支持布爾搜索技術，如“和”、“或”和“否”。

Search Results

搜索結果

Search results pages on AccessScience are organized by relevancy. A dictionary definition for the search term will appear at the top of the results list when available. Definitions are from the latest edition of the *McGraw-Hill Dictionary of Scientific and Technical Terms*.

AccessScience上的搜索結果頁面按相關性進行整理。搜索術語的字典定義將顯示在結果列表的頂部（如可用）。定義來自最新版的*McGraw-Hill Dictionary of Scientific and Technical Terms*。

Each result item will have a content type label, an image, and a brief description. Click on the item to view the full text.

每個結果項都有一個內容類型標籤、一個圖像和一個簡短描述。點擊項目查看全文。

The Save Search button is available at the top of any results page, allowing you to save the search to your personal account. There are also optional search alerts that can be activated to send an email if new items are added that match the search terms. For more on the personal accounts see the [Personal Account](#) section.

所有結果頁面的頂部均設置了“保存搜索”按鈕，允許您將搜索保存到您的個人帳戶。還有可選的搜索提醒，如果添加了與搜索條件匹配的新項目，則可以激活該提醒以發送電子郵件。有關個人帳戶的更多信息，請參閱[個人帳戶](#)部分。

Content ▾ Topics Information for ▾ About My account

climate change Search

Search

Content types

<input checked="" type="checkbox"/> All Content	711
<input type="checkbox"/> Articles	455
<input type="checkbox"/> Biographies ▾	20
<input type="checkbox"/> Text Biographies	14
<input type="checkbox"/> Video Biographies	6
<input type="checkbox"/> Books	0
<input type="checkbox"/> Book Chapters	24
<input type="checkbox"/> News ▾	207
<input type="checkbox"/> Editorial Briefings	83
<input type="checkbox"/> News Stories	124
<input type="checkbox"/> Videos	5

Filter results by Topics

<input checked="" type="checkbox"/> All Topics	1083
<input type="checkbox"/> Agriculture, Forestry, & Soils >	106
<input type="checkbox"/> Anthropology & Archeology >	16
<input type="checkbox"/> Astronomy & Space Science >	13
<input type="checkbox"/> Biology >	172
<input type="checkbox"/> Chemistry >	24
<input type="checkbox"/> Computing & Information Technology >	6

Your search for **climate change** returned **711** results

Save search

Definition

climate change

Pronunciation: 'klī-mət chānj

[METEOROLOGY]

Any change in global temperatures and precipitation over time due to natural variability or to human activity.

Source: McGraw-Hill Dictionary of Scientific and Technical Terms, 6th ed., McGraw-Hill, New York, 2003.

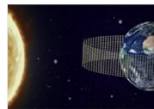
Article



Global climate change

Significant and persistent changes in the state of Earth's climate. Earth's past climates, or paleoclimates, have alternated between ice ages and periods warmer than today over relatively long time scales (millions to ten...

Video



Innovative Ways to Fight Climate Change

This video examines some novel proposals for combating climate change—including space mirrors, seeding the ocean with iron, and feeding cows seaweed. In reality, these ideas may or may not be feasible, but they are ...

Editorial Briefing



Tornado activity and climate change

Filtering

過濾

From the results page, there are filters available on the left to narrow down results by content type or topic. Use the checkboxes to select or remove filters. The parenthetical number shows how many results from the current results set are tagged to a specific filter.

在結果頁面中，左側有可用的篩選器，可按內容類型或主題縮小結果範圍。使用複選框選擇或刪除過濾器。括號中的數字顯示當前結果集中有多少結果被標記為特定篩選結果。

Content types

<input type="checkbox"/> All Content	322
<input type="checkbox"/> Articles	131
<input type="checkbox"/> Biographies	29
<input type="checkbox"/> Text Biographies	26
<input type="checkbox"/> Video Biographies	3
<input type="checkbox"/> Books	1
<input checked="" type="checkbox"/> Book Chapters	143
<input type="checkbox"/> News	16
<input type="checkbox"/> Editorial Briefings	9
<input type="checkbox"/> News Stories	7
<input type="checkbox"/> Videos	2

Filter results by Topics

<input type="checkbox"/> All Topics	1083
<input type="checkbox"/> Agriculture, Forestry, & Soils	106
<input type="checkbox"/> Anthropology & Archeology	16
<input type="checkbox"/> Astronomy & Space Science	13
<input type="checkbox"/> Biology	172
<input type="checkbox"/> Chemistry	24
<input type="checkbox"/> Computing & Information Technology	6
<input checked="" type="checkbox"/> Earth Science	333
<input checked="" type="checkbox"/> Ecology & Environmental Science	203
<input type="checkbox"/> Engineering & Materials	76
<input type="checkbox"/> Food Science & Technology	15
<input type="checkbox"/> Forensic Science	2
<input type="checkbox"/> General Science Concepts	1
<input type="checkbox"/> Mathematics	0
<input type="checkbox"/> Medicine & Health Sciences	36
<input type="checkbox"/> Paleontology	57
<input type="checkbox"/> Physics	22
<input type="checkbox"/> Psychiatry & Psychology	1
<input type="checkbox"/> Scientific & Engineering Instruments	0

More About Search

關於搜索的更多信息

The search engine operates by seeking matches with search terms from two distinct types of data pulled from the contents of AccessScience: a layer of semantic metadata associated with each article or other feature, and the exact matches of words or phrases in the text. Semantic matches are those based on the meaning of the search terms and the concepts they describe, allowing the user to find pertinent articles without having to search for all synonyms of a given search term. To supplement these semantic results, the search engine provides all articles and other types of content

that contain exact matches to the search terms.

搜索引擎從AccessScience提供內容提取的兩種不同類型的數據中尋找與搜索詞匹配的信息：與每篇文章或其他特徵相關聯的語義元數據層，以及文本中單詞或短語的精確匹配。語義匹配基於搜索項的含義及其所描述的概念，允許用戶找到相關的文章，而不必搜索給定搜索項的所有同義詞。為了補充這些語義結果，搜索引擎提供包含與搜索項精確匹配的所有文章和其他類型的內容。

Browsing by Topic or Content Type

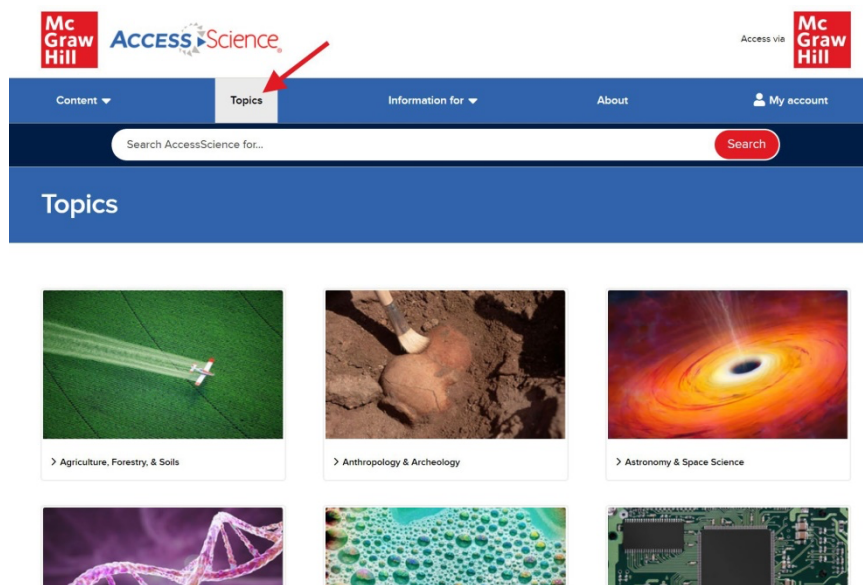
按主題或內容類型瀏覽

Browse by Topic

按主題瀏覽

To browse by topic, select Topic from the top-level menu. This will show the topic browse page, with 18 major topic areas represented by an engaging image. Click on the image or topic name to view the individual browse page for that topic.

要按主題瀏覽，請從頂級菜單中選擇主題。這將顯示主題瀏覽頁面，並通過一張有趣的圖像表示18個主要主題區域。單擊圖像或主題名稱可查看該主題的單獨瀏覽頁面。



On the individual topic page, highlighted content for that topic will be displayed on the right. Click on the link below an item to open that content item.

在單個主題頁面上，該主題的突出顯示內容將顯示在右側。單擊項目下面的鏈接可打開該內容項目。

To explore a topic further, use the left menu to browse available subtopics, enter search terms to Search within this topic, or select Show all content in this topic. Each of these options will lead to a results page featuring relevant content. See the section on [Searching](#) for more on results pages and filtering.

如需進一步瞭解某個主題，請使用左側菜單瀏覽可用子主題，輸入搜索詞以在此主題中進行搜索，或選擇“顯示此主題中的所有內容”。這些選項中的每一個均將生成相關內容的結果頁面。有關結果頁面和篩選的更多信息，請參閱[搜索](#)一節。

Topic
Earth Science



< Back to all topics

Search within this topic

Browse subtopics

- Earth science - general
- Geochemistry
- Geology & geodesy
- Geophysics
- Hydrology & glaciology
- Meteorology & climatology
- Mineralogy & petrology
- Physical geography & geomorphology

Highlights

> Show all content in this topic



Hurricane

A series of internal circulatory convective systems that thrive on warm water drive hurricanes and give them their characteristic shape and cloud-free inner eyes.

> Read Article



Peatland carbon storage affects global climate

Human intervention can decrease peatlands' carbon storage capacity, while increasing the amount of carbon dioxide in the atmosphere.

> Read Editorial Briefing

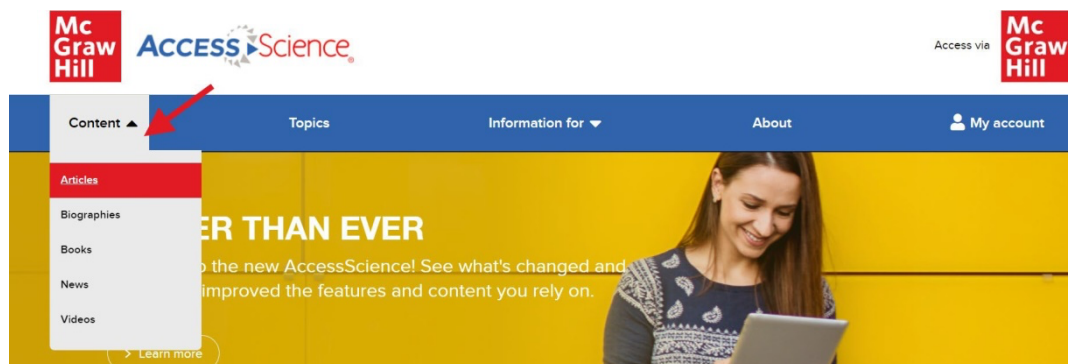


Browse by Content Type

按內容類型瀏覽

To browse by content type, select Content from the top-level menu and choose from the available content types in the dropdown menu. The next sections of this guide describe the content types in more detail.

要按內容類型進行瀏覽，請從頂層菜單中選擇內容，然後從下拉菜單中選擇可用的內容類型。本指南的下一節將更詳細地介紹內容類型。

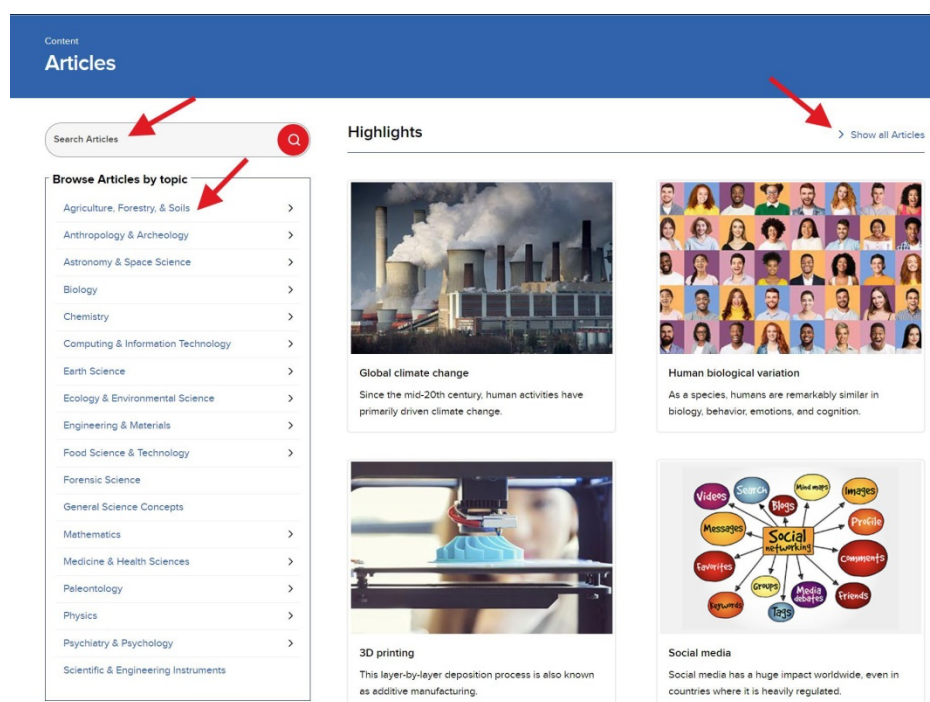


Selecting a content type will lead to a browse page for that content, featuring highlighted content items on the right. Click on the link below an item to open that content item.

選擇內容類型將顯示該內容的瀏覽頁面，並在右側突出顯示內容項目。單擊項目下面的鏈接可打開該內容項目。

To explore a content type further, use the left menu to browse available content by topic, enter search terms to Search within this content type, or select Show all. Each of these options will lead to a results page featuring relevant content. See the section on [Searching](#) for more on results pages and filtering.

如需進一步瀏覽內容類型，請使用左側菜單按主題瀏覽可用內容，輸入搜索詞以在此內容類型中進行搜索，或選擇“顯示全部”。這些選項中的每一個均將生成相關內容的結果頁面。有關結果頁面和篩選的更多信息，請參閱[搜索](#)一節。



Content Types

內容類型

Articles

文章

AccessScience Articles include updated source material from the last edition of the McGraw-Hill Encyclopedia of Science & Technology and previous McGraw-Hill Yearbooks of Science & Technology, including articles exclusive to AccessScience.

AccessScience 文章包括最新版本的 McGraw-Hill Encyclopedia of Science&Technology 和老版的 McGraw-Hill Yearbooks of Science&Technology 的更新源材料，包括 AccessScience 的獨家文章。

Features of articles include:

文章的特點包括：

- Article metadata: expert authors and their affiliations and the date the article was last reviewed.
- 文章元數據：專家作者及其從屬關係和文章最後一次審查的日期。
- Collapsible table of contents and tabs pulling out additional content within articles.
- 可拉出文章中的其他內容的可摺疊的目錄和標籤
- Figures and graphs with the option to open in a new tab or share a direct link.
- 圖形和圖表，可選擇在新選項卡中打開或共享直接鏈接。
- Cross-references to related articles at the end of each paragraph in the article.
- 在文章的每一段末尾交叉引用相關文章。
- Key Concepts highlighting major points students should be able to identify from the article.
- 學生應能夠從文章中識別突出要點的關鍵概念。
- Self-Test questions to evaluate understanding of the content and encourage critical thinking.
- 自我測試問題，以評估對內容的理解並鼓勵批判性思維。
- Related primary literature links to articles from reputable scientific journals to deepen research on a topic.
- 鏈接到著名科學期刊的文章的相關主要文獻，用於深化對某一主題的研究。

Article
Photosynthesis

Govindjee | Robert E. Blankenship | Gerald A. Berkowitz | Archie R. Portis, Jr. | R. J. Shopes

Last reviewed: March 2019

<https://doi.org/10.1036/1097-8542.511700>

Cite | Bookmark | Labels | Annotate | Share

Article | Figures & Tables | Primary Literature | Self Test

Table of Contents
Photosynthesis

Focus view

Key Concepts

- Chlorophyll-containing organisms produce carbohydrates and oxygen.
- Some bacteria conduct anoxygenic photosynthesis and do not produce oxygen.

The synthesis of chemical compounds using light, especially the manufacture of organic compounds (primarily carbohydrates) from carbon dioxide and a hydrogen source (such as water), most often with simultaneous liberation of oxygen, by chlorophyll- or bacteriochlorophyll-containing cells. The term photosynthesis is used almost exclusively to designate one particularly important natural process: the use of light in the manufacture of organic compounds (primarily certain carbohydrates) from inorganic materials by chlorophyll- or bacteriochlorophyll-containing cells (Fig. 1). This process requires a supply of energy in the form of light because its products contain much more chemical energy than its raw materials. This is clearly shown by the liberation of energy in the reverse process, namely the combustion of organic material with oxygen, which takes place during respiration. *See also:* Carbohydrate; Chlorophyll; Energy metabolism; Plant respiration; Respiration

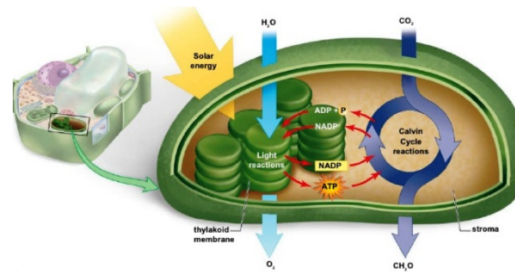


Fig. 1 A simplified diagram of a chloroplast is used to delineate the overall process of photosynthesis. Chloroplasts in the plant cells of leaves absorb light energy and convert it into chemical energy, which is used to synthesize carbohydrates (CH₂O) and liberate oxygen (O₂). (Copyright © McGraw-Hill Education)

Open in new tab

Share

Books
書籍

AccessScience Books include select McGraw Hill college-level science books and Schaum's Outlines available in full for students and teachers alike.

AccessScience 書籍包括精選的 McGraw Hill 大學水平的科學書籍和 Schaum's Outlines，全部可供學生和教師使用。

Features of books include:
書籍的特點包括:

- Collapsible table of contents and tabs pulling out additional content within chapters.
- 可拉出文章中的其他內容的可摺疊的目錄和標籤。
- Previous and next buttons to move through the chapters.
- “上一頁”和“下一頁”按鈕，可在章節中移動。
- Focus view to hide everything except the text for ease of reading.
- 聚焦瀏覽，可隱藏除文本以外的所有內容，以便於閱讀。

This screenshot shows the book page for "Harper's Illustrated Biochemistry". At the top, it lists authors: Victor W. Rodwell, David A. Bender, Kathleen M. Botham, Peter J. Kennelly, and P. Anthony Weil. Below the authors are the ISBN (9781259837937) and copyright information (© 2018 by McGraw-Hill). A row of icons allows for Cite, Bookmark, Labels, Annotate, Share, and Summary PDF. The main content area features a "Table of Contents" tab and a "Description" tab. The Table of Contents is expanded, showing sections: A Coauthors, B Preface, A SECTION I: Structures & Functions of Proteins & Enzymes, and 1. Biochemistry & Medicine. To the right, there are sections for "Related Articles" (Biochemistry, Chemistry, Nutrition) and "Related News".

This screenshot shows the chapter page for "2. Vector Analysis" from "Schaum's Outline of Electromagnetics". Authors listed are Mahmood Nahvi and Joseph A. Edminister. The ISBN is 9781260120974 and copyright is © 2019 by McGraw-Hill. Similar to the book page, it has Cite, Bookmark, Labels, Annotate, Share, and Summary PDF icons. Below the icons are tabs for "Chapter", "Videos", "Figures", and "Examples", with red arrows pointing to each. A "Focus view" button is highlighted with a red box, and red arrows point to "Previous" and "Next" navigation buttons. The main content area shows a "Table of Contents" on the left with "2. Vector Analysis" selected. The main text area displays the chapter title "2. Vector Analysis" and the start of "2.1. Introduction". To the right, there are "Related Articles" (Quaternions, Nonrelativistic quantum theory, Lagrange's equations) and "Related News" (New geologic map of Mars).

News
新聞

AccessScience News includes Editorial Briefings, topical overviews of newsworthy subjects, designed to engage and inform, and News Stories, timely stories from Science News with links to relevant AccessScience content.

AccessScience News包括編輯簡報、有新聞價值主題的專題概述，旨在參與編制和提供信息以及新聞故事，包括科學新聞相關的及時故事，同時附有相關AccessScience內容的鏈接。

Biographies
人物簡介

AccessScience Biographies include life histories of well-known scientists from the Hutchinson Dictionary of Scientific Biography, plus video biographies of Franklin Institute Award winners

AccessScience傳記包括Hutchinson Dictionary of Scientific Biography中著名科學家的生活史，以及富蘭克林研究所獲獎者的視頻傳記。

Videos/Animations
視頻/動畫

AccessScience Videos/Animations include engaging multimedia selections that bring complex concepts to life. Videos all have closed captioning available and some videos can be downloaded for offline use.

AccessScience視頻/動畫中納入了引人入勝的多媒體選項，將複雜概念代入生活中。所有視頻都有隱藏式字幕，有些視頻可以下載供離線使用。

The screenshot displays the AccessScience website interface. At the top, there is a blue header for an 'Editorial Briefing' titled 'Faster-charging batteries for electric vehicles'. Below this, the text indicates it was last reviewed in January 2021 and provides a DOI link. There are icons for Cite, Bookmark, Labels, Annotate, and Share. Below the header, there are two tabs: 'Editorial Briefing' (selected) and 'Primary Literature'. The main content area shows the title 'Faster-charging batteries for electric vehicles' with a 'Focus view' icon. A video player is embedded, showing a video titled 'All About Gluten'. The video player includes a 'Video' label, a play button, and a description: 'Is gluten good for you, or is gluten bad for you? This video breaks down the chemistry and science behind this controversial food ingredient.' Below the video player, there is a 'Related Articles' section with links for 'Wheat', 'Gastrointestinal tract disorders', and 'Celiac disease', and a 'Show More' button. Another 'Related News' section is visible at the bottom right, with links for 'Why people with celiac disease suffer so soon after eating gluten', 'Common virus may be celiac disease culprit', and 'Kids with food allergies are twice as likely to have autism', also with a 'Show More' button.

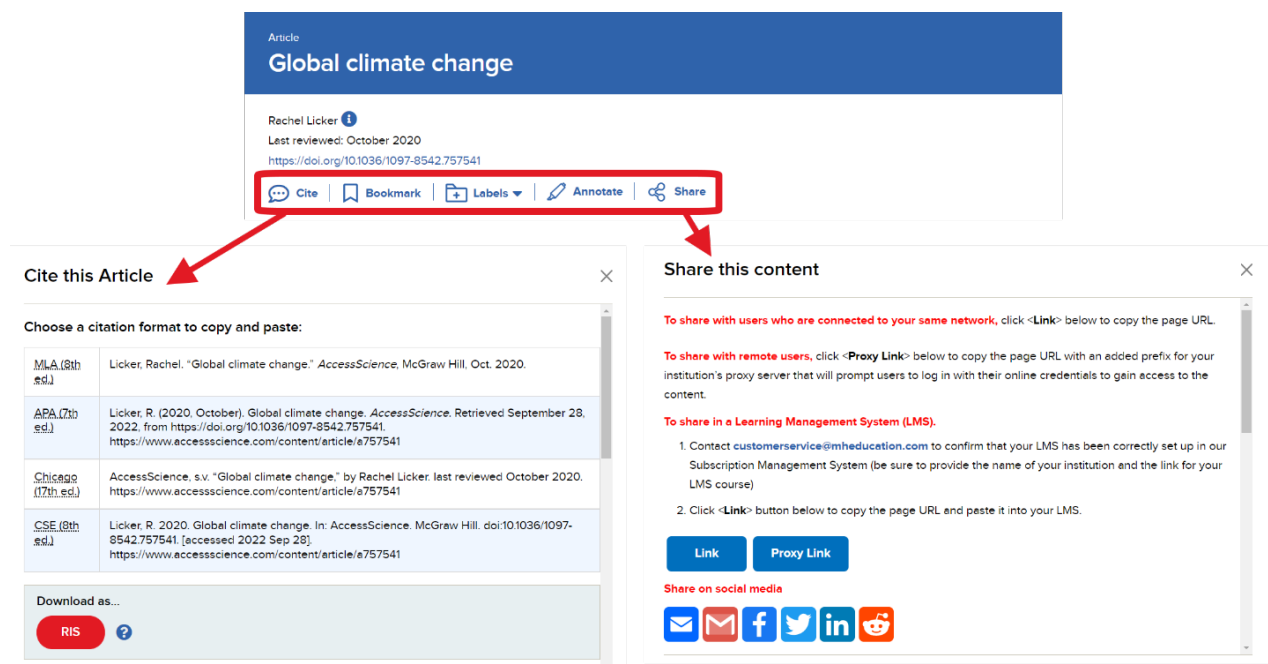
Content Tools

內容工具

Content tools are available at the top of any content page. Some of the content tools require the creation of a personal account, which is described in the [Personal Account](#) section.

內容工具始終位於內容頁面的頂部。某些內容工具需要創建個人帳戶，這在“[個人帳戶](#)”章節中進行了說明。

- Cite provides a citation for the content item, available in several styles or for download as an RIS file.
- 引用提供了內容項的引用，有多種樣式可供使用，也可作為RIS文件下載。
- Bookmark saves the item to your list of bookmarks in your personal account.
- 可通過書籤將項目保存到個人帳戶的書籤列表中。
- Label saves the item to a folder within your personal account.
- 通過標籤將項目保存到個人帳戶內的文件夾中。
- Annotate allows highlighting and commenting using the Hypothesis browser plug. See the next section on [Annotations](#) for more details.
- 註釋允許使用Hypothesis瀏覽器插件突出顯示，並進行註解。有關更多詳細信息，請參見下一節“[註釋](#)”。
- Share provides a direct link to the content and the option to share that direct link via social media
- “Share”提供內容的直接鏈接以及通過社交媒體共享該直接鏈接的選項。
- Summary PDF downloads a PDF copy of the content item for offline use.
- “摘要PDF”選項可下載內容項目的PDF副本，以供離線使用。



The screenshot shows the article page for 'Global climate change' by Rachel Licker. The 'Cite' and 'Share' buttons are highlighted with red boxes. Below are two pop-up windows:

Cite this Article

Choose a citation format to copy and paste:

MLA (8th ed.)	Licker, Rachel. "Global climate change." <i>AccessScience</i> , McGraw Hill, Oct. 2020.
APA (7th ed.)	Licker, R. (2020, October). Global climate change. <i>AccessScience</i> . Retrieved September 28, 2022, from https://doi.org/10.1036/1097-8542.757541 .
Chicago (17th ed.)	AccessScience, s.v. "Global climate change," by Rachel Licker. last reviewed October 2020. https://www.accessscience.com/content/article/6757541
CSE (8th ed.)	Licker, R. 2020. Global climate change. In: <i>AccessScience</i> , McGraw Hill. doi:10.1036/1097-8542.757541. [accessed 2022 Sep 28]. https://www.accessscience.com/content/article/6757541

Download as...

Share this content

To share with users who are connected to your same network, click <Link> below to copy the page URL.

To share with remote users, click <Proxy Link> below to copy the page URL with an added prefix for your institution's proxy server that will prompt users to log in with their online credentials to gain access to the content.

To share in a Learning Management System (LMS):

1. Contact customerservice@mheducation.com to confirm that your LMS has been correctly set up in our Subscription Management System (be sure to provide the name of your institution and the link for your LMS course)
2. Click <Link> button below to copy the page URL and paste it into your LMS.

Share on social media

Related Content

相關內容

All content pages also include a related content sidebar on the right. This section highlights additional content that is relevant to the content item currently being viewed. The related content is separated by content type, with each content type box having the option to expand and Show More suggestions.

所有內容頁面還包括右側的相關內容側邊欄。此部分突出顯示與當前正在查看的內容項相關的其他內容。相關內容按內容類型分隔，每個內容類型框都具有展開和顯示更多建議的選項。

At the bottom of the related content list is a section for Topics which shows the site topics that are tagged to the content item being viewed. These topics are linked so you can launch a search and see all other content on the site tagged to that specific topic.

“相關內容”列表的底部是“主題”部分，其中顯示了標記為正在查看的內容項的網站主題。這些主題是鏈接的，因此您可以啟動搜索並查看網站上標記為該特定主題的所有其他內容。

Article Figures & Tables Primary Literature Self Test

CRISPR/Cas9 gene editing Focus view

Table of Contents

Key Concepts

- CRISPR/Cas9 gene editing is a technique that allows precise targeting of specific stretches of genetic code and editing of DNA at designated locations.
- CRISPR stands for clustered regularly interspaced short palindromic repeat.
- The *cas9* gene encodes a DNA-cutting enzyme, whereas the CRISPR gene encodes many RNA cofactors on the Cas9 enzyme.
- The CRISPR/Cas9 system has been used to engineer the genomes of many different organisms; the system is derived from naturally occurring components of a common prokaryotic immune system.
- The CRISPR/Cas9 system is being developed to correct genetic errors, which could facilitate gene therapies for patients with genetic diseases.

Hide

A genome-engineering technique that allows precise targeting of specific stretches of genetic code and editing of DNA at designated locations. The CRISPR/Cas9 system has been used as a general tool to engineer the genomes of many different organisms; the system is derived from naturally occurring components of a common prokaryotic immune system. Clustered regularly interspaced short palindromic repeats (CRISPRs) and *cas9* are genes found in Bacteria and Archaea, and they mediate immunity in these species (Fig. 1). The *cas9* gene

Related Articles

- Nobel Prizes for 2020
- Restriction enzyme
- Genetically modified organism (GMO)

Show More

Related News

- Expanded range for CRISPR gene editing
- Gene-editing tool CRISPR wins the chemistry Nobel

Show More

Related Book Chapters

- Toxic Responses of the Immune System
- The Flow of Genetic Information

Show More

Topics

- Biomedical engineering & therapy
- Biology
- Genetics

Annotations

注釋

For annotating content on AccessScience, we've teamed up with [Hypothesis](#), an open-source annotation tool that can be used across any digital resource. Create a free Hypothesis account to save and access annotations in AccessScience and across any other websites you use.

為了對AccessScience上的內容進行註釋，我們與[Hypothesis](#)進行了合作，Hypothesis是一個開源註釋工具，可以在任何數字資源中使用。創建一個免費的假設帳戶，以保存和訪問AccessScience中的註釋以及您使用的任何其他網站。

To annotate in AccessScience:

如需在AccessScience中進行註釋:

- Click the Annotate button from any content page to open the Hypothesis toolbar.
- 單擊任何內容頁面中的“註釋”按鈕以打開“Hypothesis”工具欄。
- Choose a group to share annotations with or save to your personal account.
- 選擇要與其共享批註或保存到您的個人帳戶的組。
- Select text quickly highlight or add an annotation.
- 選擇文本快速突出顯示或添加註釋。
- Categorize your annotations with tags, edit or delete your annotations, or reply to annotations.
- 使用標籤對批註進行分類，編輯或刪除批註，或回覆批註。

The screenshot displays the McGraw Hill AccessScience interface. On the left, the book cover for "Casarett & Doull's Essentials of Toxicology" is visible, along with the authors' names: Curtis D. Klaassen and John B. Wetkins, III. Below the cover are navigation options: "Chapter", "Figures", and "Tables". The main content area shows the chapter title "3. Mechanisms of Toxicity" and a "Focus view" button. On the right, an "Annotations" panel is open, showing a note by "ASWeinheimer" from "Biochem" posted 18 hours ago. The note contains a list of four steps in a toxicity process. A red arrow points from the "Annotate" button in the book's toolbar to the annotation panel. At the bottom of the annotation panel, there are icons for editing, deleting, and sharing the note.

Search AccessScience for...

Curtis D. Klaassen | John B. Wetkins, III

Casarett & Doull's Essentials of Toxicology

ISBN: 9781260452297 | Copyright © 2022 by McGraw Hill. All rights reserved.

Cite | Bookmark | Labels | **Annotate** | Share

Chapter | Figures | Tables

Focus view

3. Mechanisms of Toxicity

Annotations 1 | Page Notes

ASWeinheimer 18 hrs ago
Biochem

(1) delivery of the toxicant to its target; (2) Interactions between the toxicant and its target or the microenvironment; (3) progression to cellular dysfunction; and (4) inappropriate repair or adaptation

Four-step process of toxicity- which step has the most effect on the subsequent cell damage?

To manage annotations in your Hypothesis account:

如果要管理Hypothesis帳戶中的注釋：

- Click on your account to see all your annotations across different resources or groups.
- 單擊您的帳戶可查看您在不同資源或組中的所有註釋。
- View annotation content and link to visit in context.
- 在上下文中查看註釋內容和訪問鏈接。
- Display current group members or invite new members with the shareable link.
- 顯示當前群成員或使用可共享鏈接邀請新成員。
- Get additional help on using Hypothesis from their FAQs and tutorials.
- 從他們的常見問題解答和教程中獲取有關使用假設的其他幫助。

Personal Account 個人帳戶

AccessScience has several features which are available only after signing up for a free personal account. Personal accounts are an optional feature and are not required to view or use any of the content on the site. Personal accounts do not replace authentication via your institution; you must first be logged in through your institution to use AccessScience.

AccessScience有幾個功能，只有在註冊免費個人帳戶後才能使用。個人帳戶是一項可選功能，不需要查看或使用網站上的任何內容。個人帳戶不會取代通過您的機構進行的身份驗證；您必須首先通過您的機構登入才能使用AccessScience。

To register for a free personal account:

要註冊免費個人帳戶時：

- Click on My Account in the top menu to open the Manage Access window, where you will see your subscribing organization information.
- 單擊頂部菜單中的“我的帳戶”以打開“管理訪問權限”窗口，您將在其中看到您的訂閱組織信息。
- Select log in via email/username.
- 選擇通過電子郵件/用戶名登入。
- Register for an account by entering the required information.
- 輸入所需信息，註冊帳戶。
- You can reset your password if needed using the “Forgot password?” link on the login screen.
- 如果需要，您可以使用登入屏幕上的“忘記密碼？”鏈接重置密碼。



Manage Access via SAMS Sigma

Manage Access

You already have full content access to AccessScience through your institution. Some site functionality such as bookmarking and alerts require a personal account in addition to content access. To Sign In or Register for a personal account, select Log in via email/username.

You are logged in as...

McGraw Hill (organization)
via IP address

- Log in via email/username
- Log in via a library card
- Redeem a voucher
- Log in via your institution

Return to the website

Manage Access via SAMS Sigma

Log in via email/username

Back

Email or username

Password

Forgot password?

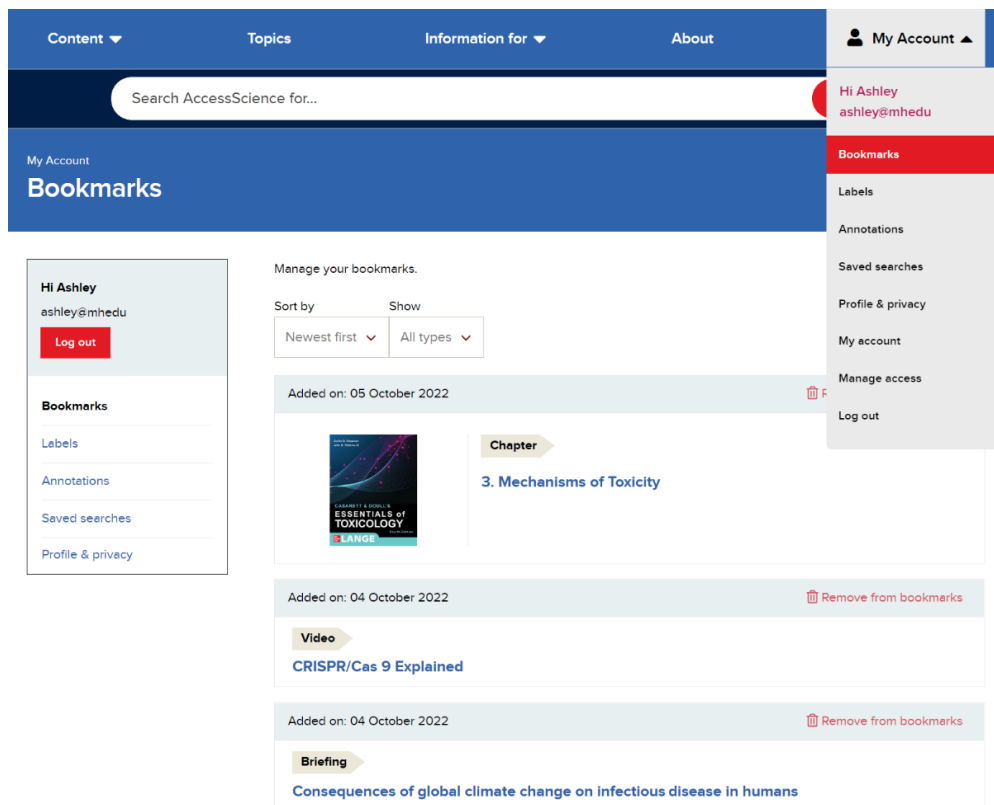
Log in Register

Return to the website

Personal Account features include:

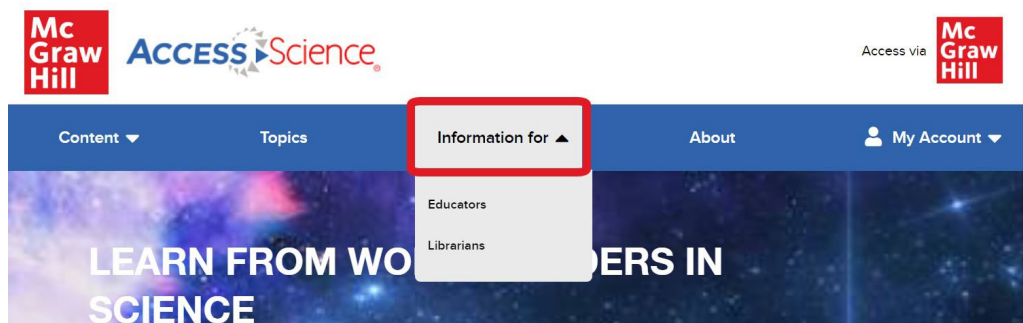
個人賬戶功能包括：

- Add bookmarks or labels to content to organize and easily retrieve content.
- 向內容添加書籤或標籤，以整理和輕鬆檢索內容。
- Save searches and set up email alerts for new content that matches your search terms.
- 保存搜索，併為與您的搜索條件匹配的新內容設置電子郵件提醒。
- Select your interests to receive updates when new content is added in those areas.
- 選擇您關注的領域，以便在這些領域有新內容時接收更新。



Support 支持

The Information For option from the top-level menu provides additional resources for Educators and Librarians. 頂級菜單中的選項信息為教育工作者和圖書館管理員提供了額外的資源。



The Educators page includes:

“教育工作者”頁面包括：

- Link to a document containing answers to the Self-Test article questions
- 包含自測文章問題答案的文檔的鏈接；
- Guide to using AccessScience in distance learning
- 在遠程學習中使用的AccessScience指南；
- Recordings of author-led topical webinars
- 作者主導的專題網絡研討會的錄音。

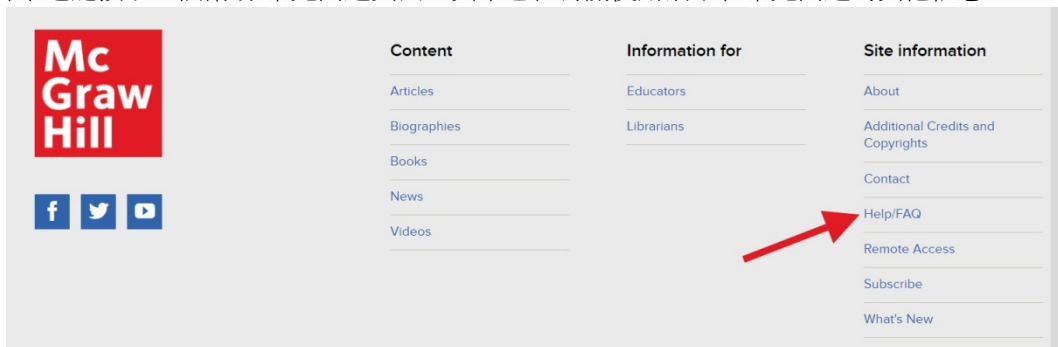
The Librarians page includes:

圖書館管理員頁面包括：

- Information on setting up Proxy Server access
- 有關設置代理服務器訪問的信息；
- Instructions for accessing the SAMS Sigma admin portal for usage statistics and account information
- 有關訪問SAMS Sigma管理門戶以獲取使用統計數據和帳戶信息的說明；
- MARC records
- MARC記錄
- Site accessibility information
- 站點可訪問性信息
- Promotional materials
- 推廣材料
- User guides and video tutorials
- 用戶指南和視頻教程
- Information on upcoming trainings and recordings of previous training sessions and topical webinars
- 有關即將舉行的培訓以及以前的培訓課程和專題網絡研討會的信息。

There is also a Help/FAQ page linked in the site footer which contains additional information on using the site and common issues.

網站頁腳中還鏈接了一個幫助/常見問題頁面，其中包含有關使用網站和常見問題的其他信息。



Contact Us

代理商 文崗資訊股份有限公司 apexi@apexi.com.tw



For further questions and help, please email **Customer Success** at **McGraw Hill** at customersuccess@mheducation.com.

若有更多問題或需要幫助，請發送電子郵件至**McGraw Hill**的**客戶成功團隊**，電子郵箱：customersuccess@mheducation.com.