

The **Exhibition Program at the National Library of Medicine** conducts scholarly research in science, medicine, and history; and interprets and presents that research to diverse audiences in museum-style exhibitions. These exhibitions contain a rich array of primary sources and inter-disciplinary topics that can engage young students visually and intellectually.

The following online exhibitions contain K-12 classroom resources, such as online activities, lesson plans, or career information:



Against the Odds: Making a Difference in Global Health

(www.nlm.nih.gov/againsttheodds/)

Grade Levels: 6-12+

Description: *Against the Odds* highlights stories of communities who, in collaboration with scientists,

advocates, governments, and international organizations, are taking up the challenge to prevent disease and improve quality of life around the world. The **Online Activities & Resources** section provides lesson plans and online activities, and the **Get Involved** section offer opportunities to view different perspectives and share one's own thoughts.

Visible Proofs: Forensic Views of the Body

(www.nlm.nih.gov/visibleproofs/)

Grade Levels: 6-12+

Description: *Visible Proofs* presents a rich collection of images and stories about the history and the development



of the forensic field. The **Education** and **Resources** sections offer K-12 online activities, lesson plans, bibliographies, and career information.



Changing the Face of Medicine: Celebrating America's Women Physicians

(www.nlm.nih.gov/changingthefaceofmedicine/)

Grade Levels: 3-12

Description: *Changing the Face of Medicine* features the lives and work of more than

300 women physicians from the 19th century to the present day. The online exhibition provides a searchable database of the women physicians and films of select women. Four online activities are available in the **Activities** section, and lesson plans and career resources are in the **Resources** section.

The Once and Future Web:

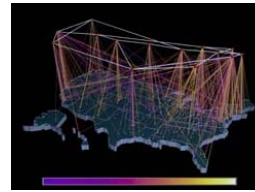
Worlds Woven

by the Telegraph and Internet

(www.nlm.nih.gov/onceandfutureweb/)

Grade Levels: 7-12

Description: *The Once and Future Web* presents the parallel history of the telegraph and the Internet with various audiovisual primary sources. These multi-sensory materials can engage students in research and exploring the historical, technological, and social context in which the telegraph and the Internet developed and flourished. This web site offers the **Learning Station** section with online and classroom activities.



Dream Anatomy

Dream Anatomy

(www.nlm.nih.gov/dreamanatomy/)

Grade Levels: 6-12

Description: *Dream Anatomy* presents a rich collection of images reflecting the anatomical imagination from the 1500s to the present. This web site includes a **Learning Station** with three lesson plans and two online activities.

Frankenstein: Penetrating the Secrets of Nature

(www.nlm.nih.gov/hmd/frankenstein/frankhome.html)

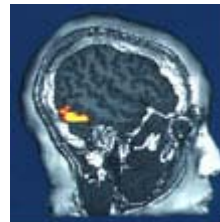
Grade Levels: 9-12

Description: The *Frankenstein* web site encourages audiences to examine the intent of Mary Shelley's novel, *Frankenstein*, and to discuss Shelley's and their own views about personal and societal responsibility as it relates to science and other areas of life. The online exhibition explores the historical context of Shelley's work and how the ideas, thoughts, and fears of her time still endure in ours.

Emotions and Disease (www.nlm.nih.gov/hmd/emotions/emotionshome.html)

Grade Levels: 11-12+

Description: *Emotions and Disease* uses historical approach and primary source materials to convey the complex relationships between scientific theories, popular ideas, and their cultural context. Using images and text, the exhibition shows our efforts to understand any relationship between the body and mind though time.



Breath of Life (www.nlm.nih.gov/hmd/breath/breathhome.html)

Grade Levels: 9-12 (whole site)

Grade Levels: 3-8 (**Research & Interactives** sections)

Description: *Breath of Life* examines the medical and human history of asthma. In addition to providing a historical perspective, the exhibition offers practical resources to help answer questions, such as "What is asthma?" "Who has asthma and why?" "Can it be managed, prevented, or cured?" and "How do people cope with asthma?"

Other NLM Online Resources

Profiles in Science (www.profiles.nlm.nih.gov)

Grade Levels: 9-12

Description: This online archive features prominent biomedical scientists of the 20th century through collections of their laboratory notes, correspondence, newspaper clippings, photographs, oral histories, and unpublished manuscripts.

Images from History of Medicine (www.ihm.nlm.nih.gov)

Grade Levels: 5-12

Description: This is an online image database of nearly 65,000 images that are in the NLM historical prints and photograph collection. The collection includes diverse visual materials—posters, portraits, maps, caricatures, genre scenes, etc.—that illustrate the social and historical aspects of medicine.

Turning the Pages Online

(archive.nlm.nih.gov/proj/http/books.htm)

Grade Levels: 3-12

Description: This online interactive brings ancient books to life, allowing you to "turn the pages" of books with the click of a mouse. Using the zoom feature, you can take a close look at the illustrations and text as if you are looking at the book itself!

ToxMystery (<http://toxmystery.nlm.nih.gov>)

Grade Levels: 2-6

Description: *ToxMystery* offers an activity-based exploration of hazardous household materials. In addition, the site provides lesson plans and activities for teachers.

ToxTown (www.toxtown.nlm.nih.gov)

Grade Levels: 9-12

Description: *Tox Town* highlights 1) everyday locations where toxic chemicals might be found; 2) how the environment can affect human health; and 3) links to authoritative chemical information and environmental health resources on the Internet.

Relevant Educational Standards

Information Literacy Standards for Student Learning

(American Association of School Librarians, Association for Educational Communications and Technology)

- The student who is information literate uses information accurately and creatively.
- The student who is an independent learner is information literate and pursues information related to personal interests.
- The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.
- The student who contributes positively to the learning community and society is information literate and recognizes the importance of information to a democratic society.

English Language Arts Standards

(National Council of Teachers of English)

- Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
- Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.
- Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

National Science Education Standards

- **Science as inquiry:** Students develop understandings about scientific inquiry that
 - a) scientific investigations involve asking and answering questions and comparing the answer with what scientists already know about the world;
 - b) different kinds of questions suggest different kinds of scientific investigation;
 - c) mathematics is essential in scientific inquiry; and
 - d) scientists make the results of their investigations public so that others can repeat the investigation, and review and ask questions about results of other scientists' work.
- **Science and Technology:** Students develop understandings about science and technology that:
 - a) tools help scientists make better observations, measurements, and equipment for investigations;
 - b) people have always had questions about their world and science is one way of answering questions and explaining the natural world;
 - c) creativity, imagination, and a good knowledge base are all required in the work of science and engineering; and
 - d) many different people in different cultures have made and continue to make contributions to science and technology.
- **Science in Personal and Social Perspective:** Students develop understandings that
 - a) selection of food and eating patterns determine nutritional balance; and
 - b) progress in science and technology can be affected by social issues and challenges.
- **History and Nature of Science:** Students develop understandings of science as a human endeavor and the history of science where:
 - a) scientists are influenced by societal, cultural and personal beliefs and ways of viewing the world; and science is not separated, but a part of society.
 - b) In history, diverse cultures have contributed scientific knowledge and technological inventions.



Exhibition Program K-12 Resources on the Web

[www.nlm.nih.gov/hmd/about/
exhibition/index.html](http://www.nlm.nih.gov/hmd/about/exhibition/index.html)

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