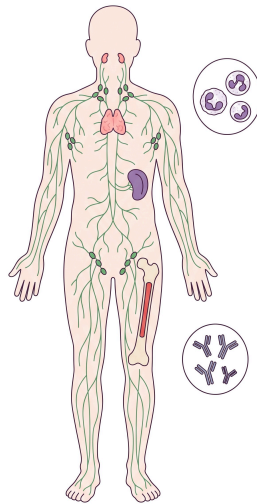


Immune System

How the body fights germs



7

printable sheets

17

pages

All

answer keys included

Immune System Teaching Pack

How the body fights germs

How to use this pack. The sheets are in a suggested teaching order: show the labeled diagram, have students label the blank one, then work through the practice sheets and finish with the quiz. Use them all over a week or pick the ones you need. The answer keys are together at the back.

What is inside

1. Teach

Immune System Diagram 3

2. Label

Blank Immune System 4

3. Match

Immune System Parts and Their Jobs 5

4. Read

How Your Body Fights Germs 6

5. Order

Fighting a Germ, Step by Step 8

6. Review

Immune System Crossword 9

7. Check

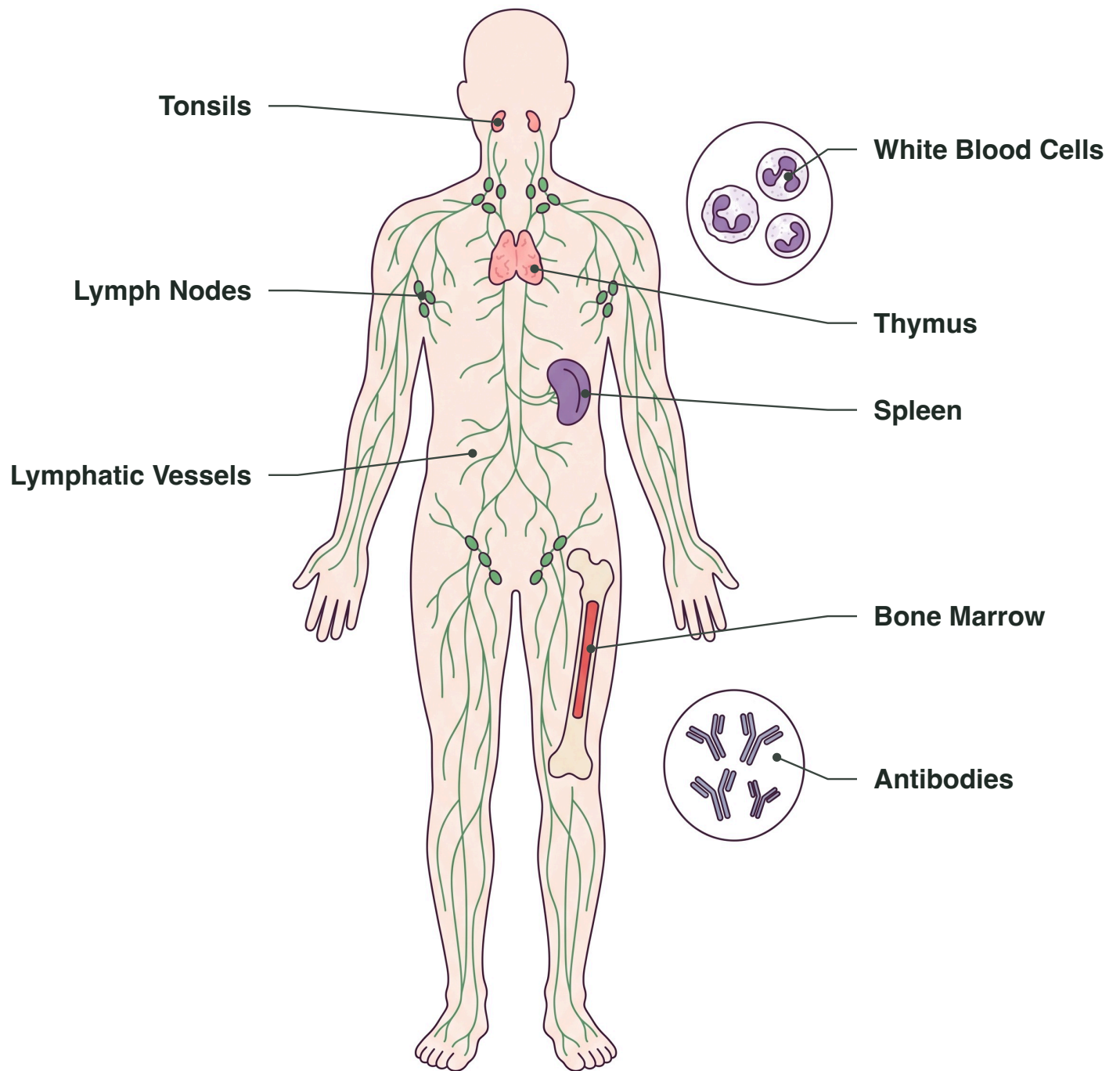
Immune System Quiz 10

Answer keys

Every answer key, in the same order 12

More free teaching packs. Skeletal System, Muscular System, Digestive System, Respiratory System, Heart and Circulation, Excretory System, Nervous System and Brain, Eye and Ear, Endocrine System and more at printablescholar.com/teaching-packs/

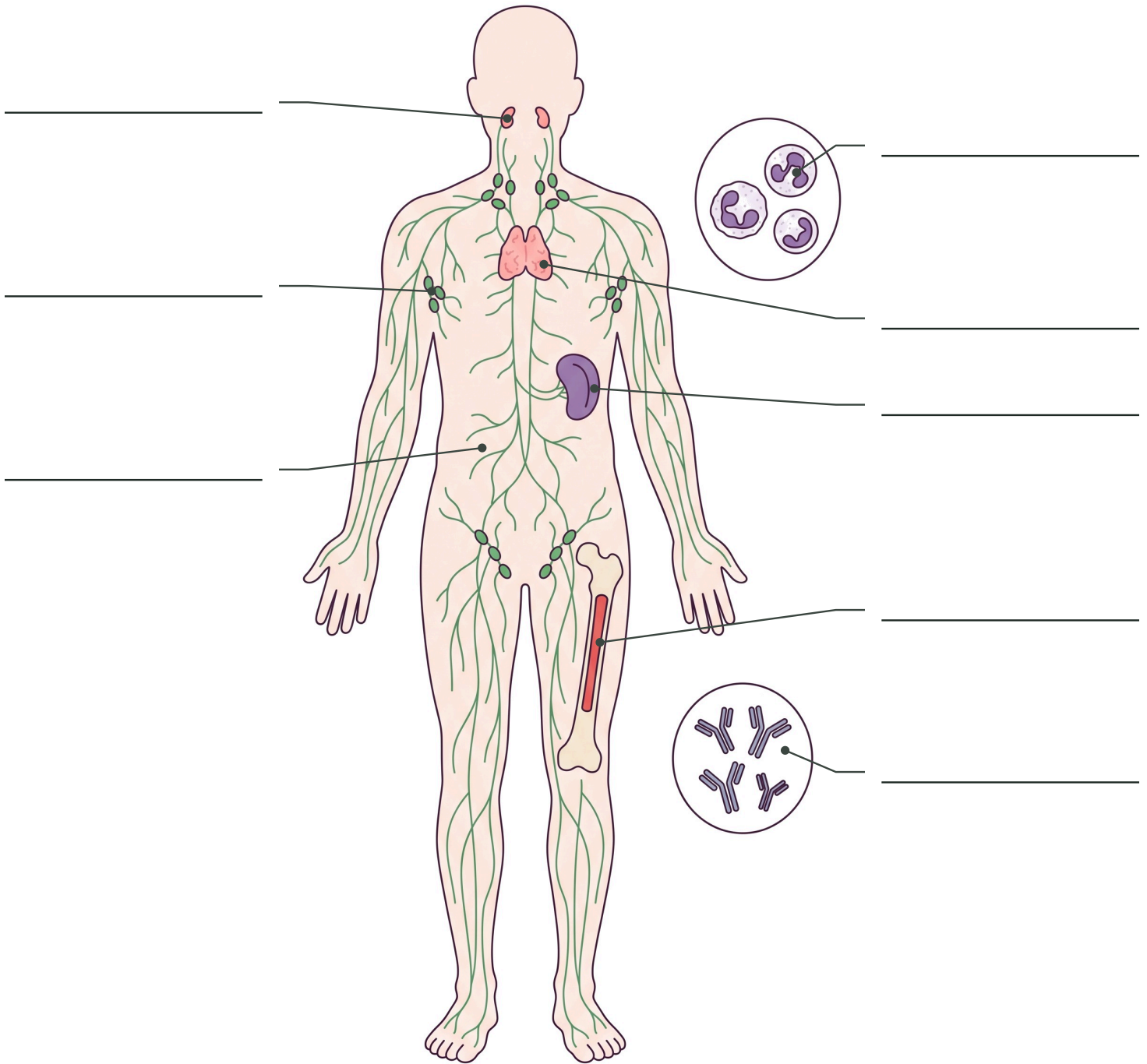
The Immune System



The Immune System

Name: _____

Write the name of each part on its line. Use the word bank.



Word bank

Antibodies Bone Marrow Lymph Nodes Lymphatic Vessels
Spleen Thymus Tonsils White Blood Cells

Immune System Parts and Their Jobs

Use the labeled immune system diagram to help you.

Part A. Write the part that does each job.

Word bank

Antibodies

Bone Marrow

Lymph Nodes

Lymphatic Vessels

Spleen

Thymus

Tonsils

White Blood Cells

1. An organ in the upper belly. It filters the blood and removes old red blood cells. _____
2. The cells that find and destroy germs. _____
3. Two lumps of tissue at the back of the throat. They trap germs that come in through the mouth and nose. _____
4. The soft tissue inside bones. All blood cells are made here. _____
5. Y-shaped proteins that stick to a germ and mark it to be destroyed. _____
6. Thin tubes that collect fluid from the body's tissues and return it to the blood. _____
7. An organ in the upper chest. It helps white blood cells called T cells mature. _____
8. Small bean-shaped filters that trap germs. They can swell when you are sick. _____

Part B. Answer the questions.

1. In which labeled part are white blood cells made?

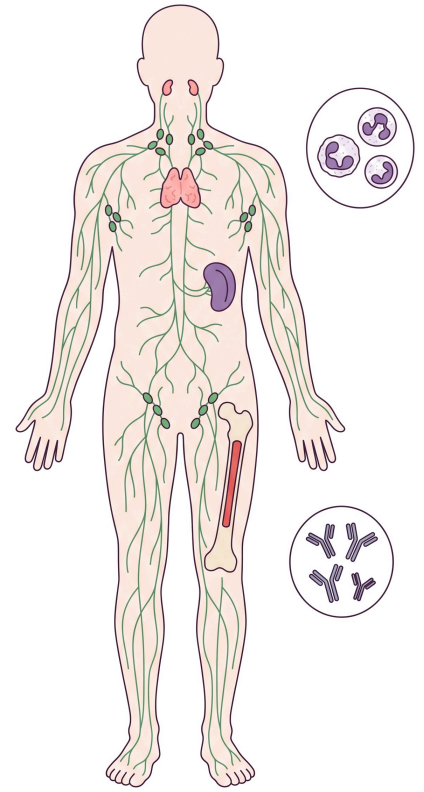
2. How does an antibody help the body get rid of a germ?

3. When you have a sore throat, a doctor may feel the sides of your neck. Which part is the doctor checking, and why?

How Your Body Fights Germs

Read the text. Then answer the questions on the next page.

- 1 Germs are all around you. Bacteria, viruses and other germs that can make you sick are called **pathogens**. Your **immune system** is your body's defense against them. It is not in one place. It is made of cells, tissues and organs spread through your whole body.
- 2 The first job is to keep germs out. Your skin covers your body like a wall. Sticky **mucus** in your nose and throat traps germs. So do the **tonsils**, two lumps of tissue at the back of the throat.
- 3 Germs that get past these defenses meet the **white blood cells**. Like all blood cells, they are made in the **bone marrow**, the soft tissue inside bones. Some white blood cells swallow germs whole. Others, called T cells, mature in the **thymus**, an organ in the upper chest. Others, called B cells, make **antibodies**. An antibody is a Y-shaped protein that fits one kind of germ, the way a key fits one lock. It sticks to the germ and marks it to be destroyed.
- 4 White blood cells travel in the blood and in a clear fluid called **lymph**. Lymph flows through thin tubes called lymphatic vessels. Along the way it passes through **lymph nodes**, small filters packed with white blood cells. The nodes trap germs. When you are sick, the lymph nodes in your neck may swell as they fill with white blood cells and trapped germs. The **spleen** filters the blood.
- 5 After the germs are gone, some white blood cells stay behind as **memory cells**. They remember the germ. If the same germ comes back, the body makes antibodies much faster, and you may not get sick at all. A **vaccine** works the same way. It shows the immune system a harmless piece or form of a germ, so the body makes memory cells without having the illness.



The parts of the immune system.

How Your Body Fights Germs: Questions

Go back to the text to find each answer. The paragraphs are numbered to help you.

1. What is this text mostly about?

- ☐ How germs spread from person to person
- ☐ How the body defends itself against germs
- ☐ Why doctors check your throat
- ☐ How blood carries oxygen

2. What is a pathogen?

- ☐ A kind of white blood cell
- ☐ A protein that marks germs
- ☐ A germ that can make you sick
- ☐ A clear fluid in the body

3. Name two things that help keep germs out of the body (paragraph 2).

4. Where are white blood cells made?

- ☐ In the thymus
- ☐ In the bone marrow
- ☐ In the spleen
- ☐ In the lymph nodes

5. Why does the text compare an antibody to a key?

- ☐ Antibodies are hard like metal.
- ☐ Antibodies open the cell membrane.
- ☐ Antibodies are made inside bones.
- ☐ Each antibody fits only one kind of germ.

6. Number the steps 1, 2 and 3 to show how the body deals with a germ (paragraphs 3 and 5).

- ☐ The antibodies stick to the germ and mark it.
- ☐ Memory cells stay behind and remember the germ.
- ☐ B cells make antibodies that fit the germ.

7. Why may the lymph nodes in your neck swell when you are sick?

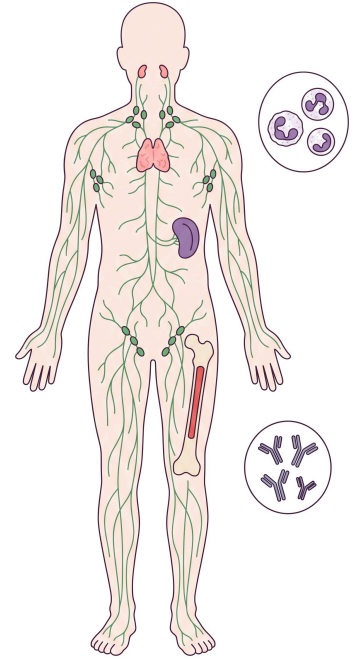
8. How does a vaccine protect you? Use the words memory cells in your answer.

Fighting a Germ, Step by Step

Germes get into a cut on your finger. What does your immune system do? The steps are mixed up.

Part A. Number the steps from 1 to 6.

- ☐ Over the next few days, white blood cells called B cells make antibodies that fit this germ.
- ☐ Germs get into the body through a cut in the skin.
- ☐ The new antibodies stick to the germs and mark them.
- ☐ White blood cells destroy the marked germs, and the cut heals.
- ☐ Long after the germs are gone, memory cells still remember them.
- ☐ Within hours, white blood cells rush to the cut and begin to swallow the germs.



Part B. Answer the questions.

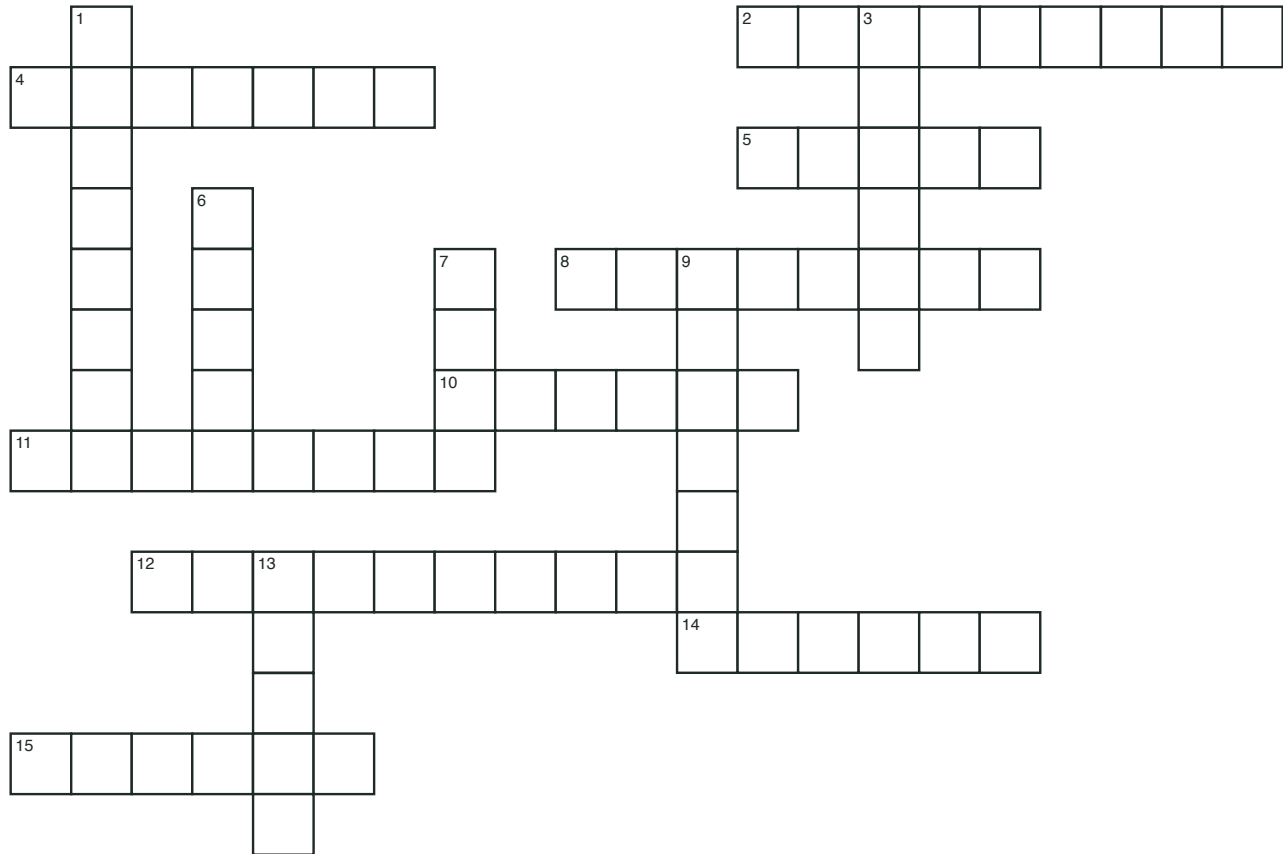
1. What two things do antibodies do to a germ?

2. The same kind of germ gets into the body a year later. Why can the body fight it faster this time?

3. Skin is part of the body's defenses. How does this sheet show that?

Immune System Crossword

Read each clue. Write the answer in the puzzle, one letter in each box. Use the word bank if you get stuck.



ACROSS

2. A small bean-shaped filter that traps germs (2 words).
4. It shows the body a harmless piece or form of a germ.
5. A tiny germ. Different kinds cause colds and the flu.
8. A Y-shaped protein that sticks to a germ and marks it.
10. The _____ system defends the body against germs.
11. The science word for a germ that can make you sick.
12. A white blood cell that stays behind and remembers a germ (2 words).
14. The organ in the upper belly that filters the blood.
15. The organ in the upper chest where T cells mature.

DOWN

1. One-celled living things. Some kinds cause illnesses such as strep throat.
3. Bone _____ is the soft tissue where blood cells are made.
6. The clear fluid that is collected from the body's tissues and returned to the blood.
7. The outer covering of the body. It keeps most germs out.
9. Two lumps of tissue at the back of the throat that trap germs.
13. The sticky fluid in the nose and throat that traps germs.

Word bank

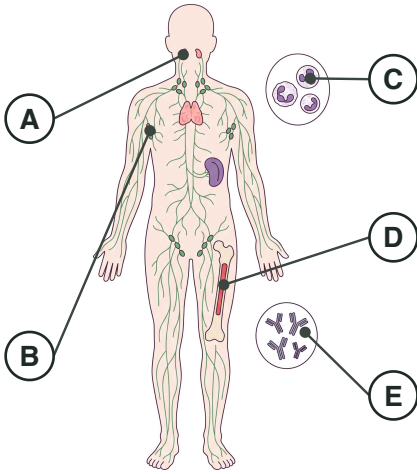
antibody bacteria immune lymph lymph node marrow memory cell mucus
pathogen skin spleen thymus tonsils vaccine virus

Immune System Quiz

Score _____ / 13

Show what you know about how the body fights germs.

Part A. These are parts of the immune system. Write the name of each part.



A _____

B _____

C _____

D _____

E _____

Antibodies · Bone Marrow · Lymph Nodes · Tonsils · White Blood Cells

Part B. Choose the best answer.

1. Which cells find and destroy germs?

- ☐ Red blood cells
- ☐ White blood cells
- ☐ Skin cells
- ☐ Nerve cells

2. Where are blood cells made?

- ☐ In the bone marrow
- ☐ In the spleen
- ☐ In the tonsils
- ☐ In the lymph nodes

3. What is an antibody?

- ☐ A kind of germ
- ☐ A small filter
- ☐ A protein that marks a germ
- ☐ A clear fluid

4. What do lymph nodes do?

- ☐ Pump blood
- ☐ Make red blood cells
- ☐ Digest food
- ☐ Trap germs

5. Where do T cells mature?

- ☐ In the spleen
- ☐ In the thymus
- ☐ In the tonsils
- ☐ In the skin

6. Which organ filters the blood?

- ☐ Thymus
- ☐ Tonsils
- ☐ Spleen
- ☐ Bone marrow

Part C. Write your answer.

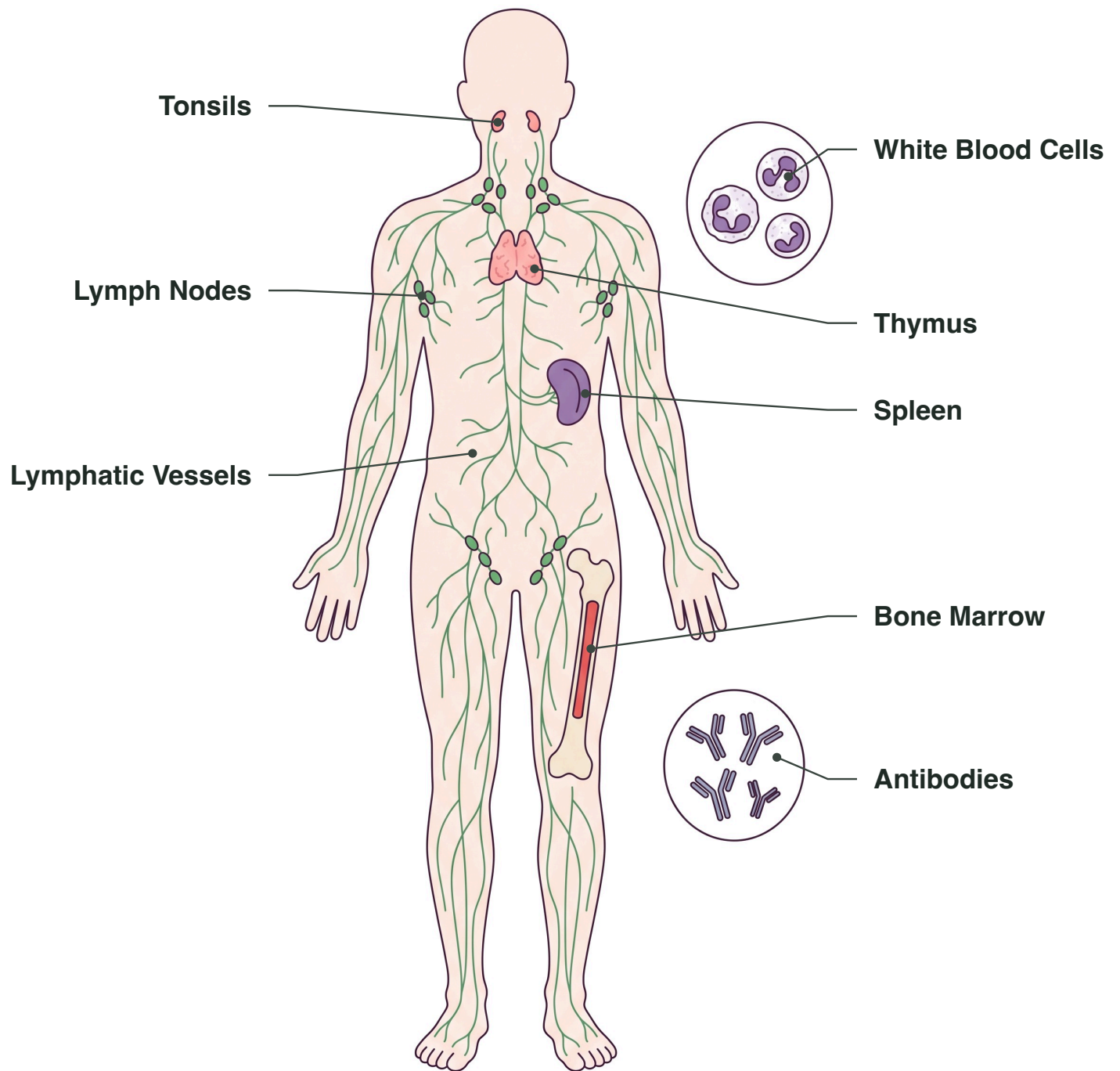
7. What do the tonsils do?

8. Why can the body fight a germ faster the second time it gets in?

Answer Keys

In the same order as the sheets.

The Immune System: Answer Key



Immune System Parts and Their Jobs: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. Write the part that does each job.

Word bank

Antibodies

Bone Marrow

Lymph Nodes

Lymphatic Vessels

Spleen

Thymus

Tonsils

White Blood Cells

1. An organ in the upper belly. It filters the blood and removes old red blood cells.

Spleen

2. The cells that find and destroy germs.

White Blood Cells

3. Two lumps of tissue at the back of the throat. They trap germs that come in through the mouth and nose.

Tonsils

4. The soft tissue inside bones. All blood cells are made here.

Bone Marrow

5. Y-shaped proteins that stick to a germ and mark it to be destroyed.

Antibodies

6. Thin tubes that collect fluid from the body's tissues and return it to the blood.

Lymphatic Vessels

7. An organ in the upper chest. It helps white blood cells called T cells mature.

Thymus

8. Small bean-shaped filters that trap germs. They can swell when you are sick.

Lymph Nodes

Part B. Answer the questions.

1. In which labeled part are white blood cells made?

In the bone marrow.

2. How does an antibody help the body get rid of a germ?

It sticks to the germ and marks it to be destroyed.

3. When you have a sore throat, a doctor may feel the sides of your neck. Which part is the doctor checking, and why?

The lymph nodes. They can swell when the body is fighting germs.

How Your Body Fights Germs: Answer Key

Answers are in green. Written answers will vary; these are examples.

1. What is this text mostly about?

- ☐ How germs spread from person to person
- ☒ **How the body defends itself against germs**
- ☐ Why doctors check your throat
- ☐ How blood carries oxygen

2. What is a pathogen?

- ☐ A kind of white blood cell
- ☐ A protein that marks germs
- ☒ **A germ that can make you sick**
- ☐ A clear fluid in the body

3. Name two things that help keep germs out of the body (paragraph 2).

Any two: skin, mucus, the tonsils.

4. Where are white blood cells made?

- ☐ In the thymus
- ☒ **In the bone marrow**
- ☐ In the spleen
- ☐ In the lymph nodes

5. Why does the text compare an antibody to a key?

- ☐ Antibodies are hard like metal.
- ☐ Antibodies open the cell membrane.
- ☐ Antibodies are made inside bones.
- ☒ **Each antibody fits only one kind of germ.**

6. Number the steps 1, 2 and 3 to show how the body deals with a germ (paragraphs 3 and 5).

- 2** The antibodies stick to the germ and mark it.
- 3** Memory cells stay behind and remember the germ.
- 1** B cells make antibodies that fit the germ.

7. Why may the lymph nodes in your neck swell when you are sick?

They fill with white blood cells and trapped germs.

8. How does a vaccine protect you? Use the words memory cells in your answer.

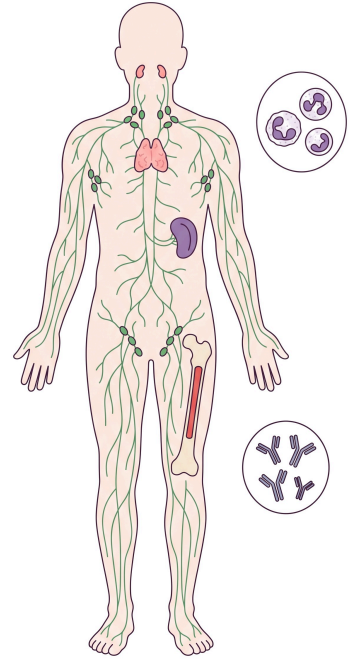
It shows the immune system a harmless piece or form of a germ. The body makes memory cells, so it can fight the real germ quickly.

Fighting a Germ, Step by Step: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. Number the steps from 1 to 6.

- 3** Over the next few days, white blood cells called B cells make antibodies that fit this germ.
- 1** Germs get into the body through a cut in the skin.
- 4** The new antibodies stick to the germs and mark them.
- 5** White blood cells destroy the marked germs, and the cut heals.
- 6** Long after the germs are gone, memory cells still remember them.
- 2** Within hours, white blood cells rush to the cut and begin to swallow the germs.



Part B. Answer the questions.

1. What two things do antibodies do to a germ?

They stick to it and mark it to be destroyed.

2. The same kind of germ gets into the body a year later. Why can the body fight it faster this time?

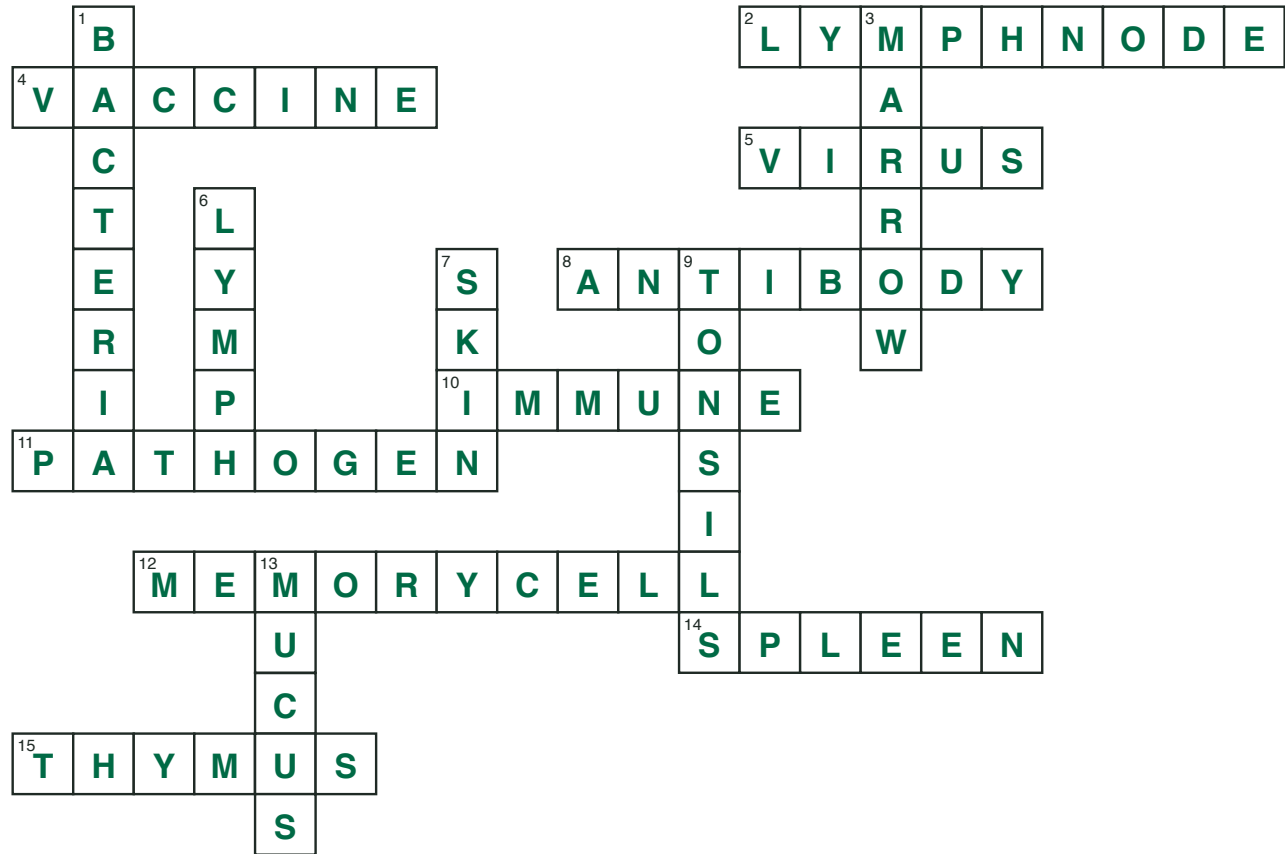
Memory cells remember the germ, so the body makes the right antibodies much faster.

3. Skin is part of the body's defenses. How does this sheet show that?

The germs could only get in where the skin was cut. Skin that is not broken keeps germs out.

Immune System Crossword: Answer Key

Answers are in green.



ACROSS

2. A small bean-shaped filter that traps germs (2 words).
4. It shows the body a harmless piece or form of a germ.
5. A tiny germ. Different kinds cause colds and the flu.
8. A Y-shaped protein that sticks to a germ and marks it.
10. The _____ system defends the body against germs.
11. The science word for a germ that can make you sick.
12. A white blood cell that stays behind and remembers a germ (2 words).
14. The organ in the upper belly that filters the blood.
15. The organ in the upper chest where T cells mature.

DOWN

1. One-celled living things. Some kinds cause illnesses such as strep throat.
3. Bone _____ is the soft tissue where blood cells are made.
6. The clear fluid that is collected from the body's tissues and returned to the blood.
7. The outer covering of the body. It keeps most germs out.
9. Two lumps of tissue at the back of the throat that trap germs.
13. The sticky fluid in the nose and throat that traps germs.

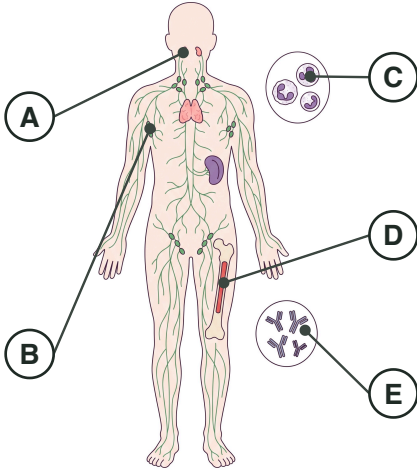
Word bank

antibody bacteria immune lymph lymph node marrow memory cell mucus
pathogen skin spleen thymus tonsils vaccine virus

Immune System Quiz: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. These are parts of the immune system. Write the name of each part.



A Tonsils

B Lymph Nodes

C White Blood Cells

D Bone Marrow

E Antibodies

Antibodies · Bone Marrow · Lymph Nodes · Tonsils · White Blood Cells

Part B. Choose the best answer.

1. Which cells find and destroy germs?

- ☐ Red blood cells
- ☒ White blood cells
- ☐ Skin cells
- ☐ Nerve cells

2. Where are blood cells made?

- ☒ In the bone marrow
- ☐ In the spleen
- ☐ In the tonsils
- ☐ In the lymph nodes

3. What is an antibody?

- ☐ A kind of germ
- ☐ A small filter
- ☒ A protein that marks a germ
- ☐ A clear fluid

4. What do lymph nodes do?

- ☐ Pump blood
- ☐ Make red blood cells
- ☐ Digest food
- ☒ Trap germs

5. Where do T cells mature?

- ☐ In the spleen
- ☒ In the thymus
- ☐ In the tonsils
- ☐ In the skin

6. Which organ filters the blood?

- ☐ Thymus
- ☐ Tonsils
- ☒ Spleen
- ☐ Bone marrow

Part C. Write your answer.

7. What do the tonsils do?

They trap germs that come in through the mouth and nose.

8. Why can the body fight a germ faster the second time it gets in?

Memory cells remember the germ, so the body makes antibodies much faster.