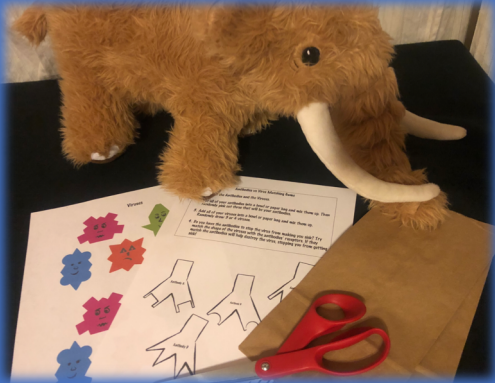
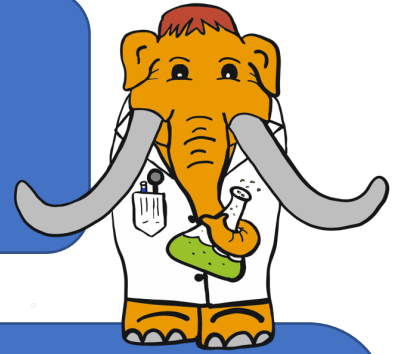


Science Saturday @ Home

Antibodies vs. Viruses



Gathering Supplies:

Antibodies vs. Viruses Printable
2 Paper Bags or Bowls
Scissors

How To Steps:

Antibodies inside us help to fight viruses before we can become really sick, but how do the antibodies do that? Let's play a game to find out more!

Playing the Antibodies vs Virus Game

1. Cut out the Antibodies and the Viruses.
2. Put all of your antibodies into a bowl or paper bag and mix them up. Then randomly pick out three that will be your antibodies.
3. Add all of your viruses into a bowl or paper bag and mix them up. Randomly draw 3 or 4 viruses.
4. Do you have the antibodies to stop the virus from making you sick? Try match the shape of the viruses with the antibodies' receptors. If they match, the antibodies will help destroy the virus, stopping you from getting sick!

Did You Know?

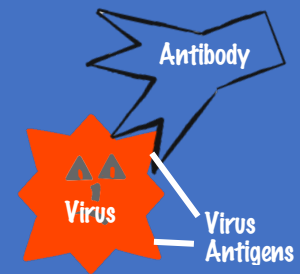
Our immune system works hard to keep us healthy from bacteria, viruses, harmful fungi and parasites that might make us sick.

To learn about how our body's immune system fights viruses, let's meet the players in our game.

Viruses - A virus is a very tiny particle that contains DNA (Deoxyribonucleic acid) or RNA (Ribonucleic acid). These acids are needed for the virus to make more of itself, but a virus can't do that on its own. It needs a healthy cell that it can put its information into and then make the infected cell produce more of the virus. When the virus hijacks the cell, you can become sick. Viruses that make you sick are called Pathogenic Viruses.

Antibodies - Antibodies are part of your immune system. They are Y-shaped proteins in your blood stream that attach themselves to invading viruses, helping the white blood cells called Leukocytes, locate and kill the virus.

But how do the antibodies know to attack the virus? Once you are exposed to a virus, white blood cells work to figure out how to fight the infection. They make antibodies that match, like a lock and key set, to the antigens that are part of the outside of the viruses. Once the virus is gone, the antibodies stay and if the same virus tries to invade again your body is ready to quickly fight it before you become sick. These antibodies help to make you immune to the virus.



This is why vaccines can be important in the fight against dangerous viruses. Vaccines will not use the whole living virus, but a part of the virus that will not make you sick. When you get a vaccine your body's immune system goes to work and makes antibodies to fight the virus. Then if the virus tries to invade, your antibodies will recognize it and help kill them, stopping you from getting sick!

There are thousands of different types of cold virus particles with different antigens making it possible to come down with different colds every year. Viruses can also mutate, making it hard for the antibodies to recognize and fight them. But there are other things that we can do to stay healthy. Besides washing your hands to get rid of germs and viruses, getting plenty of sleep and eating a healthy diet can help keep your body strong and ready to fight viruses.