

Middle School Lesson Plan

Topic

Inactivated Vaccines

Ages

11-14 yo

Learning Objectives

To learn that about inactivated vaccines and establish a need for vaccines.

Time

5 min Set-up

10 min Building

5 min Check-up

20 min Total time

Materials

- 1 lime green plastic ball
- 1 red plastic ball
- 1 white shoe lace - 6 inches
- 1 black shoe lace - 6 inches
- 1 red paper

Check-up

Talk with students about what they learned. Ask them the following questions:

- What can we do to boost our immune system?
- What are the warrior cells or antibodies on the lookout for?

Resources

Vaccine information for Native parents:

www.npaihb.org/Native-Boost



Procedure

Tell students that today, they will learn about inactivated vaccines.

Ask students to get in groups of two or ask for two volunteers to come to the front of the class.

- Each group of 2 student we receive a kit and instructions (Appendix A).
- Read the directions while the students follow along.

Step 1: Identify the lime green plastic ball - the body of a virus is like a shell. Let's pretend that this plastic ball is the shell of the virus.



Step 2: Identify the white shoelace - The last important part of the virus is the instructions. The instructions tell how to make more copies of itself once it is inside your cells. Then it can spread throughout your body to make you sick. Let's pretend that white shoelace is the instructions for building the shell.



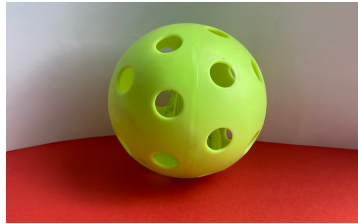
Step 3: Insert the white shoelace into the lime green plastic ball- The virus carries the instructions inside the shell, so let's put the shoelace inside the plastic ball.



Procedure cont.

Now that we have built a virus, let's see how we make a vaccine.

Step 4: Identify the red paper and place the virus on the paper - Inactivated vaccines are made by exposing the virus to chemicals or heat to kill the virus. This process stops the virus from reproducing itself and causing disease.



Step 5: Identify the red plastic ball and black shoelace - Insert the black shoelace into the red plastic ball and place on the red paper. Let's pretend the red plastic ball with the black shoelace inside is the inactivated or killed virus.



Step 6: Remove the lime green plastic ball from the red paper - An inactivated vaccine contains the inactivated or killed virus. This allows our bodies to be exposed to the virus without damaging our bodies.



After you get a vaccine, your body will learn what the virus looks like and build warrior cells or antibodies, which are then on the lookout for the virus. Once your body makes warrior antibodies, it can fight back faster if you encounter the virus later. You are less likely to get sick with the disease; it reduces the seriousness of illness if you get sick, and you are less likely to make others sick.

Appendix A

Student Instructions 1 of 2

How do inactivated vaccines work? Vaccines are tiny, so let's build a model. We will create a bigger version of what a virus looks like.

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Appendix A

Student Instructions 2 of 2

Step 5: Identify the red plastic ball and black shoelace - Insert the black shoelace into the red plastic ball and place on the red paper. Let's pretend the red plastic ball with the black shoelace inside is the inactivated or killed virus.



Step 6: Remove the lime green plastic ball from the red paper - An inactivated vaccine contains the inactivated or killed virus. This allows our bodies to be exposed to the virus without damaging our bodies.



After you get a vaccine, your body will learn what the virus looks like and build warrior cells or antibodies, which are then on the lookout for the virus. Once your body makes warrior antibodies, it can fight back faster if you encounter the virus later. You are less likely to get sick with the disease; it reduces the seriousness of illness if you get sick, and you are less likely to make others sick.