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. The following discussion questions and activities will help your students learn all about the immune system.

Related KidsHealth Links

Articles for Teens:

- **Immune System**
  KidsHealth.org/teen/flu_center/about_flu/immune.html

- **Why Should I Care About Germs?**
  KidsHealth.org/teen/flu_center/prevention/care_about_germs.html

- **Hand Washing**
  KidsHealth.org/teen/your_body/skin_stuff/handwashing.html

- **Spleen and Lymphatic System**
  KidsHealth.org/teen/your_body/body Basics/spleen.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 they 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 system healthy and strong?
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.

Immunity Vocabulary

Objectives:
Students will:
• Learn words related to the immune system and their definitions

Materials:
• Computer with Internet access, “Immune System” quiz
• “Immune System Vocabulary” handout

Class Time:
• 1 hour

Activity:
Phagocyte, lymphocyte, immunity – what do these words mean? Read about the immune system at KidsHealth.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 month, 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 1- to 2-minute report to the students.

Extension:
Washing your hands is the best way to avoid infections and help keep your immune system healthy. You can also keep your immune system strong by eating a nutritious diet, exercising and being active every day, getting enough sleep each night, and 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
**Immunity System Vocabulary**

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

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**WORD BANK**

ALLERGIC  AUTOIMMUNE  IMMUNE  LEUKEMIA  LYMPHOCYTES
ANTIBODIES  DISEASE  IMMUNODEFICIENCIES  LEUKOCYTES  PHAGOCYTE
ANTIGEN  HAND WASHING  INNATE  LYMPH NODES  VESSELS
Immunity 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 1- to 2-minute report to the students.

<table>
<thead>
<tr>
<th>Immune disorder:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Common age of onset:</td>
<td></td>
</tr>
<tr>
<td>Occurrence in population:</td>
<td></td>
</tr>
</tbody>
</table>

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