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ENGLISH AND SPANISH LESSON NOTES

Name _____ Class _____ Date _____

17-1 How does the body fight disease?

Lesson Review

Write the term that best completes each statement in the space provided.

1. Your body usually can protect itself from illness because it has _____ against disease.
2. The body systems that help protect you from disease include the skin and the _____ , digestive, respiratory, circulatory, and lymphatic systems.
3. The skin is made up of several layers of _____ .
4. Hydrochloric acid in the _____helps to destroy bacteria and viruses that enter the body through the mouth.
5. The cilia and _____of the respiratory system help to trap germs before they can enter the lungs.
6. One kind of white blood cell, called a _____ , can move and change shape like an amoeba.
7. Other types of white blood cells, called _____, also play a role in fighting disease.
8. The lymphatic system transports a clear fluid called _____ .
9. Pathogens contain chemical signals, called _____, that tell the immune system that it is a foreign substance.
10. Substances called _____ help destroy substances that carry antigens.

Skill Challenge

Skills: *organizing, describing*

Complete the table by describing how each part of the body's defense systems helps to protect the body from harmful germs.

BODY DEFENSES AGAINST DISEASE	
Defense	**How It Works**
1. Skin	
2. Nose	
3. Cilia and mucus	
4. Stomach	
5. White blood cells	
6. Lymphatic system	
7. Antibodies	

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17-2 What is immunity?

Lesson Review

Complete the following.

1. What is immunity? _____
2. What are the two kinds of immunity? _____
3. What kind of immunity are people born with? _____
4. What is natural immunity? _____

   _____
5. What is acquired immunity? _____

   _____
6. What is active acquired immunity? _____

   _____
7. What are T cells and B cells? _____

   _____
8. What is passive acquired immunity? _____

   _____
9. Which lasts longer—active acquired immunity or passive acquired immunity? _____

   _____
10. What is a vaccine? _____

    _____

Skill Challenge

Skills: *classifying, applying concepts*

Complete the table by identifying the kind of immunity that is described in the first column. Place check marks in the correct columns.

KINDS OF IMMUNITY			
Description	**Natural Immunity**	**Acquired Immunity**	
		Passive	**Active**
1. You are injected with a vaccine.			
2. You are exposed to chicken pox.			
3. You are born with an immunity.			
4. Immunity lasts a short time.			
5. Immunity lasts a long time.			

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17-3 What are some bacterial diseases?

Lesson Review

Complete the following. Use additional paper as needed.

1. What is the germ theory? _____
2. Who proposed the germ theory? _____
3. Who was Robert Koch? _____
4. List three common bacterial diseases. _____
5. How are contagious diseases spread? _____

_____

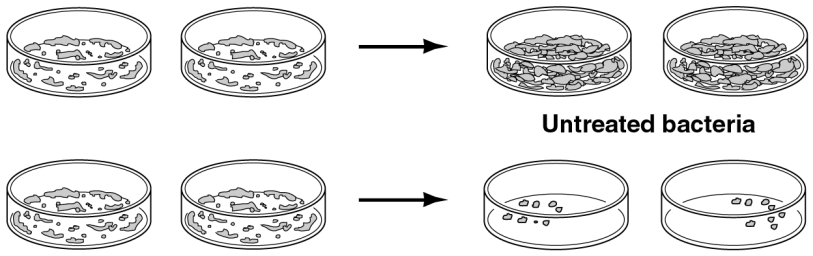
6. What is an antibiotic? _____
7. Who was Alexander Fleming? _____
8. What is penicillin? _____
9. How do antibiotics work? _____
10. What is one problem related to overuse of antibiotics? _____

_____

Skill Challenge

Skills: *analyzing, hypothesizing*

A scientist wants to test the effect of Substance X on a certain type of bacteria. The scientist grows some of the bacteria in each of four petri dishes. Substance X is added to two of the petri dishes. The results for the experiment are shown in the drawings below. Study the diagrams. Then, answer the questions.



1. What is a possible conclusion the scientist might make from the results? _____

_____

2. The scientist is sure that Substance X is what prevented the bacteria from growing. What would the scientist have to do in order to find out if Substance X has the same effect on other bacteria under the same conditions? _____

_____

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17-4 What are some viral diseases?

Lesson Review

Write *true* if the statement is true. If the statement is false, change the underlined term to make the statement true.

_____ **1.** Each virus usually defends only a certain kind of cell or tissue.

_____ **2.** Viruses that cause yellow fever attach to cells in the liver.

_____ **3.** Influenza causes skin rashes in spots and fever.

_____ **4.** Mumps causes swollen glands and fever.

_____ **5.** Hepatitis causes muscle aches, fever, and chills.

_____ **6.** A virus called chicken pox attacks a person's immune system.

_____ **7.** AIDS is a viral disease that kills white blood cells in a person's immune system.

_____ **8.** AIDS can be transmitted by casual contact.

_____ **9.** People with AIDS have HIV in their blood and body fluids.

_____ **10.** HIV can enter a person's bloodstream through sexual contact or through a blood transfusion of infected blood.

Skill Challenge

Skills: *classifying, researching*

Complete the table by identifying whether each disease listed is caused by a bacteria or a virus. Place check marks in the correct columns. Use reference materials for help if necessary.

DISEASES IN HUMANS		
Disease	**Cause**	
	Bacteria	**Virus**
1. Diphtheria		
2. Salmonella poisoning		
3. German measles		
4. Common cold		
5. AIDS		
6. Tetanus		
7. Pneumonia		
8. Botulism		

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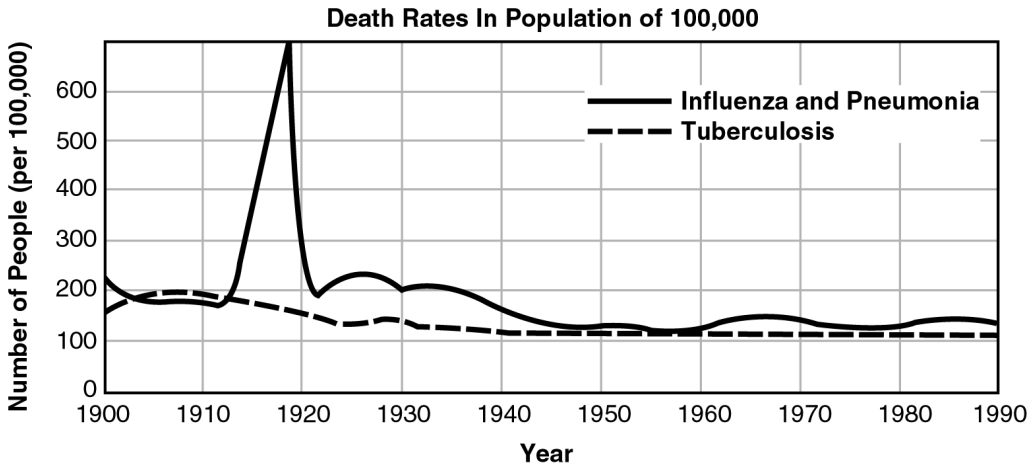
Comparing Infectious Diseases

Enrichment Activity for Lesson 17-4

Skills: *interpreting a graph, applying concepts*

The graph below shows changes in the United States death rates from two infectious diseases—influenza and pneumonia (grouped together) and tuberculosis. Study the graph. Then, answer the questions that follow.



1. What information does the graph show? _____

_____

2. About how many people out of 100,000 died of tuberculosis in 1980? _____

3. Which disease claimed the greater number of lives in 1910? _____

4. During which 10-year period did the greatest number of people die from influenza and pneumonia? _____

5. Which disease(s) claimed the greater number of lives during the period from 1940 to 1980?

_____

6. What general statement can be made about the number of Americans who died from these two diseases during the time period shown on the graph? _____

_____

7. What might account for the change in the number of Americans who have died from these diseases during the time period shown on the graph? _____

_____

8. Why do you suppose the number of Americans who have died from tuberculosis has approached zero since 1940? _____

_____

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17-5 What are noninfectious diseases?

Lesson Review

Match each term in **Column B** with its description in **Column A**. Write the letter of the correct term in the space provided.

	Column A	Column B
_____	**1.** mass of cells that is usually harmless	**a.** cancer
_____	**2.** one possible cause of lung cancer	**b.** benign tumor
_____	**3.** disease caused by the spread of malignant tumors	**c.** tumor
_____	**4.** hormone that regulates the amount of sugar in the bloodstream	**d.** malignant tumor
_____	**5.** disease in which too little insulin is produced	**e.** Alzheimer's disease
_____	**6.** disease that affects the brain and causes memory loss	**f.** diabetes
_____	**7.** disease that cannot be spread from one person to another	**g.** smoking cigarettes
_____	**8.** harmful mass of cells that can spread throughout the body	**h.** insulin
_____	**9.** mass or lump of cells	**i.** noninfectious disease

Skill Challenge

Skills: *identifying, researching*

Complete the table by identifying whether each disease is infectious or noninfectious. Place a check mark in the correct column. Then, write a brief description of each disease in the last column. Use your text or reference materials for help if necessary.

Disease	Infectious	Noninfectious	Description
Influenza			
Cancer			
Alzheimer's			
Smallpox			
Tetanus			
Diabetes			
Chicken pox			
Parkinson's			
Leukemia			
Measles			
AIDS			

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THE **Big** IDEA *Integrating History*

Chapter 17 How has disease affected us over time?

Lesson Review

Study the timeline on pages 412 and 413 of your text. Write the year each event first occurred to complete each sentence. Then, arrange the events listed below in chronological order by writing the numbers *1* (earliest event) through *8* (latest event) in the spaces provided on the left.

_____ **a.** Jenner creates a vaccine for smallpox in _____.

_____ **b.** Penicillin is discovered in _____.

_____ **c.** The first Human Genome map is published in _____.

_____ **d.** Marie Curie studies radioactivity in _____.

_____ **e.** President Nixon declares war on cancer in _____.

_____ **f.** Salk develops a vaccine for polio in _____.

_____ **g.** The Germ Theory is developed around _____.

_____ **h.** The first human heart transplant occurs in _____.

Skill Challenge

Skills: *inferring, synthesizing, applying*

1. Why do you think people in Jenner's time were afraid of vaccinations? _____

_____

_____

2. List three ways in which you have seen Louis Pasteur's Germ theory applied. _____

_____

_____

3. Why do you think that it takes so long for scientists to find cures and vaccines for some diseases, such as cancer and AIDS? _____

_____

_____

Science Log Writing Activity

Complete the Science Log on a separate sheet of paper. To complete the Big Idea Online, go to www.conceptsandchallenges.com. Follow the online instructions.