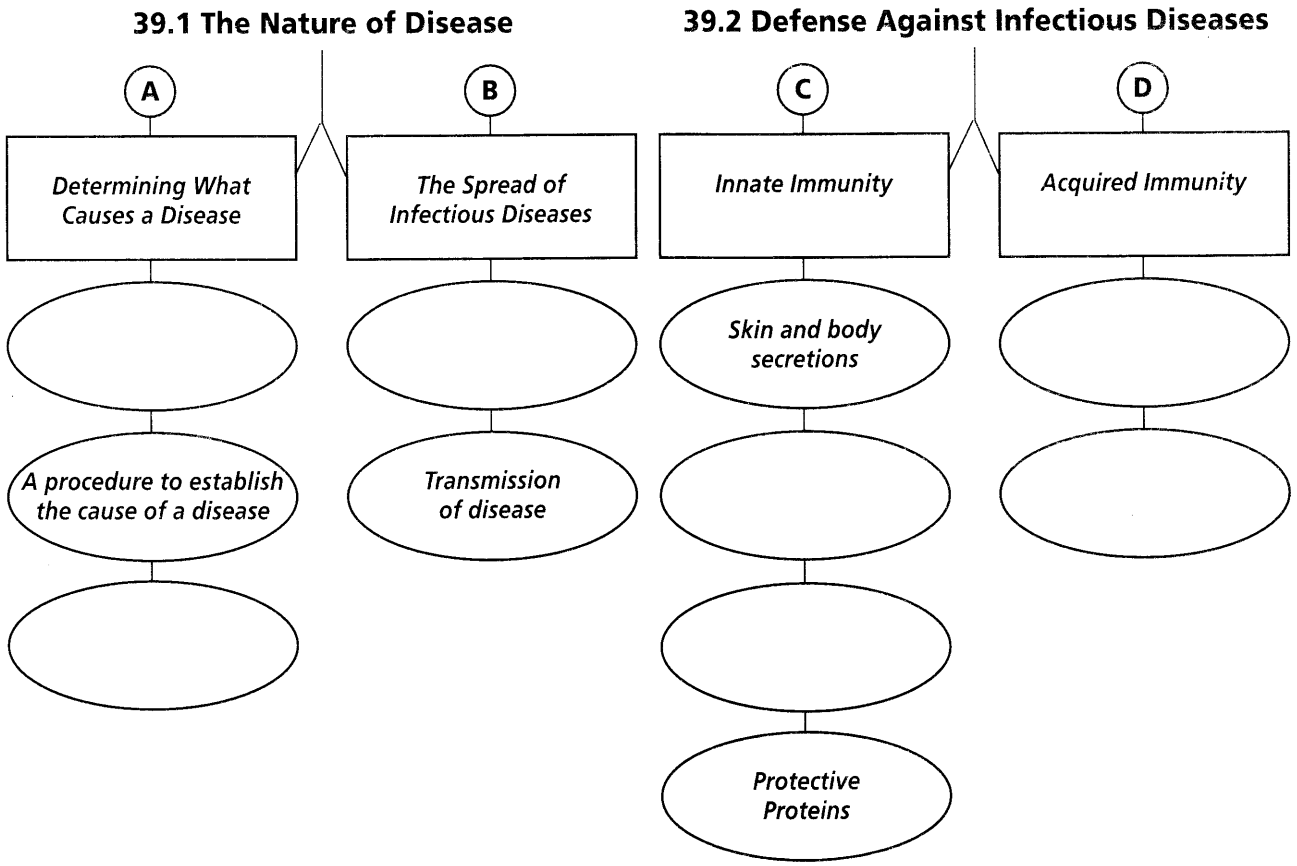
Name Date Class

Content Mastery

Chapter 39 Immunity from Disease

Get the Big Picture

Find the red and blue headings in Chapter 39 of your textbook. Use the blue headings to fill in the ovals in the idea map. The rectangles and some of the ovals have been filled in for you.



Each statement below goes with one of the headings in the rectangles above. Write the letter of each heading on the line in front of the statement it goes with.

_____ Infectious diseases may be spread by direct contact or through the air.

_____ The skin is the body's first line of defense.

_____ A German doctor named Robert Koch first identified that pathogens can cause diseases.

_____ The body can become immune to an infectious disease.

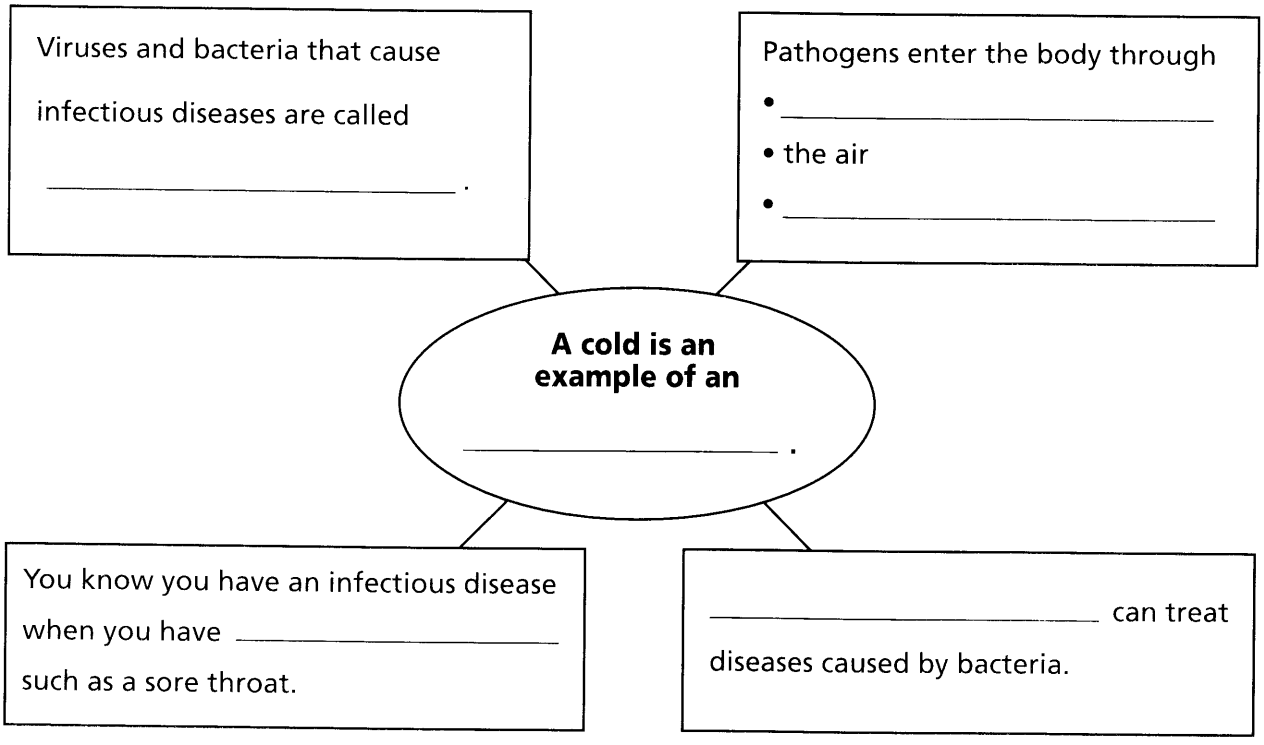
Complete the Idea Map

Read the paragraphs in the boxes. Then use the terms in bold type in the paragraphs to complete the idea map.

Do you remember the last time you had a cold? A cold is one example of an **infectious disease.** Infectious diseases can be caused by viruses, bacteria, and other microbes.

Disease-causing microbes such as viruses and bacteria are known as **pathogens**. Pathogens enter the body in many ways. They can enter through **direct contact** with someone who carries a disease, through the air, or through **contaminated food or water**. After the pathogens enter your body, you may have **symptoms** of an infectious disease. A stuffy nose and sore throat are examples of symptoms caused by a cold.

Antibiotics are drugs used to treat some diseases caused by bacteria. Antibiotics have no effect on diseases caused by viruses.



Chapter 39 **Immunity from Disease,** *continued*

Content Mastery

Section 39.2 Defense Against Infectious Diseases

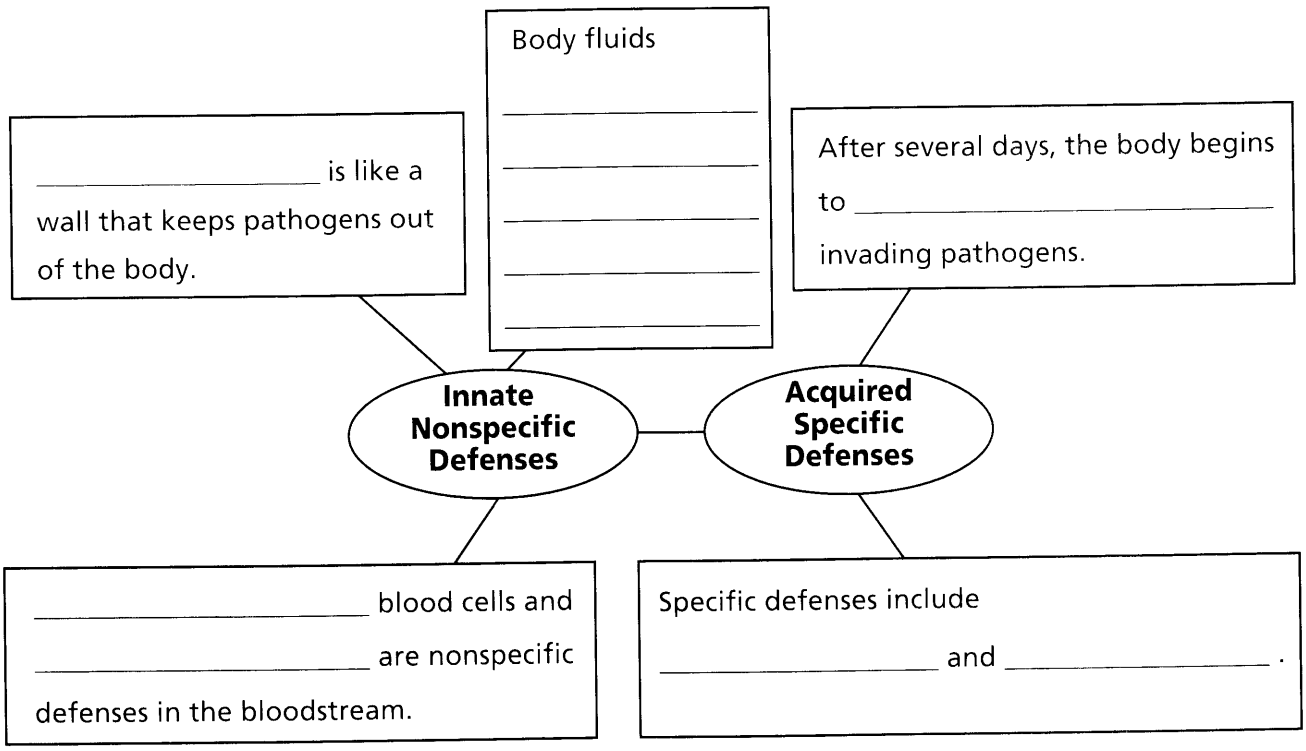
Complete the Idea Map

Read the paragraphs in the boxes. Then use the terms in bold type in the paragraphs to complete the idea map.

Remember that infectious diseases are caused by pathogens. Pathogens may come in the form of viruses, bacteria, or other agents. Our bodies have two types of defenses against pathogens: (1) innate (nonspecific) defenses that are immediately ready to fight all pathogens, and (2) acquired (specific) defenses that gear up to fight against particular pathogens.

Our **skin** is one nonspecific defense. It acts like the walls of a castle to keep all foreign intruders out of our body. Our body fluids also serve as nonspecific defenses. Body fluids such as **mucus, sweat, tears, saliva,** and **stomach acid** trap or destroy pathogens. Pathogens that get past our skin and body fluids are attacked by the nonspecific defenders found in the bloodstream. These defenders are certain types of **white** blood cells and **proteins**.

While the nonspecific defenses fight pathogens, the specific defenses prepare to join the battle. After several days, the body will begin to **recognize** the pathogens as intruders. The body then adapts by acquiring specific defenses, including **antibodies** and **T cells**, that identify and destroy particular pathogens.



Review the Vocabulary

antibiotic	Koch's postulates (KAHKS • PAHS chuh lutz)	pathogen (PATH uh jun)
B cell	lymph (LIHMF)	phagocyte (FAG uh site)
interferon	lymph node	pus
endemic disease	lymphocyte (LIHMF uh site)	T cell
epidemic	macrophage (MAK ruh fayj)	tissue fluid
immunity (ihm YEW nut ee)		vaccine (vak SEEN)
infectious disease		virus

For each statement below, circle the Chapter 39 vocabulary word inside the brackets that best completes the statement. You will not use every word.

1. Diseases are caused by the presence of [oxygen / antibiotics / a pathogen / alleles] in the body.
2. During a(n) [antibiotic / epidemic / genetic disorder / abnormality], many people have the same disease at the same time.
3. Penicillin is an example of a(n) [antibiotic / pathogen / endemic disease / lymphocyte].
4. The fluid in the lymphatic system is called [pus / blood / salt water / lymph].
5. A [lymphocyte / virus / phagocyte / macrophage] is *not* a white blood cell that protects the body against foreign substances.
6. The [B cell / C cell / D cell / F cell] is a type of lymphocyte.
7. [Pus / Skin / Mucus / A vaccine] can cause immunity to a disease.
8. Chicken pox, tetanus, tuberculosis, and AIDS are all [reproductive disorders / genetic disorders / infectious diseases / environmental diseases].
9. A disease that is continually present in the population is called a(n) [endemic disease / epidemic / plague / abnormality].
10. Lymph is filtered in the [lymph nodes / heart / brain / stomach].
11. When [calcium / carbon dioxide / blood / tissue fluid] enters the lymphatic vessels, it is called lymph.
12. The collection of dead white blood cells and different body fluids that are found around an infected area is called [an antibiotic / pus / complement / a vaccine].