Germs are everywhere: in school, at home, at the gym, at the mall, even on your computer! You’re constantly exposed to germs. Fortunately for most of us, our immune systems defend us against germs and microorganisms daily to keep us healthy and prevent infection. These activities will help your students learn all about the immune system.

Related KidsHealth Links

Articles for Teens:

- Immune System
  TeensHealth.org/en/teens/immune.html
- Why Should I Care About Germs?
- Hand Washing
  TeensHealth.org/en/teens/handwashing.html
- Spleen and Lymphatic System
  TeensHealth.org/en/teens/spleen.html

Article for Teachers:

- Tips From School Nurses on Keeping Students Healthy
  KidsHealth.org/en/parents/healthy-nurse-tips.html

Discussion Questions

Note: The following questions are written in language appropriate for sharing with your students.

1. How does the immune system work to protect us from disease and infection?
2. What are leukocytes and where are they produced and stored in the body? How do leukocytes travel around the body during the immune system’s response to the invasion of a foreign substance?
3. Why are some people more immune than others to disease and infection? How do people develop immunity?
4. What can teens do to keep their immune systems strong and healthy?
5. What happens when your immune system fails? Is it possible to recover from this failure?
Activities for Students

Note: The following activities are written in language appropriate for sharing with your students.

Immune System Vocabulary

Objectives:
Students will:
• Learn terminology related to the immune system

Materials:
• Computer with Internet access
• Pens or pencils
• “Immune System Vocabulary” handout and “Immune System” quiz and answer key

Class Time:
• 1 hour

Activity:
Phagocyte, lymphocyte, immunity — what do these words mean? Read about the immune system at TeensHealth.org to find out how your body fights off sickness. After reading the articles, complete the word search puzzle, and then I’ll pass out a quiz so you can show what you know about your body’s defense system for attacking germs and diseases.

Extension:
It seems like advances in knowledge or cures for diseases are being reported in the news all the time. For the next two months, keep track and record any news about issues related to the immune system.
Immunity Breakdown

Objectives:
Students will:
• Identify and explore disorders related to the immune system

Materials:
• Computer with Internet access
• Index cards
• “Immunity Breakdown” handout

Class Time:
• Two 1-hour sessions

Activity:
You’re part of a team of doctors who focus on dealing with immune system disorders. You and your colleague were invited to speak to high school students about an immune system disorder. Read the TeensHealth.org article titled “Immune System” and choose an immune system disorder to report on. Use this handout to gather facts from the article and other sources (you can search for each disorder at TeensHealth.org). Then give a brief report to the students.

Extension:
Washing your hands often (1) is the best way to avoid infections and help keep your immune system healthy. You can also keep your immune system strong by (2) eating a nutritious diet, (3) exercising and being active every day, (4) getting enough sleep each night, and (5) visiting a doctor regularly. Create a brief public address to be read during the morning announcements, highlighting these five ways to help the immune system fight germs and illnesses.

Reproducible Materials
Handout: Immune System Vocabulary
KidsHealth.org/classroom/9to12/body/systems/immune_handout1.pdf

Handout for Teachers: Immune System Vocabulary Answers
KidsHealth.org/classroom/9to12/body/systems/immune_handout2.pdf

Handout: Immunity Breakdown
KidsHealth.org/classroom/9to12/body/systems/immune_handout3.pdf

Quiz: Immune System
KidsHealth.org/classroom/9to12/body/systems/immune_quiz.pdf

Answer Key: Immune System
KidsHealth.org/classroom/9to12/body/systems/immune_quiz_answers.pdf
Immune System Vocabulary

Instructions: Circle the immune system vocabulary words from the word bank. They could be arranged vertically, horizontally, diagonally, and backward.

WORD BANK

ALLERGIC    AUTOIMMUNE    IMMUNE    LEUKEMIA    LYMPHOCYTES
ANTIBODIES   DISEASE      IMMUNODEFICIENCIES LEUKOCYTES  PHAGOCYTE
ANTIGEN      HAND WASHING INNATE      LYMPH NODES  VESSELS

Immune System Vocabulary Answers

**WORD BANK**

- Allergic
- Autoimmune
- Immune
- Leukemia
- Lymphocytes
- Antibodies
- Disease
- Immunodeficiencies
- Leukocytes
- Phagocyte
- Antigen
- Hand Washing
- Innate
- Lymph Nodes
- Vessels

Immunity Breakdown

Instructions: You and your medical colleague need to prepare a brief speech to high school students about what happens when a person has a problem with the immune system. Read the TeensHealth.org article titled “Immune System” and choose an immune system disorder to report on. Use this handout to gather facts from the article and other sources (you can search for each disorder at TeensHealth.org). Then give a brief report to the students.

Immune disorder: ________________________________

Common age of onset: ____________________________

Occurrence in population: ________________________

Cause: __________________________________________

Description: ____________________________________

Treatment: ______________________________________

Quiz

Instructions: Fill in the blanks with the words from the word bank.

1. The ______________________ system protects your body from sickness and germs.

2. ______________________ are white blood cells that seek out and destroy organisms or substances that can cause disease.

3. ______________________ are glands that work like filters to remove germs. They’re found in your neck, armpit, and other areas.

4. Cells that chew up invading germs are called ______________________.

5. ______________________ are the cells that recognize invaders like germs.

6. Leukocytes travel through the body via lymphatic ______________________.

7. A foreign substance that invades your body is called an ______________________.

8. When your body detects an antigen, ______________________ are made and lock onto it. Once an antigen is recognized, your immune system can remember it the next time and protect you from getting sick again.

9. Humans are born with ______________________ immunity.

10. ______________________ is one of the best ways to avoid infections and help keep your immune system healthy.

11. ______________________ occur when a part of the immune system is not present or is not working properly.

12. When the immune system attacks healthy organs and tissues, it’s called an ______________________ disorder.

13. An ______________________ reaction occurs when the immune system overreacts to exposure to antigens in the environment.

14. Acquired immunodeficiencies can develop as a result of burns, malnutrition, or other medical problems; or if a person takes certain medicines or has a ______________________.

15. An abnormal overgrowth of leukocytes results in ______________________, a form of cancer.

WORD BANK

allergic  disease  innate  lymphocytes
antibodies  hand washing  leukemia  phagocytes
antigen  immune  leukocytes  vessels
autoimmune  immunodeficiencies  lymph nodes
Quiz Answer Key

1. The _______ immune _______ system protects your body from sickness and germs.

2. _______ Leukocytes _______ are white blood cells that seek out and destroy organisms or substances that can cause disease.

3. _______ Lymph nodes _______ are glands that work like filters to remove germs. They’re found in your neck, armpit, and other areas.

4. Cells that chew up invading germs are called _______ phagocytes _______.

5. _______ Lymphocytes _______ are the cells that recognize invaders like germs.

6. Leukocytes travel through the body via lymphatic _______ vessels _______.

7. A foreign substance that invades your body is called an _______ antigen _______.

8. When your body detects an antigen, _______ antibodies _______ are made and lock onto it. Once an antigen is recognized, your immune system can remember it the next time and protect you from getting sick again.

9. Humans are born with _______ innate _______ immunity.

10. _______ Hand washing _______ is one of the best ways to avoid infections and help keep your immune system healthy.

11. _______ Immunodeficiencies _______ occur when a part of the immune system is not present or is not working properly.

12. When the immune system attacks healthy organs and tissues, it’s called an _______ autoimmune _______ disorder.

13. An _______ allergic _______ reaction occurs when the immune system overreacts to exposure to antigens in the environment.

14. Acquired immunodeficiencies can develop as a result of burns, malnutrition, or other medical problems; or if a person takes certain medicines or has a _______ disease _______.

15. An abnormal overgrowth of leukocytes results in _______ leukemia _______, a form of cancer.

WORD BANK

allergic  disease  innate  lymphocytes
antibodies  hand washing  leukemia  phagocytes
antigen  immune  leukocytes  vessels
autoimmune  immunodeficiencies  lymph nodes