

Grade 5 Lesson 1

HIV Overview: Immune System

Overview

The purpose of this lesson is to help students learn basic information about HIV and AIDS, to learn how the immune system works, to identify behaviors that do and do not put individuals at risk for HIV infection, and to review ways to protect against acquiring and transmitting HIV.

NOTE: Teachers need to be prepared to respond to unexpected questions from students regarding sexual health, even though they are not part of the planned presentation. See introductory section on tips for answering different types of questions.

Laws & Standards

The 5/6 KNOW Curriculum, 2014 edition, complies with the AIDS Omnibus Act and partially fulfills the Healthy Youth Act (2008). It aligns with the WA State Health and Fitness Standards (2008), the WA State Guidelines for Sexual Health Information and Disease Prevention (2005), the National Sexuality Education Standards (2011), and current research on the prevention of HIV and other STDs. Please see the Introduction for more details, including information on how to fully comply with the Healthy Youth Act.

Objectives

The students will:

- * Understand how the immune system functions
- * Distinguish between the ways HIV is and is not transmitted
- * Know ways to protect against acquiring and transmitting HIV

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Agenda

Time: 50 minutes

1. Introduction and Ground Rules (10 min)
2. HIV and AIDS DVD (10 min)
2. Alternative to DVD: Review of Basic Facts (15 min), optional
3. Immune System Presentation (20 min)
4. Staying Healthy and Family Connections (5 min)

Materials:

- * Basic HIV/AIDS Facts visual
- * Immune System visual
- * Immune System labels, 1 set per class (quantities given on label page)
- * Immune System script, cut into strips, 1 set per class
- * Tape
- * Two noisemakers
- * HIV/AIDS Family Newsletter, 1 per student

To order DVD:

"The Puberty Workshop: HIV and AIDS"
Human Relations Media
www.hrmvideo.com/catalog/puberty-workshop-hiv-aids

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Activity 1

Introduction and Ground Rules

Time: 10 minutes

1. Introduce the topic of HIV.

“Today we’re going to learn about HIV and AIDS, and about how our immune system works. Some of you may have learned about HIV before, and for some of you, this will be a new topic. HIV is a very serious illness that can cause death. It’s important to know that many people who have HIV live for a long time with the help of a doctor. The way HIV hurts the body is by hurting the immune system, which is the system in our body that keeps us healthy. For that reason, today we will also learn about the immune system with a fun activity. This is an important subject, and I’m looking forward to sharing this information with you.”

2. Share ground rules with the class. Write them down as you cover each one.

“Even though we already have rules for classroom behavior, I’m going to go over class rules especially for this topic. I want to help everyone feel comfortable asking questions and participating in the lessons. I’m going to start by giving you my ideas, and then I’ll ask if you have any others to add.”

- * Ask questions. (Tell the class you will do your best to answer all questions or find the answer, if you don’t know it.)
- * No put-downs.
- * It is okay to disagree.
- * Listen and be respectful of others’ opinions.
- * Protect people’s privacy. For example, questions about friends and family members should not include their names or identities. Instead, say “Someone I know...” or “Someone I heard of...”

3. Ask the class if they have any ground rules to add. Add them to the list.
4. Ask for a raise of hands to show agreement with the ground rules.

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Activity 2

HIV Overview DVD

Time: 10 minutes

Materials: DVD, DVD player, projector

Show the DVD: "Understanding HIV and AIDS" by Human Relations Media. If you do not have the DVD, do the Review of Basic Facts (below) as an alternative.

Activity 2 alternative

Review of Basic Facts

Time: 15 minutes

Materials: "Basic HIV/AIDS Facts" Visual

Let the class know you will start by sharing some basic information about HIV and AIDS. Go over the following information slowly, checking for comprehension. Display the Visual "Basic HIV / AIDS Facts" as you share the following information.

- * *"HIV is the germ that causes AIDS. Many people with the HIV germ will eventually get very sick, especially if they don't have the help of medicine and a doctor. When they are very sick, it is called AIDS."*
- * *"HIV stands for Human Immunodeficiency Virus. This means it is a virus that humans can get, and that it hurts your immune system, which is the system that keeps us healthy. We will talk more about the immune system in a minute."*
- * *"AIDS stands for Acquired Immune Deficiency Syndrome. That means that after a person has had HIV for a while, their immune system won't work well and they can get very sick."*
- * *"HIV is a very serious illness that can cause death. There is no cure for HIV. However, many people with HIV live for a very long time with the help of a doctor."*
- * *"People usually get HIV from having sex or sharing needles for drugs with someone else who has HIV. Kids your age don't usually get HIV because they aren't doing those things."*

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Activity 2 cont.

Review of Basic Facts

- * If students are confused by “sharing needles for drugs,” here is an age-appropriate clarification: *“Sometimes when people use drugs, they put the drug into their body with a needle. If two people are taking drugs with the same needle, a little of one person’s blood gets in the other person’s body. If one of the people has HIV, they can pass HIV to the other person.”*
- * *“The other way people get HIV is that if a woman has HIV when she is pregnant, sometimes the baby is born with HIV.”*
- * *“If a person has HIV, the HIV virus is in their blood, semen, vaginal fluids and breast milk. That’s why people can get HIV from sex, sharing needles, or sometimes from a mom when they are born or while they are breastfeeding.”*
- * *“HIV is NOT in other body fluids – it is not in tears, sweat, spit, pee, or any other fluid. A person cannot get HIV from being around someone with it. They can’t get it from hugging or kissing. They can’t get it from a mosquito bite or from a toilet seat.”*
- * *“We are talking about HIV now, even though kids your age almost never get HIV, so you can learn what you need to know when you are older to keep yourself healthy.”*

Activity 3

Presentation on the Immune System

Time: 20 minutes

Materials:

- * Immune System visual
- * Immune System labels, quantities given on label page
- * Immune System script, cut in strips, 1 set per class
- * Tape
- * Two noisemakers

ARTS CONNECTIONS

On a day prior to this demonstration, have the class create costumes for the actors complete with labels. Also, you may want students to practice the performance to give at a teacher’s or parent’s meeting.

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Activity 3, cont.

Presentation on the Immune System

STEP 1: Describe the Immune system

- * Remind students that HIV makes someone sick by hurting their immune system and let them know that they will now be learning about the immune system.
- * Ask the class, “*Who can tell me what the immune system is?*” Solicit responses, and fill in as necessary so that you end up with the following definition:

Immune System: The body system that helps us stay healthy by keeping germs out of our body, and by fighting germs off if they do get in our body.

- * Have volunteers read the following descriptive statements about the immune system from Immune System visual.
 1. The immune system has two main parts: skin and white blood cells.
 2. Skin is an important part of the immune system, because it helps to keep germs out. It works as a barrier.
 3. If a person has a cut, scrape or bum on their skin, the skin doesn't work as well to keep germs out. Germs can come in through that opening, especially if there isn't a scab yet.
 4. Germs can also enter a person's body through a mucous membrane – the pink, wet skin, like someone has in their mouth or eyes.
 5. If germs do make it inside a person's body, there are several different types of White Blood Cells that try to fight the germs off.
 6. There are two main types of germs that can make you sick: bacteria germs and virus germs. HIV is a virus.

Activity 3, cont.

Presentation on the Immune System

STEP 2: Set up the demonstration

- * Let students know that now we will see how HIV affects the immune system. The class will be acting out how the immune system works, and how HIV affects it.
- * Select 23 volunteers to serve as actors, with the remainder of the class serving as readers. Alternatively, the teacher can read the script. Tell students this is not a competitive game, and you don't want anyone to get hurt doing this activity, so it's important that they follow your instructions carefully. Hand out scripts in numerical order to readers (if students will be reading).
- * Place 6 actors playing **"White Blood Cells"** to form the inner circle, holding hands, and facing out. Give 2 of the students noisemakers.
- * Place 10 actors, five playing **"Skin"** and 5 playing **"Mucous Membranes"** to form the outer circle, holding hands, also facing out.
- * Place 4 actors, 2 labeled **"Virus"** and 2 labeled **"Bacteria"** outside the two circles (not holding hands).
- * Place 3 actors playing **"Rare Diseases"** on the sidelines until needed.
- * Place the **"HIV"** label aside for YOU to wear later. IMPORTANT: Do not assign this role to a student.
- * Remind students of ground rules and tell them to remember that volunteers are playing a role, not speaking for themselves, and everyone should show respect to all of the performers.

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Activity 3, cont.

Presentation on the Immune System

STEP 3: Perform the presentation

- * Begin the performance by having students demonstrate a healthy immune system: *“Let’s start by looking at how the immune system works to keep us healthy.”*
- * Have volunteers read the following statements, or they can be read by the teacher.

Script	Directions
1. “The immune system works first by keeping germs out of our body.”	Direct germs to walk towards the outside circle, but not to go in. Direct actors in the outer circle to “be strong” and keep out germ invaders.
2. “But sometimes, all of us are exposed to viruses and bacteria. They can enter the body through a cut or a mucous membrane, and get past the first line of defense.”	Walk over to the outer circle and break the handhold of two actors in the outer circle. Have Bacteria and Virus actors try to get past the outer circle and enter it successfully.
3. “When that happens, the immune system has a good back-up system: The White Blood Cells in the bloodstream.”	Have the Virus/Bacteria actors try to enter the circle. The two White Blood Cells with noisemakers should sound their noisemakers loudly, and the inner circle should “be strong” to keep the invaders out and work together to push them back out of the body.

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Activity 3, cont.

Presentation on the Immune System

- * Next, have students demonstrate how a healthy immune system works to fight illness: *“Now we are going to act out what happens to the immune system when someone gets sick.”*

Script	Directions
4. “This person was exposed to germs that got in their body through a mucous membrane or through a cut.”	Direct Bacteria and Virus to try to enter the body and to do so successfully.
5. “Once germs are inside the person’s body, sometimes a person’s immune system can fight them off right away, and sometimes it can’t. When it can’t, that is when a person gets sick. Even though it might take a little while for the immune system to fight off the germs, it usually does in the end.”	Once the invaders are past the outer circle, the White Blood Cells with the noisemakers should sound the noisemakers softly, gradually getting louder. The inner circle should act confused and uncoordinated at first, but then should start working together.
6. “Everyone gets sick sometimes. It’s no fun, but they do get better once the immune system fights off the germs.”	Eventually, the inner circle should muster up enough strength to throw out the invaders.

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Activity 3, cont.

Presentation on the Immune System

- * Help students demonstrate how HIV impacts the immune system. *“Finally, we will act out what happens to the immune system when a person has HIV.”* If needed, give expectation about not teasing “Rare Diseases” actors. Remind students that they are role playing.

Script	Directions
7. “HIV is a virus that attacks the immune system directly, so the immune system can’t fight it off. When it enters the body, it takes over some of the white blood cells so they can’t sound the alarm at all. The rest of the immune system doesn’t even know there is any danger.”	Put the HIV label on yourself. (NEVER put it on a student). Break the handhold of the actors in the first circle, then go directly to the White Blood Cells with the noisemakers and take the noisemakers away. Stand close behind one of these actors.
8. “After years, the immune system in a person with HIV can become so weak because of the HIV that it cannot fight off diseases successfully.”	Tell all remaining inner and outer circle actors to kneel.
9. “Now this person’s immune system is not working right. This person can get all kinds of rare diseases that can make them very sick, especially if they do not have a doctor to help them.”	Point out the Rare Disease actors.
10. “In a healthy immune system, the body would fight off these diseases. But in a person with HIV, their immune system isn’t working right, and it can’t even recognize the rare diseases.”	Have the actors playing Rare Diseases enter the body through the outer circle and then go inside the inner circle. The inner circle should not respond to their presence in the body, as if they are not there.
11. “The good news is that HIV is really hard to get, and there are ways to keep yourself safe.”	Tell actors to return to their seat and thank everyone for their participation.

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Activity 4

Staying Healthy and Family Connections

Time 5 minutes

Materials: HIV/AIDS Family Newsletter, 1 per student

Remind class that kids their age almost never get HIV. Brainstorm with the class what are some important things people should do when they are older to protect themselves from getting HIV.

Make sure your list includes the following:

- * Choose not to have sex
- * Use a condom when having sex
- * Don't share needles for drugs or anything else

The list may also include

- * Don't do drugs or drink
- * Get tested for HIV

Wrap-up the lesson by restating the main points and encouraging students to share the family newsletter at home.

"I want everyone to remember that kids your age almost never get HIV. That is because the behaviors that spread HIV, like having sex and sharing needles, are not things that kids do."

"It is still important that we discuss HIV because it is a very serious illness, and there are important things people can do to prevent getting it. The purpose of the family newsletter is to help your families learn more about HIV, and to help start conversations between you and your parent, guardian or other trusted adult."

"I want to make sure you all know how to keep yourselves healthy when you get older."

Basic HIV / AIDS Facts

- HIV is the virus that causes AIDS.
- HIV stands for Human Immunodeficiency Virus.
- AIDS stands for Acquired Immune Deficiency Syndrome.
- HIV is a very serious illness that can cause death. With the help of a doctor, many people with HIV live a long time.
- People usually get HIV from having sex or sharing needles for drugs with someone else who has HIV.
- If a woman has HIV when she is pregnant, sometimes the baby can get HIV during pregnancy or birth.
- If a person has HIV, the HIV virus is in their blood, semen, vaginal fluids and breast milk.
- A person can't get HIV from hugging or kissing or playing with someone who has it. They can't get it from a mosquito bite or from a toilet seat.
- Kids your age almost never get HIV, but it's important to know how to keep yourself healthy as you get older.

Immune System

1. The immune system has two main parts: skin and white blood cells.
2. Skin is an important part of the immune system, because it helps to keep germs out. It works as a barrier.
3. If a person has a cut, scrape or burn on their skin, the skin doesn't work as well to keep germs out. Germs can come in through that opening, especially if there isn't a scab yet.
4. Germs can also enter a person's body through a mucous membrane – the pink, wet skin, like someone has in their mouth or eyes.
5. If germs do make it inside a person's body, there are several different types of White Blood Cells that try to fight the germs off.
6. There are two main types of germs that can make you sick: bacteria germs and virus germs. HIV is a virus.

Activity 3

Presentation on the Immune System

Immune System Label Instructions: Copy and cut the following quantities:

- * 6 White Blood Cells
- * 5 Skin
- * 5 Mucous Membranes

White Blood Cells

Skin

Mucous Membranes

Activity 3

Presentation on the Immune System

Immune System Label Instructions: Copy and cut the following quantities:

- * 2 Virus
- * 2 Bacteria
- * 3 Rare Diseases
- * 1 HIV (teacher wears this one)

Virus

Bacteria

Rare Diseases

HIV

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Immune System Script Instructions:

Copy this sheet onto paper and cut into strips. You'll need 1 set per class.

1. The immune system works first by keeping germs out of our body.
2. But sometimes, all of us are exposed to viruses and bacteria. They can enter the body through a cut or a mucous membrane, and get past the first line of defense.
3. When that happens, the immune system has a good back-up system: the White Blood Cells in the bloodstream.
4. This person was exposed to germs that got in their body through a mucous membrane or through a cut.
5. Once germs are inside the person's body, sometimes a person's immune system can fight them off right away, and sometimes it can't. When it can't, that is when a person gets sick. Even though it might take a little while for the immune system to fight off the germs, it usually does in the end.
6. Everyone gets sick sometimes. It's no fun, but they do get better once the immune system fights off the germs.

Activity 3

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Immune System Script Instructions:

Copy this sheet onto paper and cut into strips. You'll need 1 set per class.

7. HIV is a virus that attacks the immune system directly, so the immune system can't fight it off. When it enters the body, it takes over some of the white blood cells so they can't sound the alarm at all. The rest of the immune system doesn't even know there is any danger.
8. After years, the immune system in a person with HIV can become so weak that it cannot fight off diseases successfully.
9. Now this person's immune system is not working right. This person can get all kinds of rare diseases that can make them very sick, especially if they do not have a doctor to help them.
10. In a healthy immune system, the body would fight off these diseases. But in a person with HIV, their immune system isn't working right, and it can't even recognize the rare diseases.
11. The good news is that HIV is really hard to get, and there are ways to keep yourself safe.

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FAMILY NEWSLETTER
Working Together to Keep Our Youth Healthy

You have probably asked yourself, "What should my fifth grader know about HIV and AIDS?" Well, your child has probably heard something about HIV and AIDS in a news report or on a television program. He or she knows that HIV and AIDS exist, probably has many questions, and has maybe received some wrong information from friends or TV.

In words that fifth graders can understand, your child has learned information at school he or she needs to know about this disease. This will help lessen any fears your child may have about HIV and AIDS.

In the fifth grade lessons, your child has learned:

- AIDS is a disease that is caused by a virus called Human Immunodeficiency Virus (HIV).
- HIV damages the immune system when it gets into the body, leading to other diseases and infections.
- HIV cannot be caught by:
 - * Touching someone who has HIV or AIDS
 - * Sharing pencils or toys
 - * Hugging someone who has HIV or AIDS
 - * Playing with someone who has HIV or AIDS
 - * Talking to someone who has HIV or AIDS
 - * A mosquito bite or from a toilet seat
- HIV is spread by sharing needles and by having sex with a person who has HIV.
- Kids their age almost never get HIV, because having sex and sharing needles are not things that kids do.
- HIV is a very serious illness that can cause death, although people who have HIV can usually live for a long time with the help of a doctor

We believe this information will help your child understand the facts about HIV and AIDS. Your child will know what to do to protect himself/herself from infection as he or she gets older, and ways to show kindness to people who have HIV or AIDS.

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FAMILY NEWSLETTER (continued)

Talking With Your Child

Your child may seek reassurance that he or she is not going to get HIV. We have discussed the fact that children almost never get HIV. You may want to tell your child the following information to help him or her understand.

When children do have HIV, it is usually because they were born with it, because their mother had HIV while she was pregnant.

In the past, another other way children have gotten HIV is from blood that was contaminated with the virus. Since 1985, the blood supply in this country is very safe, and people no longer get HIV from blood transfusions in the U.S.

As your child approaches his or her teenage years, you may want to discuss the two main ways people get HIV: sharing needles and sexual intercourse without a condom.

Sexual intercourse without a condom is the main way HIV is spread. We encourage you to communicate your family values and beliefs about sexual intercourse and condoms to your child. Abstinence from sexual intercourse and injection drug use is the most effective way to prevent the spread of HIV. Condoms are highly effective for people who are having sex.

Answering Questions about HIV and AIDS

We have encouraged your child to ask you if he or she has more questions about HIV and AIDS. The most important thing you can do is to share your beliefs and values regarding the behaviors that spread HIV. It is okay if you do not know much about HIV. Your child will learn that information at school.

When your child comes to you with a question, you might find it helpful to keep the following points in mind as you answer him or her.

- ◆ Listen carefully to the question.
- ◆ Give a simple short answer that is appropriate for your child's age.
- ◆ Check to make sure your child

understood the answer.

- ◆ Remember that it is okay to take a "time out" to think about your answer, or to say, "I don't know but I'll try to help you find the answer."

There are many people who can help you get more information. Here are a few resources you might like to contact:

- * Your local school
- * Your local health department
- * Advocates for Youth:
www.advocatesforyouth.org/hiv-home

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