

CDC Resources for the Scouts BSA Public Health Merit Badge

Based on 2022 Scouts BSA Requirements (33216)

1. Explain what public health is. Explain how *Escherichia coli* (*E. coli*), tetanus, AIDS, encephalitis, salmonellosis, Lyme disease, and coronavirus (COVID-19) are contracted. Pick any four of the following diseases and explain how each one is contracted and possibly prevented: gonorrhea, West Nile virus, botulism, influenza, syphilis, hepatitis, emphysema, meningitis, herpes, lead poisoning. For all 10 diseases, explain the type or form of the disease (viral, bacterial, environmental, toxin), any possible vectors for transmission, ways to help prevent exposure or the spread of infection, and available treatments.

<i>Escherichia coli</i> (<i>E. coli</i>)	https://www.cdc.gov/ecoli
Tetanus	https://www.cdc.gov/tetanus
AIDS (HIV is the preferred term)	https://www.cdc.gov/hiv
Encephalitis	
• La Crosse Encephalitis	https://www.cdc.gov/lac
• Eastern Equine Encephalitis	https://www.cdc.gov/easternequineencephalitis
• Japanese Encephalitis	https://www.cdc.gov/japaneseencephalitis
• St. Louis Encephalitis	https://www.cdc.gov/sle
Salmonellosis	https://www.cdc.gov/salmonella
Lyme disease	https://www.cdc.gov/lyme
Coronavirus (COVID-19)	https://www.cdc.gov/coronavirus
Gonorrhea	https://www.cdc.gov/std/gonorrhea
West Nile virus	https://www.cdc.gov/westnile
Botulism	https://www.cdc.gov/botulism
Influenza	https://www.cdc.gov/flu
Syphilis	https://www.cdc.gov/std/syphilis
Hepatitis	https://www.cdc.gov/hepatitis
Emphysema	https://www.cdc.gov/copd
Meningitis	https://www.cdc.gov/meningitis
Herpes	https://www.cdc.gov/std/herpes
Lead poisoning	https://www.cdc.gov/nceh/lead

2. Do the following:
 - a. Explain the meaning of immunization.
 - b. Name eight diseases against which a young child should be immunized, two diseases against which everyone should be reimmunized periodically, and one immunization everyone should receive annually.
 - c. Using the list of diseases and conditions in requirement 1, discuss with your counselor those which currently have no immunization available.

Immunization Basics	https://www.cdc.gov/vaccines/vac-gen/imz-basics.htm
Vaccine Schedule	https://www.cdc.gov/vaccines
Frequently Asked Questions	https://www.cdc.gov/vaccines/parents/FAQs.html

3. Discuss the importance of safe drinking water in terms of the spread of disease. Then, demonstrate two ways for making water safe to drink that can be used while at camp. In your demonstration, explain how dishes and utensils should be washed, dried, and kept sanitary at home and in camp.

Drinking Water	https://www.cdc.gov/healthywater/drinking
Waterborne Diseases	https://www.cdc.gov/healthywater/surveillance

4. Explain what a vector is and how insects and rodents can be controlled in your home, in your community, and at camp. Tell why this is important. In your discussion, explain which vectors can be easily controlled by individuals and which ones require long-term, collective action.

Vector-Borne Diseases	https://www.cdc.gov/nceid/dvbd
Climate Change & Vectors	https://www.cdc.gov/climateandhealth/effects/vectors.htm

5. With your parent's and counselor's approval, do ONE of the following:
- Visit a municipal wastewater treatment facility or a solid-waste management operation in your community.
 - Describe how the facility safely treats and disposes of sewage or solid waste.
 - Discuss your visit and what you learned with your counselor.
 - Describe how sewage and solid waste should be disposed of under wilderness camping conditions.

Sanitation and Wastewater	https://www.cdc.gov/healthywater/emergency/sanitation-wastewater
Global Water, Hygiene, & Sanitation (WASH)	https://www.cdc.gov/healthywater/global/index.html

- Visit a food service facility, such as a restaurant or school cafeteria.
 - Observe food preparation, handling, and storage. Learn how the facility keeps food from becoming contaminated.
 - Find out what conditions allow microorganisms to multiply in food, what can be done to help prevent them from growing and spreading, and how to kill them.
 - Discuss the importance of using a thermometer to check food temperatures.
 - Discuss your visit and what you learned with your counselor.

Food Safety	https://www.cdc.gov/foodsafety
Four Steps to Food Safety	https://www.cdc.gov/foodsafety/keep-food-safe.html
Foodborne Outbreaks in U.S.	https://www.cdc.gov/foodsafety/outbreaks
PulseNet	https://www.cdc.gov/pulsenet

6. Do the following:
- Describe the health dangers from air, water, and noise pollution.
 - Describe health dangers from tobacco use and alcohol and drug abuse.
 - Describe the health dangers from abusing illegal and prescription drugs.

Air Quality	https://www.cdc.gov/air
Healthy Water	https://www.cdc.gov/healthywater
Noise-Induced Hearing Loss	https://www.cdc.gov/nceh/hearing_loss
Noise Protection for Workers	https://www.cdc.gov/niosh/topics/noise
Too Loud! For Too Long!	https://www.cdc.gov/vitalsigns/hearingloss
Smoking and Tobacco Use	https://www.cdc.gov/tobacco
E-cigarettes	https://www.cdc.gov/tobacco/basic_information/e-cigarettes
Alcohol	https://www.cdc.gov/alcoholportal
Marijuana and Public Health	https://www.cdc.gov/marijuana
Drug Overdose	https://www.cdc.gov/drugoverdose
Dangers of Prescription Opioids	https://www.cdc.gov/opioids/basics/prescribed.html
Stories of Real Survivors	https://www.cdc.gov/rxawareness/stories

7. With your parent's and counselor's approval, do ONE of the following:
- Visit your city, county, or state public health agency.
 - Familiarize yourself with your city, county, or state health agency's website.

After completing either 7a or 7b, do the following:

- Compare the four leading causes of mortality (death) in your community for any of the past five years with the four leading causes of disease in your community. Explain how the public health agency you visited is trying to reduce the mortality and morbidity rates of these leading causes of illness and death.
- Explain the role of your health agency as it relates to the outbreak of diseases.
- Discuss the kinds of public assistance the agency is able to provide in case of disasters such as floods, storms, tornadoes, earthquakes, and other acts of destruction. Your discussion can include the cleanup necessary after the disaster.

Find Your Health Department	https://www.cdc.gov/publichealthgateway/healthdirectories
National Vital Statistics System	https://www.cdc.gov/nchs/nvss/deaths

8. Pick a profession in the public health sector that interests you. Find out the education, training, and experience required to work in this profession. Discuss what you learn with your counselor.

CDC Career Fields	https://jobs.cdc.gov/career-fields/index.html
STEM @ CDC Career Resources	https://www.cdc.gov/stem/careers/index.html

Interested in seeing more about CDC's work in public health? Visit the David J. Sencer CDC Museum in Atlanta!

The David J. Sencer CDC Museum, a Smithsonian Affiliate, uses award-winning exhibits and innovative programming to educate visitors about the value of public health, and presents the rich heritage and vast accomplishments of CDC. The museum hosts more than 100,000 visitors each year and provides popular educational programs for students and teachers. For more information or to schedule a guided tour, visit <https://www.cdc.gov/museum>.

David J. Sencer CDC Museum
1600 Clifton Road NE
Atlanta, GA 30329
404-639-0830

Admission & Parking: Free
Government-issued photo ID required for adults over the age of 18
Passport required for non-U.S. citizens

If you are not in the Atlanta area, but still want to visit, you can take advantage of CDC Museum Public Health Academy online opportunities, available at: <https://www.cdc.gov/museum/education>

- CDC Museum Disease Detective Camp: one week in-person summer day camp for rising juniors and seniors
- Online Summer Course: one week web-based summer course for rising juniors and seniors
- Internships: graduates of either of the summer programs are eligible to apply for internships
- Teen Newsletter: monthly newsletter that introduces a public health topic
- Teen Talk: live video chat about the monthly newsletter topic with a CDC expert
- STEM Lessons: hands-on activities covering a wide variety of public health topics
- CDC Museum Instagram @CDCmuseum: interesting public health stories from CDC's archives, trivia, and more

Visit the STEM at CDC website for more opportunities to explore public health at CDC. <https://www.cdc.gov/stem>.