Science Teaching Resources

Guide Information
Last Updated: Nov 28, 2013
Guide URL: http://libguides.nl.sg/science_teaching_resources
Description: This LibGuide contains science stories that will inspire children to learn the subject better.
Tags: cycles, diversity, interactions, systems
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☐ 1  ☐ 2  ☐ 3  ☐ 4  ☐ 5
Not Useful  Very Useful

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Introduction
This library guide (LibGuide) is compiled as a reference for science teachers and parents. It is hoped that, through these science stories, children are inspired to learn the subject better.

The resources are arranged based on the following themes: Diversity, Cycles, Systems, Interactions and Energy. The section on ‘Others’ features additional science topics, other than the five mentioned earlier.

This guide is not meant to be exhaustive and efforts are being made to provide brief details/extracts on the selected literature, comprising both fiction and non-fiction titles.

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Diversity

Websites
- Animal classification
  [http://www.sheppardsoftware.com/content/animals/kids/corner/classification/kc_class_again.htm](http://www.sheppardsoftware.com/content/animals/kids/corner/classification/kc_class_again.htm)
  Explanation of classification of animals in an easy to understand manner
- Classification of living things
  Information on classification with pictures

Books
- Birds (Discover Science) by Davies, Nicola
  Call Number: J 598 DAV
  Publication Date: April 24, 2012
  An introduction to the physical characteristics, behaviour, and life cycle of birds. Includes related activities. (Extracted from book cover)
- Man-eating plants: Toothless wonders by Lawrence, Ellen
  Call Number: JP 575.9 LAW
  Publication Date: August 2012
  Discover how some plants catch unsuspecting insects and other small animals in their deadly traps to get the nutrients they need for growth and survival. (Extracted from book cover)
- Materials by Gifford, Clive
  Call Number: J 530 GIF
  Publication Date: April 1, 2012
  Examine how liquids, solids, gases and other materials are used, and includes easy-to-follow projects to do at home and outside. (Extracted from book cover)
- Strange worlds, fantastic places by Mason, Antony
  Call Number: J 508 MAS
  Publication Date: 1997
  Describes various strange and unusual places on Earth, including the diversity of living things which thrive there.
- The Puffin book of five minute animal stories by Cox, Steve
  Call Number: J S PUF
  Publication Date: November 29, 2001
  Contains various animal stories (fiction). One is on diversity of fishes in the oceans of the world (A fish of the world/Jones, Terry)
- This book might make you gag: a collection of crazy, gross trivia by Miller, Connie Colwell
  Call Number: J 502 MIL
  Publication Date: January 1, 2012
  Describes a variety of gross trivia facts about bugs and animals, food, history, and the human body. Provided by the publisher. Librarian's note: May be an interesting way to introduce the theme of diversity from looking at how weird (and diverse) living and non-living things can be in some corners of the world.

Articles from eDatabase
The following is a list of articles based on the theme, Diversity.

1. Title: Sit, Stay, Recycle!
   eDatabase: EBSCOHost Primary Search
   Description: Importance of recycling

2. Take care of our world
   eDatabase: EBSCOHost Primary Search
   Description: The article provides some suggestions on how to be earth friendly. For example, to use less electricity, it recommends to turn off unneeded lights and let the sun light up rooms in the daytime. Also suggested is the recycling and reuse of paper to help reduce trash and ease up the burden on landfills. The use of cloth bag instead of plastic bags is recommended. A crew of six which sailed the Pacific ocean on a boat made of plastic bottles and recycled materials is also mentioned. (Extracted from article abstract)

Videos
Cycles

Websites

- Animal life cycles
  [http://www.kidzone.ws/animals/lifecycle.htm](http://www.kidzone.ws/animals/lifecycle.htm)
  Simple explanation of animal life cycles, accompanied by worksheets

- Interactive plant biology: A kid's guide to the life cycle of a flower
  Life cycle of flowers - interactive activities

- Life cycle of butterflies and moths
  Life cycle of butterflies and moths

- Life cycles games and activities
  [http://resources.woodlands-junior.kent.sch.uk/revision/science/living/lifecycle.html](http://resources.woodlands-junior.kent.sch.uk/revision/science/living/lifecycle.html)

Books

- A bean's life by Royston, Angela
  Call Number: JP 635 BEA
  Publication Date: July 15, 2011
  The life cycle of a plant, from the beginning to the end.

- Matter comes in all shapes by Hansen, Amy
  Call Number: JP 530 HAN
  Publication Date: September 9, 2011
  Engaging text and colourful images to explain the concept of matter.

- Properties of Matter by Hirsch, Rebecca E.
  Call Number: J 530.4 HIR
  Publication Date: August 1, 2011
  Through engaging, interactive scenarios, students can experiment with text prediction, purpose-driven research and creative problem solving - all critical skills while learning key scientific principles. (Extracted from book cover). Librarian's note: Teaches the concept of matter through a background story about Ian Whitma, who keeps a journal when he attends a science camp.

- The solid truth about states of matter with Max Axiom, super scientist by Biskup, Agnieszka
  Call Number: J 530.4 BIS
  Publication Date: January 1, 2009
  In graphic novel format, follow the adventures of Max Axiom as he explains the science behind the states of matter.

- Think like a scientist in the kitchen by Mullins, Matt
  Call Number: J 507.2 MJL
  Publication Date: August 2011
  In this series, Science Explorer Junior, teaches students thinking and observation skills as they try activities that touch on topics such as 'Water + heat = water cycle?'

- What lily gets from bee: and other pollination facts by Lawrence, Ellen
  Call Number: JP 571.8 LAW
  Publication Date: August 2012
  Discover the role that bees and other animals play in pollinating flowers and plants. (Extracted from book cover)

Videos

Disco
Systems

Websites

- Digestive system
  Science educational videos, lessons and games for kids

- Plants
  [http://www.neok12.com/Plants.htm](http://www.neok12.com/Plants.htm)
  Science educational videos, lessons and games for kids

- The digestive system
  [http://www.e-learningforkids.org/Courses/Liquid_Animation/Body_Parts/Digestive_System/index.html](http://www.e-learningforkids.org/Courses/Liquid_Animation/Body_Parts/Digestive_System/index.html)
  Elearning material for the teacher to go through with the students

Books

- A tour of your digestive system by Kolpin, Molly
  Call Number: J 612.3 KOL
  Publication Date: August 1, 2012
  The human digestive system is explained in an easy to understand way.

- Digestive system by Tieck, Sarah
  Call Number: J 612.3 TIE
  Publication Date: January 2011
  The digestive system is explained in an engaging way. Content is accompanied by colourful graphics and close-up photographs.

- Plants by Lynette, Rachel
  Call Number: J 580 LYN
  Publication Date: January 1, 2012
  Information about plant and plant parts

- The human body by Hewitt, Sally
  Call Number: J 612 HEW
  Publication Date: June 10, 2010
  Explore the human body through an exciting combination of information and step-by-step activities

Articles from eDatabase

The following is a list of articles based on the theme, Systems.

1. Title: Aristotle ... Scientific Deduction
   eDatabase: EBSCOHost Primary Search
   Description: Aristotle made detailed studies of plants and animals by taking them apart to learn how they functioned. He examined how the individual parts contribute to the operation of the whole and how each part affects the other.

2. Title: Grind, Gulp, and Gurgle!
   eDatabase: EBSCOHost Primary Search
   Description: The article provides information on the digestive system and and the process of ingestion and digestion. (Extracted from article abstract)

3. Title: Burp, Rumble, Toof!
   eDatabase: EBSCOHost Primary Search
   Description: The article explains the digestive system in an interesting way. The article is set in the context of lunchtime, e.g. Why a student burps after drinking bubbly drinks and etc.
Interactions

Websites

- Magnets and springs
  http://www.bbc.co.uk/schools/scienceclips/ages/7_8/magnets_springs.shtml
  Interactive experiments in which students can see which objects are attracted to magnets

Books

- A look at magnets by Alpert, Barbara
  Call Number: JP 538 ALP
  Publication Date: August 1, 2011
  A book that introduces magnetism to students.

- Amazing magnetism by Carmi, Rebecca
  Call Number: JS CAR
  Publication Date: November 1, 2002
  Stories of how a boy learns about magnetism in a class setting. For e.g. the learning point for chapter 1 is as follows: Magnets are attracted to metals. Metals that contain iron and steel attract magnets well. Metals like brass, copper, zinc and aluminium are not attracted to magnets.

- Animal Disguises (Discover Science) by Weber, Belinda
  Call Number: J 591.47 WEB
  Publication Date: December 21, 2010
  An introduction to why animals use camouflage. This book is suitable for primary 5/6 students.

- Experiments with magnets and metals by Taylor-Butler, Christine.
  Call Number: J 538 TAY
  Publication Date: August 1, 2011
  Simple, hands-on experiment with magnets and metals. The scientific method is also mentioned here.

- Magnet power by Silverman, Buffy
  Call Number: JP 538 SIL
  Publication Date: September 9, 2011
  An introduction to magnets

Articles from eDatabase

The following is a list of articles based on the theme, interaction.
Energy

Websites

- Energy Quest
  http://energyquest.ca.gov/index.html
  Interactive website for students to learn about energy
- Energy star kids (Be an energy star)
  http://www.energystar.gov/index.cfm?c=kids.kids_index
  Interactive website for students to learn about energy
- Kids energy zone
  http://www.kidsenergyzone.com/
  Interactive website for students to learn about energy

Books

- A refreshing look at renewable energy with Max Axiom, super scientist by Krohn, Katherine E.
  Call Number: J 333.79 KRO
  Publication Date: August 1, 2009
  Students are introduced to the various sources of renewable energy through the adventures of a character.
- Go easy on energy by Bullard, Lisa
  Call Number: JP 333.791 BUL
  Publication Date: September 2011
  A book that explains why we use electricity and the different types of energy used everyday through simple text and attractive pictures.
1. Title: Bright idea
   eDatabase: EBSCOHost kids search
   Description: The article reports on the project which involves the construction of solar-powered supertrees in Singapore. (extracted from article abstract)

2. Title: Plastic bottles light homes
   eDatabase: EBSCOHost kids search
   Description: The article presents information on the solar bottle bulb developed by an engineer at the Massachusetts Institute of Technology. (extracted from article abstract)

3. Title: Light flight
   eDatabase: EBSCOHost kids search
   Description: The article focuses on the success of the flight of a British made solar-powered unpiloted aircraft called the Zephyr in summer of 2010, in which it was able to stay airborne for 14 days and 21 minutes. (extracted from article abstract)

4. Title: Energy from the sun...solar power
   eDatabase: EBSCOHost kids search
   Description: An introduction to energy for primary school students.

Videos

Energy Conservation for Kids - Heating and Cooling

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Books

- **City food chains by Vogel, Julia**
  Call Number: J 577.5 VOG
  Publication Date: September 1, 2010
  Food chains in the city. Shows students how food chains, besides what is learnt in classroom, is also present in daily citylife.

- **Does it really take seven years to digest swallowed gum? and other questions you’ve always wanted to ask by Donovan, Sandra**
  Call Number: J 502 DON
  Publication Date: March 2010
  This book explores the answers to various questions such as “Can you fry an egg on the sidewalk if it's very warm outside?”, “Can a spark from a cell phone make a gas station explode?” and etc.

- **Extreme Scientists by Gibson, Brylee**
  Call Number: J 500.8 GIB
  This book describes the work of scientists who work under extreme conditions in places such as ice caves, shark cages and volcanoes.

- **Inventors and discoveries by Sturm, Jeanne**
  Call Number: J 509 STU
  Publication Date: August 1, 2011
  Examines some of the many important inventions and discoveries throughout history. (Extracted from book cover)

- **Science Detectives by Goldsmith, Mike, Dr**
  Call Number: J 509.2 GOL
  Publication Date: June 3, 2010
  The works of scientists like Archimedes, Isaac Newton and Charles Darwin are featured here.

- **Scientists: the lives and works of 150 scientists by Saari, Peggy, et al. (eds.)**
  Call Number: J 599.22 SCI
  Publication Date: September 10, 1996
  This book presents the biographies of various scientists whose inventions have impacted lives.

- **Seals (Amazing animals) by Wilsdon, Christina**
  Call Number: J 599.79 WIL
  Publication Date: August 1, 2011
  Examines some of the many important inventions and discoveries throughout history. (Extracted from book cover)

- **Think like a scientist in the garden by Mullins, Matt**
  Call Number: J 580.724 MUL
  Publication Date: August 1, 2011
  A book that teaches various science concepts through experiments.

Websites

- **Forces in action**

**Accessing the resources**

**How to access the databases**

To begin using databases and other electronic resources, you will first need to register as a Digital Library member (registration is free-of-charge) at our eResources webpage ([http://eresources.nlb.gov.sg/](http://eresources.nlb.gov.sg/)). Please note the following conditions:

i. Not all e-resources are accessible from home. Please refer to the access rights stated per resource on the eResources webpage.

ii. If you are NOT a Singaporean/PR, you will not be able to access any of the e-resources from home (even those that are labelled as accessible from home on the webpage).

iii. Please log in to the eResources portal to use the resources. Materials available in the library’s eResources (e.g., articles in specific databases) may come up in your searches in Google, Yahoo, MSN, etc. However, you will NOT be able to access those information if you are not logged in and searching from the eResources portal.

When you face problems registering or logging in, please contact 63323255 or send an email to helpdesk@nlb.gov.sg.

If you wish to find information in the databases but am not sure where to begin, or need recommendations on which databases to use, please use the “Ask A Librarian” function or search from the eResources portal.

**How to access the print materials**

**Introduction**

The list of recommended books for each theme can be found in the public library. You can search the library catalogue (for physical copies) in the library and from home ([http://catalogue.nlb.gov.sg](http://catalogue.nlb.gov.sg)). The easy search function allows you to search/browse by author, title, keyword, subject and ISBN/ISSN whereas the advanced search allows you to narrow your searches to specific media types or language holdings. In both instances, you will also be able to limit your search to search only specific libraries by clicking on the "limit by branch" option.

**To search Lee Kong Chian Reference Library’s Holdings**

If you wish to search for only materials available in the Lee Kong Chian Reference Library, please always click on the "Limit by Branch" button at the bottom of the page, after you have keyed in your search term. This brings you to a new page whereby you will be able to select the library of your choice. Choose "Lee Kong Chian Reference Library" and select "yes" under the "Display only items available in the selected branch below" and then click on search.

**Things to note:**

Once you have identified the title that you need, please double check through the following information and write down the necessary info:

i. The "Status" of the item: the item is **not available** in the library, if the status displayed is "in transit", "in process" or "not ready for loan".

ii. Double check that the item is in Lee Kong Chian Reference Library under "Branch".

iii. Write down the **Location Code** and the **Call Number** of the item. This helps you to locate the item within Lee Kong Chian Reference Library. Please refer to the table below for more information. (Note: The table below reflects the new arrangement of the collections that will be effective from 10th August 2010. In the meantime, please feel free to approach the counter staff for help in locating the books.)

All featured books and periodicals are located at the Lee Kong Chian Reference Library.
In each citation, each book and periodical is indicated with a location code and call number for easy reference (e.g.: RSEA332 ESS). Please refer to the table below to locate the materials. (Note: The table below reflects the new arrangement of the collections that will be effective from 10th August 2010. In the meantime, please feel free to approach the counter staff for help in locating the books.)

<table>
<thead>
<tr>
<th>Level</th>
<th>Location Code</th>
<th>Type of Collection</th>
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<tbody>
<tr>
<td>11 - Singapore and Southeast Asia (English) Collections</td>
<td>RSING, RSEA, JRSING, YRSING, RAV, RCLOS*, RRARE</td>
<td>All SING/SEA English materials except: Arts and Literature (which are on L8)</td>
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<td>10 - National Library Gallery</td>
<td>RDTYS, RDTSH, RDKSC*</td>
<td>Donors' Collections</td>
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<td>Donors’ Gallery</td>
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<td>Exhibition Gallery</td>
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<td>9 - Chinese, Malay and Tamil Resources</td>
<td>RSING, RSEA, RCO, RART, RBUS</td>
<td>All Chinese, Malay and Tamil materials, except for China Business resources (RCR)</td>
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<tr>
<td>8 - Arts &amp; Social Sciences</td>
<td>RART, RSING, RSEA, R, RDET</td>
<td>All Arts collections including Singapore &amp; SEA</td>
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<td>Singapore &amp; SEA English literature</td>
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<td>Non-SING/SEA Social Sciences collection, including literature</td>
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<td>Edwin Thumboo Collection</td>
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<td>7 - Business and Science &amp; Technology Collections</td>
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<td>Bloomberg and SGX IRIS stations</td>
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