

Chapter 3: Introduction to the *Center for Disease Control and Prevention* (CDC)

Class Time: 1 Day

Epidemiology and Public Health Science (EPHS): Core Competencies for High School Students

EPHS3: Analytic Epidemiology: *Students test hypotheses by making group comparisons and providing mathematical evidence for associations between exposure and disease. Then, students explain associations and judge causation on the basis of this evidence. Key aspects of analytic epidemiology, including study design, causality, and other explanations of evidence (e.g., bias, chance, confounding), are targeted. The performance expectations focus on identifying appropriate study designs with considerations of the scope and limitations of each, conducting appropriate statistical testing to provide mathematical evidence, and interpreting statistical results to determine public health influence.*

Next Generation Science Standards (NGSS): Disciplinary Core Ideas

ETS1.B: Developing Possible Solutions: *When evaluating solutions it is important to take into account a range of constraints including cost, safety, reliability and aesthetics and to consider social, cultural and environmental impacts. (secondary to HS-LS2-7), (secondary to HS-LS4-6)*

Objectives

After studying this lesson and completing the questions and assignments, you will be able to:

- List the **facts** and **details** of the CDC
- Apply practical applications of the CDC to your own life
- Learn how to use the CDC website

Question 1: Please do not read this chapter before answering the question: What do you already know about the *Center for Disease Control and Prevention* (CDC)?

The CDC's Mission

The CDC works 24/7 to protect America from health, safety and security threats, both foreign and in the U.S. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and citizens to do the same.

CDC increases the health security of our nation. As the nation's health protection agency, CDC saves lives and protects people from health threats. To accomplish our mission, CDC conducts critical science and provides health information that protects our nation against expensive and dangerous health threats, and responds when these arise.

The CDC's Role

1. Detecting and responding to new and emerging health threats
2. Tackling the biggest health problems causing death and disability for Americans
3. Putting science and advanced technology into action to prevent disease
4. Promoting healthy and safe behaviors, communities and environment
5. Developing leaders and training the public health workforce, including disease detectives
6. Taking the health pulse of our nation

CDC's Pledge to America

1. Be a diligent steward of the funds entrusted to our agency
2. Provide an environment for intellectual and personal growth and integrity
3. Base all public health decisions on the highest quality scientific data that is derived openly and objectively
4. Place the benefits to society above the benefits to our institution
5. Treat all persons with dignity, honesty, and respect

The CDC in the 21st Century

1. **On the cutting edge of health security** – confronting global disease threats through advanced computing and lab analysis of huge amounts of data to quickly find solutions.
2. **Putting science into action** – tracking disease and finding out what is making people sick and the most effective ways to prevent it.
3. **Helping medical care** – bringing new knowledge to individual health care and community health to save more lives and reduce waste.

4. **Fighting diseases before they reach our borders** – detecting and confronting new germs and diseases around the globe to increase our national security.
5. **Nurturing public health** - building on our significant contribution to have strong, well-resourced public health leaders and capabilities at national, state and local levels to protect Americans from health threats.

Question 2: What are three (3) facts that you learned from the CDC?

1-

2-

3-

Question 3: Which feature of the CDC is most important to you? Explain why.

Question 4: If you were being interviewed by a CDC representative, for a position working for the CDC, and the representative asked you the following question:

*“How can you **apply** what you have learned from the CDC to your city or neighborhood?”*

What would you answer be? Explain in detail.

Student Assessment

Think freely, within the limits of what you have learned from the CDC. Explain the concepts and any terms in your own words to demonstrate your understanding of the CDC by using the following format:

- What is the CDC?
- How the CDC is beneficial to you?
- Which aspect of the CDC would you like to see more research developed in?
- What you would like to learn from the CDC?

The American Museum of Natural History

Wildlife Trade Presents Health Risks

[http://www.amnh.org/explore/science-bulletins/\(watch\)/human/news/wildlife-trade-presents-health-risks](http://www.amnh.org/explore/science-bulletins/(watch)/human/news/wildlife-trade-presents-health-risks)

1-Why is it important to track diseases with illegal wildlife? Explain.

2-What does the current research show regarding wildlife and diseases?

3-Why is DNA barcoding important in this study?

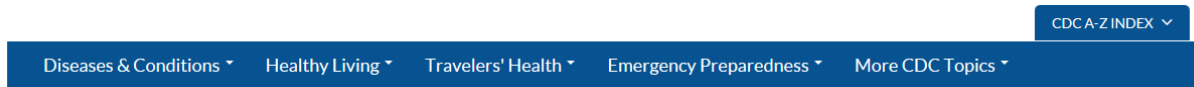
4-What is a possible solution that would improve illegal wildlife from entering into the United States? Explain.

Computer Based Learning

Procedure:

To become familiar with the CDC we will begin by going to the following website:

<https://www.cdc.gov/> You will notice that their home page has a menu with a drop down arrow. Click on any section of your interest and begin reviewing the literature of that specific section. You may also choose from the **CDC A-Z INDEX** to help you find specific information regarding a topic of your choice.



Step 1: Choose a topic of your choice that interests you and **explain** how you explored this topic, meaning, which other CDC website did you get redirected to?

Step 2: Once you have all of the literature from the CDC website, begin designing a presentation to elaborate on what you learned from using the CDC website.

Step 3: Include any models (e.g., graphs, diagrams, charts).

For example: you may be interested in Sexually Transmitted Diseases (STDs). Your classmates want to see what information were you able to obtain from the CDC not necessarily what the facts and details of a sexually transmitted disease is. As you show your model, the classmates want to see the types of models, not the actual statistics.

Throughout your presentation you should be supporting the CDC website and demonstrating the resources that are available such as the ones listed below:

Science

- Morbidity and Mortality Weekly Report (MMWR)
- Emerging Infectious Diseases (EID)
- Preventing Chronic Disease (PCD)
- Data & Statistics
- Science Clips
- Public Health Image Library
- CDC Stacks: Publications
- Advancing Excellence & Integrity of CDC Science



Learn About CDC

- About CDC
- CDC Organization
- Mission, Role & Pledge
- Lab Safety at CDC
- Find CDC Jobs
- Training & Education
 - Fellowships & Internships
- Budget | Funding
- CDC Museum
- Stephen B. Thacker CDC Library
- CDC Diversity and Inclusion Management



David J. Sencer CDC Museum

Ever wonder how CDC scientists merge old-fashioned detective work with high-tech science to crack the cases of mystery diseases? Get the Story! Visit the David J. Sencer CDC Museum at CDC Headquarters. The museum is free and open to the public so we would like to see you soon.



CDC A-Z INDEX ▾

CDC Learning Connection



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Connect to public health training.

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CDC A-Z INDEX ▾

Stephen B. Thacker CDC Library

- CDC Library
- History
- Products & Services
- Branch Locations
- Policies & Patrons
- Orientation & Training
- CDC Science Clips +



CDC > Home

About CDC Library



The Stephen B. Thacker CDC Library (CDC Library) mission is to advance science, public health and safety through information. The library provides a full range of information services and products in support of public health research, policy and action. Through the headquarters library in Atlanta and its four branches, CDC Library serves CDC employees across the nation as well as those located internationally.

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