

# Learning Target 5.4

I can recognize that the immune system combats pathogens and cancer

## The Immune System Video

1. The immune system is composed of \_\_\_\_\_ that protect the body.

- a. organs    b. tissues    c. cells    d. a, b, and c

2. What are 4 threats to Nate's Health?

V \_\_\_\_\_ B \_\_\_\_\_

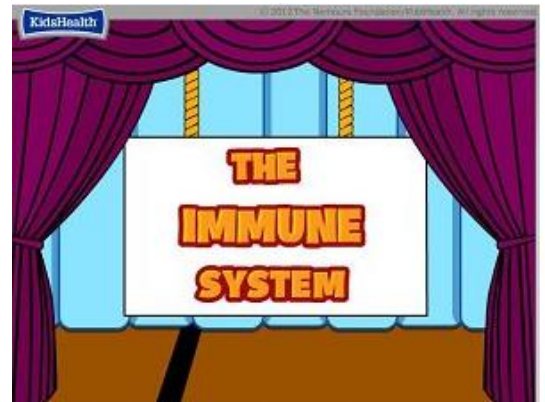
F \_\_\_\_\_ P \_\_\_\_\_



3. Click on the blinking file in the lower right-hand corner? How many known cold viruses are there? \_\_\_\_\_

4. If pathogens or invaders get past your first line of defense, skin and mucus, then your immune system tries to do 4 things.

- Identify the \_\_\_\_\_
- Call for \_\_\_\_\_
- \_\_\_\_\_ the invaders.
- \_\_\_\_\_ the invaders.
- Remember the \_\_\_\_\_



5. Match the cells with their mission.

- |                              |  |
|------------------------------|--|
| • Macrophage _____           | A. Devour invaders and help launch immune system attack.     |
| • M- Memory Cells _____      | B. Recognize invader antigens and call in back up            |
| • Helper T- Cells _____      | C. Swallow up the tagged viruses.                            |
| • B-Cells _____              | D. Destroy cells that are infected.                          |
| • K-Killer Cells _____       | E. Patrol area and surround the alarm if a virus comes back. |
| • C- Cytotoxic T-Cells _____ | F. Make antibodies that tag the viruses.                     |

# Immune System Web Page Article

**Directions:** Read the web page article and fill in the blanks below.



To be \_\_\_\_\_ means to be protected. So it makes sense that the body system that helps fight off sickness is called the immune system. The immune system is made up of a network of \_\_\_\_\_, tissues, and \_\_\_\_\_ that work together to protect the body.

White blood cells, also called leukocytes, are part of this defense system. There are two basic types of these germ-fighting cells:

P \_\_\_\_\_ which chew up invading germs

L \_\_\_\_\_ which allow the body to remember and recognize previous invaders

Leukocytes are found in lots of places, including your \_\_\_\_\_, an organ in your belly that filters blood and helps fight infections. Leukocytes also can be found in \_\_\_\_\_, which is a thick, spongy jelly inside your bones.

Your lymphatic is home to these germ-fighting cells, too. You've encountered your lymphatic system if you've ever had swollen "glands" on the sides of your neck, like when you have a \_\_\_\_\_. Although we call them "glands," they are actually \_\_\_\_\_ and they contain clusters of immune system cells. Normally, lymph nodes are small and round and you don't notice them. But when they're swollen, it means your \_\_\_\_\_.

Lymph nodes work like filters to remove germs that could hurt you. Lymph nodes, and the tiny channels that connect them to each other, contain lymph, a clear fluid with leukocytes \_\_\_\_\_ in it. Beside your neck, where else do you have lymph nodes? Behind your knees, in your armpits, and in your groin — just to name a few.

So you have this great system in place. Is it enough to keep you from getting sick? Well, everyone gets sick sometimes. But your immune system helps you get well again. And if you've had your shots, your body is extra-prepared to fight off serious illnesses that your immune system alone might not handle very well. If you get the shot that covers measles, for instance, it can protect you from getting measles, if you're ever exposed to it.

## Immune System Problems

Sometimes a person has a problem with his or her immune system. \_\_\_\_\_ are one kind of problem — the immune system \_\_\_\_\_ and treats something harmless, like [peanuts](#), as something really dangerous to the body.

With certain medical conditions, such as \_\_\_\_\_ or juvenile rheumatoid arthritis, instead of fighting germs, the immune system fights the \_\_\_\_\_ and this can cause problems. Other immune system problems may develop due to an illness like [HIV/AIDS](#) or \_\_\_\_\_.

You can't prevent most immune system \_\_\_\_\_. But if they happen, they can be treated with medicine and in other ways to help the person feel good and be healthy again. If you have an immune system problem, your doctor can help teach you ways to take care of yourself so you stay strong and are able to fight off illness. Immunologists are doctors who specialize in \_\_\_\_\_ problems.

