

## The Body's Lines of Defence

Use with textbook pages 48-49.

In each of the following scenarios, indicate which of the human body's lines of defence (first, second, or third) would be responsible for defending it against pathogens.

1. A student touches a doorknob that has some viruses on it. Which line of defence will try to protect the student from the viruses on her hand?  
\_\_\_\_\_
2. A boy breathes in some air-borne viruses floating in the room. Which line of defence will try to protect the boy from the viruses that entered through his nose?  
\_\_\_\_\_
3. A girl eats a piece of contaminated meat that has been left out for hours. Which line of defence will try to protect the girl from the *Salmonella* on the meat?  
\_\_\_\_\_
4. The hepatitis virus is attacking the liver cells and producing more viral particles in the body. Which line of defence will try to protect the individual from the hepatitis virus that is in the body?  
\_\_\_\_\_
5. A man has a large, deep wound in his leg because he was cut by a sharp piece of metal. The break in the skin on his leg starts to become red and swollen. Which line of defence will try to protect the man?  
\_\_\_\_\_
6. A woman has bronchitis. She is experiencing shortness of breath, and has a persistent cough and a high fever. Which line of defence will try to protect the woman from the pathogen that is making her sick?  
\_\_\_\_\_
7. A young boy accidentally steps on a rusty nail with his bare foot. He now has a puncture wound and his foot starts to become inflamed. Which line of defence will try to protect the boy from the bacteria that cause tetanus?  
\_\_\_\_\_

## Epidemic, Outbreak, and Pandemic

Use with textbook pages 50-52.

1. What two key factors distinguish an epidemic from an outbreak and a pandemic?  
\_\_\_\_\_
2. For each case described below, indicate whether it is an example of an epidemic, an outbreak, or a pandemic.
  - a) In 1994, over 23 000 deaths occurred in refugee camps in the Congo due to cholera. \_\_\_\_\_
  - b) In 2003, SARS killed over 800 people worldwide. \_\_\_\_\_
  - c) In 2014, cholera spread rapidly to over 42 countries with 190 549 reported cases and 2231 deaths. \_\_\_\_\_
3. In each of the following scenarios, identify whether it has a social impact, an economic impact, or both on human populations.
  - a) Thousands of deaths were reported during the H1N1 pandemic.  
\_\_\_\_\_
  - b) There was a decline in tourism due to the spread of the Zika virus.  
\_\_\_\_\_
  - c) There was a SARS outbreak and travel restrictions were issued to the affected countries. \_\_\_\_\_
  - d) During the cold and flu season, there was an increase in absenteeism and lower productivity in the workplace. \_\_\_\_\_
  - e) Diamond markets were closed during an Ebola outbreak because diamond miners refused to enter the mines, which were in the outbreak region.  
\_\_\_\_\_
  - f) Borders were closed to beef and cattle products after cases of mad cow disease were detected. No beef product imports were permitted from the affected country. The infected cattle were then put down for precautionary measures.  
\_\_\_\_\_