



## Sample Exam Questions

Below are potential questions on content covered in the Introduction to Environmental Health Public Health Tracking presentation and activities. They can be used in exams, quizzes, or take home assignments.

### Selecting Questions

- Consider the difficulty level of your course.
- Identify content covered during lecture and through assignments.

### Answer Key

- There are many possible responses to short answer and essay questions. This answer key reflects elements to consider as you evaluate student answers.

### Questions Provided

- Short Answer
- Short In-Class Essay
- Activity/Essay

## Short Answers (one to two sentences)

**Q: Describe CDC's National Environmental Public Health Tracking Network.**

A: The National Environmental Public Health Tracking Network (Tracking Network) is a system of integrated health, exposure, and hazard information and data from a variety of national, state, and city sources.

On the Tracking Network, you can view maps, tables, and charts with data about:

- chemicals and other substances found in the environment
- some chronic diseases and conditions
- the area where you live





**Q: In what ways has the Tracking Network contributed to public health?**

A: (All are valid answers)

1. With a tracking network in place, public health officials can respond quickly, often within hours, to locate hazard sources or answer citizens' concerns.
2. Before tracking, environmental and health fields were often separated both physically and philosophically.  
With tracking, these two worlds are brought together to benefit of all.
3. Before tracking, public health and environmental officials concentrated mainly on acute events such as hazardous chemical releases or point-source pollution, such as air pollution from a specific factory.  
With tracking, in place, officials can trace amounts and geographic spread of pollutants over time. This capability allows the officials to monitor long-term trends and place those acute events in context.
4. Before tracking, environmental health surveillance was more difficult than infectious disease surveillance, a traditional area of concern for CDC and state and local health departments.  
With tracking, we can apply the same "disease detective" skills to finding environmental causes of illnesses and then take preventive measures to protect the public's health.





**Q: Explain one health effect that is associated with contaminants in the home on the Tracking Network. Why is it an issue?**

Potential Answer: On this website, information is available about two major health effects associated with contaminants in the home: childhood lead poisoning and carbon monoxide poisoning.

#### Childhood Lead Poisoning

Between 1999 and 2004, an estimated 240,000 children 1-5 years of age had elevated blood-lead levels, and most of these levels were caused by lead paint-hazards in and around their homes. Lead exposure causes lasting damage to a child's neurodevelopment and behavior problems. In fact, high amounts lead can be deadly. Although it is no longer used, lead-based paint poisoned millions of children.

#### Carbon Monoxide Poisoning

Carbon monoxide (CO) poisoning is one of the leading causes of unintentional poisoning deaths in the United States. CO is a colorless, odorless gas that is given off whenever fuel or other materials are burned. Between 2001 and 2003, more than 15,000 Americans were treated in hospital emergency departments for non-fire-related CO exposure; 64% of these exposures occurred in the home. CO poisoning can cause shortness of breath, neurobehavioral effects, and even death. Low-level CO exposure may cause irregular heartbeat and damage to the heart muscle.

**Q: Explain the difference between an indicator and a measure. Please provide examples for each.**

A:

Indicator: An indicator is one or more items, characteristics, or other things that will be assessed and that provide information about a population's health status, the environment, and other factors with the goal of allowing us to monitor trends, compare situations, and better understand the link between environment and health. It is assessed through the use of direct and indirect measures (e.g. levels of a pollutant in the environment as a measure of possible exposure) that describe health or a factor associated with health (i.e., environmental hazard, age) in a specified population.

Measure: Measures are available for each indicator. On the Tracking Network, a measure is a summary characteristic or statistic, such as a sum, percentage, or rate.

For examples, visit: <http://ephtracking.cdc.gov/showIndicatorsData.action>





## Short In-class Essays (Two to three short paragraphs)

**Q:** What environmental health career interests you most and why?

*What role does it serve in the practice of environmental health? In this role, explain a situation where you might use the Tracking Network.*

**Q:** Describe three ways that environmental health and public health professionals can use Tracking Network data.

**A:**

- To better understand the relationship between health and the environment
- To make decisions about policies or regulations
- To determine areas with at-risk populations
- To evaluate effectiveness of interventions or policies
- To make decisions about budgets

**Q:** The state of Maine found that almost every case of carbon monoxide (CO) poisoning in the state was associated with not having a CO detector. These data led to new legislation requiring CO detectors in all rental units, in single family homes when there is an addition or renovation, and whenever a property is sold. Describe another example of how Environmental Public Health Tracking led to improved public health. What was the problem? What actions were taken and by whom? What was the result?

**A:** See success stories for answers: <http://www.cdc.gov/nceh/tracking/successstories.htm>



## Activity/Essay (Estimated time: 45 minutes)

Use the Tracking Network to complete one of the scenarios below.

### Sample Scenarios

1. You are an epidemiologist with the Massachusetts Department of Public Health/Bureau of Environmental Health and received a request from the town of Norwood (Norfolk County) for assistance in determining whether to permit the construction of a new asphalt production facility within the town. Air emissions associated with asphalt production include particulate matter (PM), hazardous air pollutants (e.g., benzene and formaldehyde), dioxins/furans and other emissions. These air pollutants are known to cause cancer and as such, pose a cancer risk and may also make preexisting respiratory conditions, like asthma, much worse. Use the National and Massachusetts Tracking Networks to examine air quality and asthma data for this area. Write a letter to the town of Norwood summarizing the data and include any recommendations you have based on the data.

(Real-life story: <http://www.cdc.gov/nceh/tracking/success/massachusetts.htm>)

2. One of your responsibilities as the director of public health nursing for Fresno County, California is to review maternal and child health (MCH) data for the county using the state Tracking Network. During your recent review, you identified a steady increase in preterm births in the county over time. You decide to investigate further and examine data for trends by race/ethnicity, trends for other MCH indicators including very preterm birth, and rates by census tract. You suspect that lead in the environment may play a role in the preterm births. Prepare a summary of the data you obtain from the Network.

(Real-life story: <http://www.cdc.gov/nceh/tracking/success/california.htm>)

3. There have been several media reports about lead paint in children's toys and the residents want to know the status of childhood lead poisoning across the state. As the governor of Utah, you use the state Tracking Network to determine what kinds of trends are occurring. You ask one of the health educators from the state health department to develop a few education materials that can be shared with the public that places particular emphasis on prevention messages and other basic information about childhood lead poisoning. Outline your suggestions for content to include in the materials.

(Real-life story: <http://www.cdc.gov/nceh/tracking/success/utah.htm>)