NLM Online Playground:
K-12 Science and Health Education Resources
National Network of Libraries of Medicine
Objectives

▸ Identify at least six K-12 resources from the National Library of Medicine

▸ Locate lesson plans to supplement current curriculum/youth programming

▸ Find resources for K-12 populations that can be used for homework help, research projects, and/or health and science programming
NNLM Organizational Structure

NIH
- National Institutes of Health
  - The nation’s medical research agency, comprised of 27 Institutes and Centers

NLM
- National Library of Medicine
  - An NIH Institute and the world’s largest biomedical library

NNLM
- National Network of Libraries of Medicine
  - Comprised of 8 Regional Medical Libraries and 5 Offices

RML
- Regional Medical Library
  - 8 university health science libraries serve as regional offices to promote and provide access to health information in their communities
The National Network of Libraries of Medicine's (NNLM) mission is to advance the progress of medicine and improve public health by providing all U.S. health professionals with equal access to biomedical information and improving the public's access to information, enabling them to make informed decisions. www.nnlm.gov
For Your Audience

Teachers – Find resources for lesson planning and programming.

Students – Homework and research project help for digital natives.

Librarians – Gatekeeper. Open the gates to authoritative data in an organized way. For some, their only access may be your library.
NLM K-12 Science and Health Education Topics

- Biology
- Careers
- Environmental Health Science/Chemistry
- Forensics and Medical Technology
- General Health
- Genetics
General Health/Drug Information
MedlinePlus: Topics of Interest

- Health Topics
- Drugs, Herbs, and Supplements
- Videos and Tools
- HealthDay (latest health news)
- Evaluating Health Information
- Available in English & Spanish
MedlinePlus – Videos, Tools, and Games

Watch health videos on topics such as anatomy, body systems, and surgical procedures. Test your knowledge with interactive tutorials and games. Check your health with calculators and quizzes.

Health Videos
View videos of anatomy and body systems and how diseases and conditions affect them.

Surgery Videos
Find videos of operations and surgical procedures.

Health Check Tools
Check your health with interactive calculators, quizzes and questionnaires.

Games
Boost your health knowledge by playing interactive health games.

Understanding Medical Words
Evaluating Health Information
To Your Health: NLM update
NIHSeniorHealth Videos

https://medlineplus.gov/videosandcooltools.html
Health Information Tutorials

The ability to evaluate health information is a useful skill.

- Evaluating Internet Health Information Tutorial
- Finding and Using Health Statistics
- Guide to Healthy Web Surfing
- Understanding Medical Words (game)
TEENS

MedlinePlus Teen Health Page

CHILDREN

MedlinePlus Children's Health Page
Health Information

PubMed

PubMed comprises more than 26 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

PubMed is a free resource that is developed and maintained by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM) located at the National Institutes of Health (NIH). [www.pubmed.com](http://www.pubmed.com)
PubMed Tutorials

- PubMed simple subject search
- PubMed Quick Start
- PubMed for trainers/librarians: https://nnlm.gov/classes/pml
PubMed Central (PMC) is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health’s National Library of Medicine (NIH/NLM).

Get Started
- PMC Overview
- Users’ Guide
- Journal List
- PMC FAQs
- PMC Copyright Notice

Participate
- Information for Publishers
- Add a Journal to PMC
- Participation Agreements
- File Submission Specifications
- File Validation Tools

Keep Up to Date
- New in PMC | RSS
- PMC Announce Mail List
- Utilities Announce Mail List
- Tagging Guidelines Mail List

Other Resources
- PMC International
- Text Mining Collections
- Funding
- NIH Librarians
- PMC Citation Search
- PMC Accessibility

Public Access
- Funders and PMC
- How Papers Get Into PMC
- NIH Manuscript Submission System
- My Bibliography
- PMCID/PID/NIHMSID Converter

4 MILLION Articles
are archived in PMC.
Content provided in part by:

1924 316 3919
Full Participation Journals NIH Portfolio Journals Selective Deposit Journals

http://www.ncbi.nlm.nih.gov/pmc/
AIDS Information

- AIDSinfo: aidsinfo.nih.gov
- Available in English & Spanish
- Infographics
- Education Materials
  - Select audience options: Students, educators, Spanish speakers, etc.
DailyMed

This website contains 85,000 drug listings as submitted to the Food and Drug Administration (FDA).

At the present time, this Web site does not contain a complete listing of labels for approved prescription drugs.

NEWS

DailyMed Announcements

Posted: June 23, 2017

Searching by Application Number Now Available

Users can now search DailyMed by drug product application number. The application number is assigned by FDA staff to each application for approval to market a drug in the United States. There are currently application numbers for five types of application included in DailyMed:

- New Drug Application (NDA)
- Abbreviated New Drug Application (ANDA)
- Biologic License Application (BLA)
- New Animal Drug Application (NADA)
- Abbreviated New Animal Drug Application (ANADA)

When searching by application number, users must prepend the application type to the application number to retrieve drug product records. For example, searching by 'NDA2061601' will retrieve the record for abuse-deterrent Atenolol oral tablets, and searching by 'ANDA2003506' will retrieve a set of results for...

FDA GUIDANCES & INFORMATION

Drug Guidance, Compliance & Regulatory Information

- View FDA Structured Product Labeling Resources
- View FDA Drug Labeling Guidelines
- View All FDA Drug Guidelines

NLM SPL RESOURCES

The following Structured Product Labeling (SPL) resources have been created to assist industry professionals.

Download Data

- All Drug Labels
- All Indexing Files
- All Mapping Files

SPL Image Guidelines

Guidelines for SPL image files of oral solid dosage forms that are submitted to the FDA with SPL documents.
Quickly identify unknown drugs by color, shape, size, imprint, and scoring. Pill images are included when available. https://pillbox.nlm.nih.gov/pillimage/search.php

Once a pill has been identified, additional information is provided, including brand/generic name, ingredients, and the National Drug File identification number. Links are provided to NLM drug information resources, such as drug labels from DailyMed and the Drug Information Portal, which searches NIH and FDA drug information resources.
Importance

How or why are these resources important to you and your students?

- Health literacy for your students
- Access to credible sources for free

https://www.nih.gov
Careers
CELEBRATING AMERICA’S WOMEN PHYSICIANS

This exhibition honors the lives and achievements of women in medicine. Women physicians have excelled in many diverse medical careers. Some have advanced the field of surgery by developing innovative procedures. Some have won the Nobel prize. Others have brought new attention to the health and well-being of children. Many have reemphasized the art of healing and the roles of culture and spirituality in medicine.

PHYSICIANS

Each woman physician has carved out her own unique path in the world of medicine. Sample that diversity by exploring the stories of the women presented here. View a video of the doctor describing her medical journey in her own words.
Careers: Haz-Map

An occupational health database designed for health and safety professionals and for consumers seeking information about the adverse effects of workplace exposures to chemical and biological agents. hazmap.nlm.nih.gov
Careers – NLM Resources

Physician Assistants, commonly called PAs, practice medicine as part of a team. PAs are nationally certified professionals who evaluate, diagnose, treat, and care for patients, with physician supervision.

CONTINUE to INTRODUCTION

LEARN more
Explore educational resources.

EXPLORE the exhibition

BOOK the traveling exhibition

Physicians Assistants Collaboration and Care
Health Occupations
Also called: Health careers, Health professions, Medical occupations, Medical professions

Every day, around the clock, people who work in the health care industry provide care for millions of people, from newborns to the very ill. In fact, the health care industry is one of largest providers of jobs in the United States. Many health jobs are in hospitals. Others are in nursing homes, doctors' offices, dentists' offices, outpatient clinics and laboratories.

Health Careers - MedlinePlus
Environmental Health/Chemistry
Environmental Health, Toxicology and Chemistry

The “Tox” pages
- ToxLearn
- ToxLine
- ToxMap
- ToxTutor

- ToxInvaders
- ToxNet
- ChemIDplus
- Tox Town and ToxMystery: available in Spanish.
ToxMystery

Elementary. Help Toxie the Cat find hazards in the house. Lesson plans available!
ToxMystery: Instructions

Getting started:
You can click on the rooms in any order.

Roll your mouse over things in the house, and if it moves, click on it.

When the question box pops up, click on the answer.

If you need a hint, press on Toxie.

The scorekeeper will let you know if you have found all of the

Good Luck!
Environmental Health Student Portal

Middle school. Articles, games, activities, and videos.
Curriculum units available. Also available in Spanish.
Your resource for searching databases on:

- Hazardous chemicals
- Environmental health
- Toxic releases
- Chemical nomenclature
- Poisoning
- Risk assessment
- Regulations
- Occupational safety and health
ChemIDplus

- Locate information on 400,000+ chemicals including synonyms and structures
- ChemIDplus Lite
- ChemIDplus Advanced
NLM iOS Apps

Games on iPad & iPhone: Bohr Thru, Base Chase, Run4Green, TOXinvaders
GeneEd

GeneEd Web, developed and maintained by the National Library of Medicine (NLM) and the National Human Genome Institute (NHGRI) of the National Institutes of Health (NIH), is a safe and useful resource for students and teachers in grades 9 - 12 to learn genetics.  
Harry Potter’s World:
Renaissance Science, Magic, and Medicine

Explores the world of Harry Potter and its roots in Renaissance science, magic, and medicine

- Suitable for grades 6-12+
- English and Science class lesson plans for middle and high school, can collaborate across disciplines.
- Higher Education Module
Interdisciplinary and Additional Resources
Interdisciplinary Resources and Exhibition Program

The Exhibition Program creates lively and informative exhibitions and educational resources that enhance awareness of and appreciation for the collections of the National Library of Medicine. Explore. Discover. Enjoy.

Topics include:

- Medicine & the Arts
- Science & Society
- Patients & Practitioners
- The Technology of Medicine and Forensics
"You are not to expect visible proofs in a work of darkness. You are to collect the truth from circumstances, and little collateral facts, which taken singly afford no proof, yet put together, so tally with, and confirm each other, that they are as strong and convincing evidence, as facts that appear in the broad face of the day."

—Judge Francis Buller, to the jury, Donnellan case, March 1781

Exhibition

Visible Proofs is about the history of forensic medicine. Over the centuries, physicians, surgeons, and other professionals have struggled to develop scientific methods that translate views of bodies and body parts into "visible proofs" that can persuade judges, juries, and the public.

Galleries

Explore significant cases, technologies, and people that have had an impact on the history of forensic medicine. Take an in-depth look at
NNLM K-12 Resource Guide

K-12 Resources

Environmental Health and Chemistry Resources

For Students

ToxMystery® (Grades 1-5+)
Toxi the Cat helps kids find the hazards hidden in each room and offers hints when needed. Also available in Spanish.

Tox Town® (Grades 6-12+)
Designed to give information on everyday locations where you might find toxic chemicals, links to selected, authoritative chemical information on the Web, and how the environment can impact health. Also available in Spanish.

Environmental Health Student Portal® (Grades 6-8)
Connecting middle school students to environmental health information. The Web site explores topics such as water pollution, climate change, air pollution, and chemicals.

https://nnlm.gov/mar/guides/k12-resources
Professional Development

- Membership is free, join NNLM for professional development and grants
- Start by locating your NNLM Regional Medical Library: https://nnlm.gov/regions
- Training schedule: https://nnlm.gov/scr/training/schedule
Questions?

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