NLM’s Online Playground:
K-12 Health & Science Information Resources for Teachers & Students

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Who We Are

NIH
- National Institutes of Health
- Nation’s research agency

NLM
- National Library of Medicine
- World’s largest biomedical library

NNLM
- National Network of Libraries of Medicine
- Program of the NLM comprised of 8 Regional Libraries (RMLs) and 6 offices

PNR
- Pacific Northwest Region (NNLM PNR)
- Is one of the 8 RMLs
- Serves Alaska, Idaho, Montana, Oregon, Washington
The mission of NNLM is to advance the progress of medicine and improve the public health by:

- Providing all U.S. health professionals with equal access to biomedical information
- Improving the public's access to information to enable them to make informed decisions about their health
Medicine/Health
- Links to reliable, authoritative health websites
- Health Topics on children/teens
- Easy-to-read articles
- Medical dictionary
- Medical encyclopedia
- Links to local services
- English, Spanish and other languages
- No Advertisements!

MedlinePlus
https://medlineplus.gov/
Zika Virus
Also called: Zika

On this page
- Basics
  - Summary
  - Start Here
  - Symptoms
  - Diagnosis and Tests
  - Prevention and Risk Factors
  - Treatments and Therapies
- Research
  - Statistics and Research
  - Clinical Trials
  - Journal Articles
- Summary
  - Zika Virus
- Diagnosis and Tests
  - Zika Testing and Follow-Up
- Videos and Tutorials
  - Zika Virus and Pregnancy
- Statistics and Research
  - Areas with Zika
  - Zika Virus
  - Zika Virus: Protecting Pregnant Women and Babies
- Clinical Trials
  - ClinicalTrials.gov: Zika Virus
- Journal Articles
  - Article: Mosquito control practices and perceptions: An analysis of economic stakeholders...
  - Article: In Silico Designed Axl Receptor Blocking Drug Candidates Against Zika...
  - Article: Mapping Putative B-Cell Zika Virus NS1 Epitopes Provides Molecular Basis...
- Children
  - Fact Sheet: What Parents Need to Know About Zika Virus

Zika virus disease

- Zika and Guillain-Barre Syndrome
  - Also in Spanish
- Zika Travel Information
  - Also in Spanish
- Specifics
  - Dispelling Rumours Around Zika and Complications
  - World Health Organization
- Videos and Tutorials
  - Zika Virus and Pregnancy
  - American College of Obstetricians and Gynecologists, Centers for Disease Control and Prevention
- Statistics and Research
  - Areas with Zika
  - Zika Virus
  - Zika Virus: Protecting Pregnant Women and Babies
  - Also in Spanish
- Clinical Trials
  - ClinicalTrials.gov: Zika Virus
  - National Institutes of Health
- Journal Articles
  - Article: Mosquito control practices and perceptions: An analysis of economic stakeholders...
  - Article: In Silico Designed Axl Receptor Blocking Drug Candidates Against Zika...
  - Article: Mapping Putative B-Cell Zika Virus NS1 Epitopes Provides Molecular Basis...
- Children
  - Fact Sheet: What Parents Need to Know About Zika Virus (Administration for Children and Families)
Asthma in Children
Also called: Childhood asthma

Summary

Asthma is a chronic disease that affects your airways. Your airways are tubes that carry air in and out of your lungs. If you have asthma, the inside walls of your airways become sore and swollen.

In the United States, about 20 million people have asthma. Nearly 9 million of them are children. Children have smaller airways than adults, which makes asthma especially serious for them. Coughing, wheezing, chest tightness, and trouble breathing are common symptoms of asthma.

Many things can cause asthma, including:
- Allergens - mold, pollen, animals
- Irritants - cigarette smoke, air pollution
- Weather - cold air, changes in weather

Become an Asthma Control Agent!
New to the program? Register to become a new agent.

Don't want to register yet? You can still play but you won't be able to save your progress.

Join Now!
Tea Tree Oil

**On This Page**
- Background
- How Much Do We Know?
- What Have We Learned?
- What Do We Know About Safety?
- Key References

**IMPORTANT WARNING:**
Oxycodone may cause serious or life-threatening breath your dose is increased. Your doctor will monitor you care breathing or asthma. Your doctor will probably tell you if such as chronic obstructive pulmonary disease (COPD), that increases the amount of pressure in your brain. The are weak or malnourished due to disease. If you experience medical treatment: slowed breathing, long pauses between

Taking certain other medications with oxycodone may in your doctor and pharmacist if you are taking or plan to take in PrimaXact and erythromycin (Erytab, Erythrocin), ceph (Nizoral), and voriconazole (Vfend), benzodiazepines such as diazepam (Diasat, Valium), estazolam, flurazepam, lora carbamazepine (Carbatrol, Epitol, Equetro, Tegretol), Ter medications for human immunodeficiency virus (HIV) inc phenytoin (Dilantin, Phenytie), rifabutin (Mycobutin). A doctor may need to change the doses of your medication and you develop any of the following symptoms, call your light-headedness, extreme sleepiness, slowed or difficult which symptoms may be serious so they can call the do.

This fact sheet provides basic information about tea tree oil—common names, usefulness and safety, and resources for more information.
NLM Drug information

NLM DRUG INFORMATION RESOURCES

Drug Information from the National Library of Medicine

- **Drug Information Portal**: The Portal provides users with a comprehensive gateway to information on over 23,000 substances (over 200,000 unique searchable-drug names and their synonyms) not only from NLM but also from other U.S. government agencies. It covers drugs from the time they are entered into clinical trials through their entry into the U.S. marketplace. The Drug Portal touches on all related information resources at NLM to provide for a comprehensive view. It is intended as a “middle ground” resource which includes information for the consumer, health professionals, and researchers.

- **Drugs, Herbs and Supplements**: Learn about your prescription drugs and over-the-counter medicines from MedlinePlus, the National Institutes of Health Web site for patients and their families and friends. Read about side effects, dosage, special precautions, and more. Browse dietary supplements and herbal remedies to learn about their effectiveness, usual dosage, and drug interactions.

- **Pillbox**: Developed to aid in the identification of unknown solid dosage pharmaceuticals, Pillbox combines high-resolution images of tablets and capsules with appearance information (imprint, shape, color, etc.). It enables users to identify solid dosage forms based on physical criteria: imprint (characters or number printed on a medication), shape, color, size, and scoring. Users are shown thumbnail images of possible matches. These images are continually updated as the user enters additional information. Pillbox is designed for use by emergency physicians, first responders, other health care providers, Poison Control Center staff, and concerned citizens.

- **DailyMed**: DailyMed provides information about marketed drugs, including FDA labels (package inserts). It provides health information providers and the public with a standardized, comprehensive, up-to-date, look-up and download resource of medication content and labeling as found in medication package inserts.

- **Dietary Supplement Label Database (DSLD)**: The database links you to the information from the labels of over 90,000 dietary supplement products in the marketplace, including vitamins, minerals, herbs or other botanicals, amino acids, and other specialty supplements. It includes name, form, active and inactive ingredients, amount of active ingredient, manufacturer/distributor information, label claims, warnings, percentage of daily value, and additional label information. The database can be searched by product names, test terms found on product labels, specific dietary ingredients, and manufacturers.

- **Reform**: Reform provides normalized names for clinical drugs and links its names to many of the drug vocabularies commonly used in pharmacy management and drug interaction software, including those of First Databank, Micromedex, MediSpan, Gold Standard Alkemy, and Medburn. By providing links between these vocabularies, Reform can mediate messages between systems not using the same software and vocabulary. Reform files are available through the NLM Image Bank server.

DRUG INFORMATION PORTAL

Drug Information Portal
Quick Access to Quality Drug Information

Home    News and Features    NLM Resources    NLM Research Resources    Resources by Audience/Class    Other Resources

Mobile Site

Information available for 79,734 drugs.

- Show examples.
- Show drug category names, results, and descriptions.
- Show top “By Name” searches (previous seven days).
- Show top “By Category” searches (previous seven days).
- Show common drug names list.
- Show generic name stems list.
- Show list of resources searched.
NIH Supplements Information

OFFICE OF DIETARY SUPPLEMENTS

DIETARY SUPPLEMENTS: WHAT YOU NEED TO KNOW
- Frequently Asked Questions (FAQ)
- Dietary Supplements: What You Need To Know
- DIETARY SUPPLEMENTS: WHAT YOU NEED TO KNOW

Health Information
- Dictionary
- Featured Dietary Supplement Fact Sheets
- Full List of Fact Sheets
- Frequently Asked Questions
- ODV Videos
- Information en español

Dietary Supplement Fact Sheets
- General Information
- Featured Dietary Supplement Fact Sheets
- Omega-3 Fatty Acids
- Omega 3s are found in foods such as fatty fish and shellfish.
- Choline
- Many foods contain choline, including mushrooms.

News & Events
- Headlines
- Featured Supplement Information Page for Health Professionals
- Keep up to date
- Read the ODS newsletter
- Sign up for the ODS newsletter
- Follow us on Facebook
- Follow us on Twitter

Health
- All Health Topics from A-Z
- Research-based info from acupuncture to zinc.
- Complementary, Alternative, or Integrative Health
- What do these terms mean?
- Be Informed
- Learn how to make wise health decisions.
- Herbs at a Glance
- Uses and side effects of herbs and botanicals.
- How To Find a Practitioner
- Information on seeking treatment.
- Information for Health Care Providers
- Evidence-based medicine, continuing education, clinical practice guidelines, and more.
- Featured Health Topics
- Seasonal Allergies (Varela et al) (March 2011)

New Approach to Funding Clinical Trials
- NCCIH released a series of new funding opportunity announcements designed for clinical trials focused on national product and mind and body intervention studies.

Learn More
PubMed Tutorials

- Tutorials
- Quick Tours
- Webcasts and Videos
- Classes
- Handouts
NIH for Kids and Teens

NIH for Kids

All About Vision
- About the Eye
- Ask a Scientist Video Series
- Glossary
- The Visual System
- Your Eyes: Natural Defenders

Eye Health and Safety
- Mini Ask Tips
- Healthy Vision Tips
- Protective Eyewear
- Sports and Your Eyes

Ask a Scientist
Visit NEI for Kids

Drug Facts
Get the latest on how drugs affect the brain and body.
Featuring videos, games, blog posts and more!

Drugs & Health Blog
- Say What? “Epigenetics”
- Could Snake Venom Help with the Opioid Problem?
- “Addiction itself is not a crime, it’s a disease.”

Videos
- National Drug & Alcohol Facts Week

Games
RESEARCH & TRAINING

Science Education

On this page
- Resources for Students
- Resources for Educators

Resources for Students

NIH Scientist Launch Game TM/App

NIAMS Kids Pages

Microscope Imaging Station
What should you look for when evaluating the quality of health information on Web sites? Here are some suggestions based on our experience.

### Consider the source -- Use recognized authorities

Know who is responsible for the content.

- Look for an "about us" page. Check to see who runs the site: is it a branch of the Federal Government, a non-profit institution, a professional organization, a health system, a commercial organization or an individual.
- There is a big difference between a site that says, "I developed this site after my heart attack" and one that says, "This page on heart attack was developed by health professionals at the American Heart Association."
- Web sites should have a way to contact the organization or webmaster. If the site provides no contact information, or if you can't easily find out who runs the site, use caution.

### Focus on quality--All Web sites are not created equal

Does the site have an editorial board? Is the information reviewed before it is posted?

- This information is often on the "about us" page, or it may be under the organization's mission statement, or part of the annual report.
- See if the board members are experts in the subject of the site. For example, a site on osteoporosis whose medical advisory board is composed of attorneys and accountants is not medically authoritative.
- Look for a description of the process of selecting or approving information on the site. It is usually in the "about us" section and may be called "editorial policy" or "selection policy" or "review policy."
- Sometimes the site will have information "about our writers" or "about our authors" instead of an editorial policy. Review this section to find out who has written the information.

### Be a cyberskeptic--Quackery abounds on the Web

Does the site make health claims that seem too good to be true? Does the information use deliberately obscure, "scientific" sounding lingo?
Evaluating Health Information

HEALTH TOPIC PAGE

Evaluation of Health Information

SUMMARY

Millions of consumers get health information from magazines, TV, or the Internet. Some of the information is reliable and up to date; some is not. How can you tell the good from the bad?

First, consider the source. If you use the Web, look for an "about us" page. Check to see who runs the site. Is it a branch of the government, a university, a health organization, a hospital, or a business? Focus on quality. Does the site have an editorial board? Is the information reviewed before it is posted? Be skeptical. Things that sound too good to be true often are. You want current, unbiased information based on research.

NIH National Library of Medicine

START HERE

- Evaluating Internet Health Information: A Tutorial from the National Library of Medicine

MEDICAL ENCYCLOPEDIA

Learn how you can download a version of the tutorial for use when no Internet connection is available. Read the transcript of the tutorial.

TUTORIAL
Environmental Health
Environmental Health

Summary

Our environment affects our health. If parts of the environment, like the air, water, or soil become polluted, it can lead to health problems. For example, air pollutants and chemicals in the air or in the home can trigger asthma attacks.

Some environmental risks are a part of the natural world, like radon in the soil. Others are the result of human activities, like lead poisoning from paint, or exposure to asbestos or mercury from mining or industrial use.

NIH: National Institute of Environmental Health Sciences

Related Health Topics

- Air Pollution
- Drinking Water
- Electromagnetic Fields
- Hazardous Waste
- Indoor Air Pollution
- Molds
- Noise
- Occupational Health
- Oil Spills
- Pesticides
- Radiation Exposure
- Water Pollution
Wide range of environmental and toxicology topics

Health effects

Information for:
- variety of professionals
- the public
- teachers and students

Tutorials and guides provided
Environmental Health Student Portal

Connecting Middle School Students to Environmental Health Information

What is Environmental Health?
Environmental Health is the interrelationship between human health and the environment, either natural or manmade.

Learn More

Air Pollution

Chemicals

Climate Change

Water Pollution

Interested in a trailer of our animations about characteristics, uses, and health effects of hazardous chemicals? Please, click here to preview.

For Teachers

Search

Go

Print this Page
ToxMystery
Help Toxie the Cat find hazards in the house. Lesson plans available!
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!
Welcome to TOX TOWN

Tox Town provides consumer-level information on everyday locations and situations where you might be exposed to toxic chemicals. This site will help you better understand risks of exposure, potential health effects, and how to protect yourself.

Sources of Exposure
Explore places and situations where you might be exposed to hazardous chemicals and contaminants. Learn how you can minimize your risk.
Topics Covered in this Course

ToxTutor is divided into the following sections:

1. Introduction to Toxicology
2. Dose and Dose Response
3. Toxic Effects
4. Interactions
5. Toxicity Testing Methods
6. Risk Assessment
7. Exposure Standards and Guidelines
8. Basic Physiology
9. Introduction to Toxicokinetics
10. Absorption
11. Distribution
12. Biotransformation
13. Excretion
14. Cellular Toxicology
15. Intuitive Toxicology and Risk Communication
16. Environmental Toxicology, Environmental Health, and One Health
17. Conclusion
National Institute of Environmental Health Sciences

- Curricula for teachers
- Information for students
- Speaker bureau
- Summer Internship Program
- Fun activities for younger kids

NIEHS Health & Education resources
NLM iOS Apps
Games on iPad & iPhone: Base Chase, Run4Green, TOXinvaders, Bohr Thru
Genomics/Genetics
Genomic Health/Science Literacy

- Lack biology basics
- Lack mathematical concepts
- Low health literacy

- Biomedical professions
- Medical treatment
- Understand basics of health conditions
The GeneEd website is scheduled to be retired on March 31, 2019. Selected GeneEd content will be transferred to [Genetics Home Reference](https://www.ncbi.nlm.nih.gov). If you’re a regular user of GeneEd, we’d love to get your feedback in a [brief survey](https://www.ncbi.nlm.nih.gov).
Education materials about genetics and genomics

Smithsonian NHGRI Genome Exhibition
A genomics exhibition from the Smithsonian and NHGRI

Genomic Careers
Information on careers in genomics and genetics

Online Genetic Education Resources
A list of online resources for learning about genomics and genetics

About The Human Genome Project
Information on the history, progress, and impact of the HGP

National DNA Day
A unique day when everyone can learn more about genomics and genetics

Fact Sheets
Clearly written information on the institute, genetic research and genetic concepts

Talking Glossary of Genetic Terms
Terms and definitions used in genetic research with multimedia

Genetic Education Resources for Teachers
Teaching plans to present the science of genetics and genomics

Online Education Kit
A web-based resource outlining the major history and developments of genomics

Highlights
Annual National DNA Day lecture to honor Congresswoman Louise M. Slaughter

For NHGRI’s National DNA Day on April 25, Olivier Noel, Ph.D., founder and CEO of DNAstyle, will present “Bench to Bedside to Business: A Talk on Startups in Science” for the newly named Louise M. Slaughter National DNA Day lecture, which honors the late Congresswoman. The media and the public are invited to attend at the Lister Hill Center Auditorium on the NIH campus.

Celebrate 15 ways genomics is influencing our lives

On April 8th, NHGRI will launch the “15 for 15” Celebration to honor the 15th anniversary of the Human Genome Projects completion. Beginning April 9th, and each business day leading up to National DNA Day on April 25th, NHGRI will reveal one of 15 topics that illustrate the

See Also
Education and Community Involvement Branch
GenomeTV
Genome Advance of the Month
Education Archive

On Other Sites:
Genome: Unlocking Life’s Code
NHGRI Smithsonian Exhibition
GenomeTV
NHGRI YouTube Channel

National Human Genome Research Institute education page
- Traveling exhibit
- Monthly newsletter for teachers
- Teacher features
- Interactive learning
- Timeline
- Infographics
Health conditions

Genes

Chromosomes and DNA

Resources

Genetic handbook
NLM Traveling Exhibits

NLM’s Harry Potter’s World

Lesson Plans
- Boggart and Fear in Harry Potter
- Genetic Traits in Harry Potter

Higher Education

Genetic Traits in Harry Potter

grade level: 5–8 | subject: science and technology

time needed
two to four 40-minute class periods

Four 40-minute class periods for younger students with little knowledge of genetics (two periods for Pre-lesson Activity and Class 1), and the other two periods for Class 2

Two 40-minute class periods for older students with strong knowledge of genetics (one period for Pre-lesson Activity and Class 1 and the second period for Class 2)

description

The purpose of this lesson is to give students an introductory understanding of genetic inheritance. Students review and become familiar with basic genetic concepts and terms, such as DNA, chromosomes, gene, allele, homozygous, heterozygous, recessive and dominant genes, genotype, phenotype, complex traits, Mendelian inheritance, and Punnett square. Students apply these concepts and examine several examples of simple and complex genetic traits in several characters in Harry Potter. Students also examine inheritance patterns of magical ability in Harry Potter, and use the concepts they have learned to identify possible genotypes of the magical abilities demonstrated by several characters in the series.

Note: The models of genetic inheritance presented in this lesson plan have been simplified so that students learn basic terms and concepts about genes and genetically inherited physical characteristics among people. In reality, many of the traits used as examples—and most traits, in general—tall a far more complicated story about inheritance than discussed in this lesson plan. For furthering students’ learning and exploration of the complex genetic studies, please see Extension Activity 2 below.
NCBI Bookshelf

Genes and Diseases

- Organized by the parts of the body that genetic disorders affect
- Over 80 genetic disorder summaries
- Images and interesting facts
- PDF downloads of chapters
- Links to related research literature and pertinent websites

Genes and Diseases from NCBI Bookshelf
Base Chase
Literacy/Education Resources
Interdisciplinary Resources
make history!
expand your horizons

search exhibitions: explore, discover, enjoy!

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.
Focus on Health Issues

Confronting Violence: Improving Women's Lives

Temperance and women's rights advocates called attention to family violence and agitated for reform during the mid-19th century. Despite their efforts, society as a whole continued to ignore domestic violence.

LEARN more

Who were some advocates for change?

SEE the digital gallery

BOOK the traveling exhibition
Comics / Graphic Novels

- [Image of a comic book cover titled "Ghost"
- [Image of a comic book cover titled "How I Made It to Eighteen"
- [Image of a comic book cover titled "One Lump or Two"
- [Image of a comic book cover titled "Mom's Cancer"
- [Image of a comic book cover titled "El Deafo"

These images represent various graphic novels and comics, showcasing different styles and themes within the genre.
NNLM Resource Picks
March 2017 session recording

How to make the most of your National Library of Medicine traveling banner exhibition!
Careers
Health Careers resources

Health Occupations
Also called: Health careers, Health professions, Medical occupations, Medical professions

On this page
- Basics
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- Learn More
  - Specifics
- See, Play and Learn
  - No links available

Research
- Statistics and Research
- Journal Articles

Resources
- Find an Expert
- For You
  - No links available

Summary
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.

To work in a health occupation, you often must have special training. Some, like doctors, must have more than 4 years of college.

Bureau of Labor Statistics

Start Here
- Available in Spanish

Latest News
- Nutrition: Learn How to Get Optimal to Folic Acid, (09/17/2017, HealthDay)
NNLM PNR

- Direct students and families to freely accessible health science resources
- Incorporate NLM/NIH educational resources to supplement curricula and reinforce learning
- Collaborate with other departments and the broader community
- Look to NNLM PNR for great resources, classes, webinars, funding and other opportunities

NNLM PNR
https://nnlm.gov/pnr
Thank You!

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