

What Do You Know? And What Will You Do?

OVERVIEW AND SUMMARY

Core 1.1

Survey—Global Awareness of HIV

Students survey peers and adults about HIV

Core 1.2

Pandemic: Facing AIDS

Video and Population Bottle Activity introduce students to the global nature of HIV/AIDS.

Core 1.3

What Would You Do?

Students consider participating in a vaccine trial.

1.4 *What Do You Know? HIV Fact or Fallacy Game*

Students categorize their HIV knowledge as Fact or Fallacy.

1.5 *Transmission Review Activity*

Students learn more about HIV transmission.

1.6 *Pandemic Circle*

Students simulate HIV infection rates over time.






Purpose

The purpose of this lesson is to review and clarify student knowledge of the science behind HIV/AIDS, including transmission. It will also challenge students to think about what they would want to know if they or someone they know were to become involved in a human HIV vaccine trail.

Method

Lesson One is divided into six mix-and-match activities, each accompanied by a symbol.

Symbols

-  — video
-  — discussion
-  — hands-on
-  — on-line or web based
-  — homework

Core Curriculum

Activities that are considered to be core to the curriculum unit are marked with the word “core”. It is recommended that teachers include these core lessons if they plan to evaluate students using the culminating project found in Lesson 6.

Essential Understandings

Basic facts about HIV structure, transmission, research, and treatments need to be understood as background to why an HIV vaccine is currently lacking.

Learning Objectives

Students will be able to:

- clarify the extent of their understanding of HIV
- examine their perspective on potential involvement in an HIV vaccine trial

Key Concepts

Review of HIV structure, transmission, research, and treatment

Prior Knowledge Needed

HIV/AIDS transmission

Basic knowledge of viral actions in infectious diseases

Basic immunology (antibodies, cell-mediated response)

Public Health: pandemic versus epidemic

Extensions

- Mock ELISA Lab – Disease Detection and Prevention
- biotech.biology.arizona.edu/labs/labs.html
- Red Disease (Phenolphthalein Activity)
- www.scienceteacherprogram.org/biology/diez2.html

Adaptations

- Web search on the statistics of HIV in student pairs if computers are available
- Pair sharing of material
- If ELL students need materials contact the Public health department and obtain translated material to use in class
- Simplify written responses as required by IEP

Assessment Suggestions

- Monitor discussions
- Review written response to both Global Awareness Survey and What Would You Do?

Common Misconceptions

- HIV/AIDS spread is declining in the US
- It is only a disease which affects homosexuals, prostitutes, and IV drug users
- Vaccines in general are not safe
- There are a variety of misconceptions about the transmission of HIV

Publications:

Cellular and Molecular Immunology, 4th edition.

Abul K. Abbas, Andrew H. Lichman, Jordan S. Pober, W.B. Saunders ISBN 1-7216-8233-2.

The Science of HIV, 2nd edition, NSTA Press, ISBN 0-87355-1605

Pandemic: Facing AIDS Education Workbook, Umbrage Editions, ISBN 1-884167-29-2

Web Sites:

The HIV Vaccine Saga – www.medimmunol.com/content/2/1/1

Pandemic: Facing AIDS – www.hbo.com/docs/programs/pandemic/

Center for Disease Control – www.cdc.gov/hiv/dhap.htm

World Health Organization – <http://www.who.int/hiv/en/>

Avert.org – <http://www.avert.org/lesson1.htm>

The Body – <http://www.thebody.com/step/immune.html>

- Good information about current treatments for HIV+ patients

The Biology Project – <http://www.biology.arizona.edu/>



Objectives

Students will be able to:

- Examine different opinions about HIV and AIDS
- Understand that opinions are not “right” or “wrong” but subjective.

Class Time

The student survey can be done as homework. Results of the survey can lead to 40-50 minutes of classroom discussion or shorter discussions throughout the unit.

Introduction

This survey is designed to help students learn what their friends, parents, and teachers know about HIV and its prevalence in the world. Students are reminded that there are no “right” or “wrong” answers when surveying opinions.

Materials

Student Handout 1.1

Procedure

Students interview three people: a friend about their own age, a parent, guardian or adult acquaintance, and a teacher or administrator. They ask each person his or her opinion to six questions about HIV and AIDS.

Homework

The survey can be distributed to students before the unit begins or on the first day.

Discussion

The answers to the survey questions can be discussed throughout the unit; teachers can highlight specific areas when the class begins learning about that topic. A discussion of the entire survey can easily last an entire period.

Assessment Suggestions

Student responses to this survey could serve as a “pre-unit/post-unit” assessment. At the end of the unit, students can back up their opinions with information they have learned throughout the unit.

Extension

Have students answer the questions themselves, in addition to surveying other people.

Symbols



— video



— discussion



— hands-on



— on-line or web based



— homework

Global Awareness of HIV Survey

This survey is designed to help our class learn what our friends, parents, and teachers know about HIV and its prevalence in the world. Be sure to let who you are interviewing know that you are interested in their opinions, not whether or not they get “right” or “wrong” answers. For each interview, record the answers to all six questions. In addition, be sure to gather the information asked for each person.

	A friend about your age Age: Grade level:	A parent, guardian, or adult acquaintance Occupation:	A teacher or administrator Subject area or position:
Why do you think there is still not a vaccine for HIV?			
Once a vaccine has been developed, where do you think it should be tested? Why?			
Do you think the US has a responsibility to the world to pay for HIV/AIDS medications or vaccines?			
Which country do you think has the greatest growing HIV/AIDS problem?			
What contributes to the increase of people with HIV/AIDS? Do you think it is different in different countries? Why?			
What do you think people should know before they participate in an HIV vaccine trial?			



Objectives

Students will be able to:

- Recognize the global nature of the HIV/AIDS pandemic.
- Better understand the personal stories of five people with HIV/AIDS from around the world.

Class Time

The video is approximately 42 minutes long; each vignette runs from 8-9 minutes.

Introduction

Pandemic: Facing AIDS is a documentary film profiling stories from around the world. Five different regions (Thailand, Brazil, Uganda, Russia and India) are highlighted, with information about what each country is facing. Questions for students are included in this lesson.

Instructions for making a visual aid (“Population Bottles”) is also included in this lesson. Using popcorn kernels and water bottles, students can see the number of people with HIV/AIDS compared to the population for each country highlighted in the video.

In addition to *Pandemic: Facing AIDS*, there are a number of other excellent media sources which can be used with this curriculum. Additional information can be found in the Extensions section of this activity.

Materials

Pandemic: Facing AIDS, Moxie Firecracker Films. Ordering information and interactive website: www.pandemicfacingaids.org for educational packet including workbook (\$50.50). Video and book available at www.umbragebooks.com; type pandemic into search box (\$40 for educator’s version). Also available on DVD at Amazon.com for \$21.99.

Student Handout 1.1






Population Bottles Materials

- 6 .5 liter clear water bottles
- 1 2 liter clear bottle
- 6 lbs of yellow popcorn
- 1 lb of red popcorn
- 500 ml graduated cylinder (or similar)
- funnel

Red popcorn kernels can be ordered from:

<http://www.amishmart.com/popcorn-colored-popcorn.html>

Symbols

-  — video
-  — discussion
-  — hands-on
-  — on-line or web based
-  — homework

Procedure

The five short vignettes can be shown as a whole or used independently. Some teachers prefer to show one vignette per day while using the curriculum.

To make Population Bottles:

Label the .5-L bottles Thailand, Brazil, Russia, Uganda, United States and South Africa. Label the 2-L bottle India.

Add the correct amount of yellow popcorn kernels and red kernels to the bottles, according to the chart below. Although South Africa and the United States are not highlighted in the Pandemic video, the statistics from these countries can be eye-opening for students and serve as an important comparison to the other countries.

	Total Population Amount of yellow popcorn 1 kernel = 100,000 people	Number of people living with HIV/AIDS Amount of red popcorn 1 kernel = 100,000 people
Thailand	100 ml	6 kernels
Brazil	295 ml	7 kernels
Russia	225 ml	9 kernels
Uganda	45 ml	5 kernels
United States	470 ml	10 kernels
South Africa	70 ml	53 kernels
India	1 liter 715 ml	51 kernels

Source: <https://www.cia.gov/cia/publications/factbook/index.html>

Video Discussion and Homework

Written discussion questions from the video are provided in Student Handout 1.2. An answer key is also provided.

Population Bottles Discussion Questions

Which countries appear to have about the same number of people infected with HIV/AIDS? *South Africa and India each have over 5 million people who are HIV positive.*

Which country would be most affected by the virus? Why?

South Africa; 5 million people is a much higher percentage of that country's population.

After India and South Africa, which country appears to have the most people who have HIV/AIDS? *It is very hard to tell; Russia comes next with approximately 900,000 people who are living with HIV/AIDS. Brazil, Thailand and Uganda come next, in descending order.*

In what ways is it difficult for actual health care providers to count the number of people with HIV/AIDS in a specific country?

Not unlike our bottles, people with HIV/AIDS are often obscured.

They may be fearful to tell others of their HIV status, and many people who are thought to be infected may not know it themselves yet.

Extensions

Pandemic: Facing AIDS is one of many excellent media sources about HIV and AIDS. The following programs are also highly recommended:

A Closer Walk. A Worldwide Documentaries Production. 2002-2003. Direct Cinema Limited, P.O. Box 10003, Santa Monica, CA, 90410. This is an outstanding documentary about the impact of HIV on the world. There are very personal views of people in developing nations coping with the devastation caused by this disease. The topics brought up include increase and care of AIDS orphans, women's rights, the role of poverty and disenfranchisement on HIV risk. Physicians, activists and patients are interviewed from the U.S, India, Africa, Haiti and Ukraine. (85 min) (\$95 with public performance license) -Information about video and companion website: www.acloserwalk.org
Ordering information: www.directcinematd

Rx for Survival: A Global Health Challenge. PBS, WGBH/NOVA, 2005. This television series combines historical vignettes with contemporary documentary stories to make six one-hour programs, each focusing on a different aspect of global health. The first program, Disease Warriors, is particularly useful for this curriculum as it chronicles the groundbreaking work of early vaccine researchers. The program illustrates how the use of vaccines has made huge strides against epidemics, conquering smallpox and bringing the global eradication of polio within reach. It also documents major challenges in getting basic vaccines to those who still need them, and in creating new ones to combat modern nemeses, like AIDS. The series is augmented by a fabulous website of activities, games, debates and experiments for teachers to use in the classroom. Links to the teacher pages and purchasing information can be found at: <http://www.pbs.org/wgbh/rxforsurvival/>

The Age of AIDS. PBS Frontline, 2006. This excellent video, released on the 25th anniversary of the first diagnosed cases of AIDS, examines the political denial, social stigma, stunning scientific breakthroughs, bitter policy battles and inadequate prevention campaigns of HIV/AIDS. It also documents the continuing spread throughout much of the world, particularly in developing nations. The video is backed up by a very helpful website. <http://www.pbs.org/wgbh/pages/frontline/aids/> The four-hour series is available at no cost streaming through the same website, or can be purchased for \$39.99.

Out of Hiding, Into the World: Thembi's AIDS Diary—

A radio diary aired on April 19, 2006, All Things Considered, NPR. South African Thembi Ngubane, age 20, was given a tape recorder by radio producer Joe Richman. For a year, she recorded an intimate audio diary that brings listeners into her home, among her family, to witness her daily struggles and triumphs (22 minutes).

<http://www.npr.org/templates/story/story.php?storyId=5311801>

Information about purchasing a transcript of the story (\$3.95) can be found on the same website.

5. What makes Brazil's approach to AIDS different from the strategies of other countries?

6. Why aren't these antiviral drugs available all over the world?

7. What was Lek's father's reaction to the stigma of HIV/AIDS? Do you think he loved his child?

8. How did Bhanu's doctors decrease the chances of her passing HIV on to her child?

9. What steps can Nagaraj and Bhanu take to ensure that their baby remains healthy?

Pandemic: Facing Aids

Answer *one* of the following questions below on your OWN PAPER:

1. Do you know anyone in James and Jessica's situation or a similar one? Imagine what it would be like to be James or Jessica. How do you think it might feel to lose a parent to AIDS? In what ways would belonging to the AIDS orphans choir help? Why is Margaret Boogere's involvement with orphans and other vulnerable children so important?
2. How do you think Sergei and Lena have changed since learning they are HIV positive? In your own life, have you ever turned a negative experience into a positive one? Write about a moment of personal transformation in your own life or in the life of someone you know.
3. Do you think Nagaraj and Bhanu did the right thing by having a baby? Was it worth the risk? Why or why not?
4. How do you think the support of Alex's family, physician, and government health ministry have helped him? How do you think you might feel if you were HIV positive, like Alex, but did not have his access to AIDS medications and physicians?
5. Do you know anyone in Lek's family's situation or a similar one? If so, write about that experience. If not, imagine what it would be like if someone in your family were infected with HIV. How would you deal with the stigma of HIV/AIDS? Would you care for that family member at home? Would you be public about his or her HIV/AIDS status? Why or why not?

Pandemic: Facing Aids

1. What steps did Margaret and other members of the Uganda Orphans Rural Development Programme take to address AIDS in their community?

The group uses a network of volunteers to assist orphans and vulnerable children materially, spiritually and emotionally. They teach “life skills classes” and sponsor drama and singing groups. They also talk about the disease and embrace people who have contracted HIV. The orphans choir helps to build self worth in children affected by AIDS. The UORDP hopes to overcome the stigma of HIV AIDS by promoting the view of HIV/AIDS as a cause of death and as an infectious disease, not as a social punishment. Reducing stigma makes it easier to encourage prevention, treatment, and respect for the human rights of children and adults affected by HIV.

2. What will happen to James and Jessica? How will their extended family and community deal with them, and other orphans like them?

James will continue taking care of his sister Jessica when their mother dies, with very little support. The staggering number of children orphaned by AIDS puts a massive strain on already limited resources in many developing nations. When children lose both their parents, they often have to rely on the goodwill of relatives or member of the community to make ends meet, and many children are forced to assume adult responsibilities at a young age. Children affected by AIDS are more likely to miss school and have a harder time meeting basic needs such as food, shelter, and medical care. They are at greater risk for sexual abuse, labor exploitation, and other human rights abuses, and can even lose their property or inheritance rights.

3. What is harm reduction?

The goal of harm reduction programs is to decrease damage caused by a potentially dangerous activity, such as injection drug use or unprotected sex. Harm reduction attempts to convince people to reduce their risk of exposure to HIV. Programs have achieved documented success in reducing HIV infection rates.

4. How is HIV transmitted between injection drug users?

Sharing a needle with an HIV-positive person puts you at the highest risk of contracting the virus. It is a devastatingly effective way to transmit HIV. If two or more people use the same needle to inject drugs into their veins, one person’s blood can enter the bloodstream of another. The AIDS virus cannot survive outside of the body for a long period of time, but a vacuum in most needles protects the virus and preserves its ability to infect others.

5. What makes Brazil's approach to AIDS different from the strategies of other countries?

Brazil is the first developing country to make generic AIDS drugs (Highly Active Antiretroviral Therapy, or HAART) available to all HIV+ citizens who need them. Many wealthier nations have the same policy. Other developing countries, such as Thailand and Nigeria, are beginning to offer similar programs, but most cannot afford them. Much credit for Brazil's policy is due to AIDS activists and the government officials who responded to their calls for funding, research and prevention. Their persistent efforts resulting in government policy that has kept Brazil's AIDS rate low and prolonged the lives of tens of thousands of people living with HIV.

6. Why aren't these antiviral drugs available all over the world?

Antiretroviral drugs are available in many countries, but are so expensive that most people who live with the virus cannot afford to buy them. A complete course of medicines costs \$12,000 to \$15,000 a year in the United States. Countries like Brazil have made an effort to distribute generic versions of the drugs to their citizens who live with HIV. In most developed countries, governments make the drugs available to HIV+ people who need them.

7. What was Lek's father's reaction to the stigma of HIV/AIDS? Do you think he loved his child?

Lek's father and mother feared the possible negative reaction of others in their community to her condition. Being HIV+ carries with it a stigma in many cultures, including Thailand, and they were worried that other villagers would ostracize them just because they were family. Lek's parents finally had a change of heart and decided that they were prepared to risk the opinions of other villagers in order to allow their daughter to die with dignity in their home. Their risk paid off, as many villagers overcame their fear of AIDS and came to visit Lek and bring her gifts during her final weeks.

8. How did Bhanu's doctors decrease the chances of her passing HIV on to her child?

Bhanu's doctors took several steps. They administered a dose of nevirapine to her during the birthing process and to her child shortly after. They also performed a c-section on her, which reduces the risk of HIV passing from the mother to child. Experts say the virus is most often passed on during the actual birthing process when the child is exposed to blood and other fluid from the mother, but a c-section eliminates much of the potential for fluid transfer. Most children born to HIV+ women are HIV negative when they are in the womb.

9. What steps can Nagaraj and Bhanu take to ensure that their baby remains healthy?

Even if HIV+ mothers do not infect their babies during birth, there is about a fourteen-percent chance that a baby will contract HIV from infected breast milk. This risk can be eliminated if Bhanu does not breast feed Maria. Instead, she should use baby formula or kill the virus by boiling her breast milk for at least twenty minutes. They should continue to have Maria tested regularly.



CORE

Objectives

Students will be able to:

- Assess what they know about HIV vaccines.
- Consider the personal implications of participating in an HIV vaccine trial.
- Think about some ethical issues regarding the involvement of minors in clinical trials.

Class Time

Can be done as homework or in class.

Introduction

Students are given a scenario about a friend with HIV. They are asked to complete questions regarding their participation in an HIV vaccine trial.

Materials

Student Handout 1.3

Discussion

Discussion about responses can set the stage for learning about vaccines and trials, which are explored in the next lessons.

Homework

Student Handout 1.3

Symbols

- video
- discussion
- hands-on
- on-line or web based
- homework

What Would You Do?

Your best friend has just been tested and is HIV positive. Your friend, in tears, tells you they will be starting a vaccine trial to prevent infection and they need healthy volunteers. In contrast to a **therapeutic vaccine**, which is **given to persons already infected with HIV**, a **preventative vaccine** is given to a **non-infected person to prevent their contracting HIV**. The majority of HIV research (85-90%) today is directed towards a preventative vaccine. Your oldest and best friend asks you to be one of the volunteers for this clinical trial to develop a preventative vaccine against HIV.

1. What is your initial reaction and what makes you feel this way?
2. What would you want to know as a participant?
3. What fears do you have about being part of this study?
4. What would researchers want to know when conducting the trial?
5. As a minor, you are unable to give consent to participate in a medical trial. Do you think your parent(s) or guardian would give consent for you? What might be their concerns?
6. If your parent(s) or guardian give consent, would you expect your conversations with researchers and test results to remain confidential? Would your parent(s) or guardian support this?

Lesson 1 Activity 4

What Do You Know? HIV Fact or Fallacy Game



Objectives

Students will be able to:

- Work through their misconceptions about HIV/AIDS
- Learn more about HIV structure, transmission and treatment.

Class Time

40-50 minutes for activity and discussion.

Introduction

Students write down things they have heard about the structure, transmission and treatment of HIV (not things that are necessarily true) and then try to categorize them as fact or fallacy.

Materials

Black board, white board or butcher paper
Chalk or pens
Post-it notes
Student Handout 1.4

Procedure

1. Have students in pairs list 3 pieces of information they have heard (not necessarily something they know is true) about HIV/AIDS on 3 Post-it notes. One piece of information for each of the following categories:
 - HIV Structure
 - Transmission
 - Research/Treatment
2. On the board or on butcher paper construct a 3 x 3 table. Put the categories listed above down the left-hand column and put the following 3 titles across the top: Fact, Fallacy, Unsure.
3. Have the students place their post-its in the box where they think they belong.
4. Review the lists with the students correcting incorrect information and clearing up misunderstandings.
5. Have students fill out Student Handout 1.4 as they go over the information as a class.

Homework/Extensions

Have students research any information left in the “unsure” category. Is it fact or fallacy?






Discussion

The discussion can vary, depending on what students bring to the class and the expertise of the teacher. If a number of items remain in the “unsure” category, keep the class sheet up for the duration of the unit, correcting items as you learn new information.

Sources

This game is an adaptation by Simon Forrest & Annabel Kanabus of material originally published in *AIDS: Working With Young People* by Peter Aggleton, Kim Rivers, & Ian Warwick (ISBN 0-9515351-8-8) together with some new material.

Symbols

-  — video
-  — discussion
-  — hands-on
-  — on-line or web based
-  — homework

What Do You Know? HIV Fact or Fallacy Game

Directions: In the table below, write one piece of information for each of the categories. This should be something you have HEARD, not something that is necessarily true.

PIECE OF INFORMATION	FACT, FALLACY, UNSURE	WHY?
<i>HIV Structure</i>		
<i>HIV Transmission</i>		
<i>Research / Treatment</i>		

Transfer your piece of information to a post-it and place it in the appropriate area as demonstrated by your teacher.



Objectives

Students will be able to:

- Increase their levels of awareness of how HIV is transmitted.
- consider a variety of transmission routes.

Class Time

Up to 60 minutes depending on the number of statements used and the size of the group.

Introduction

In this activity the teacher reads statements regarding transmission of HIV and students are asked to move to areas of the room identified with signs for agreement or disagreement. The teacher then facilitates discussion following each statement, including the accuracy of the statement. Students can rearrange themselves following discussion.






Materials

- A reasonably spacious room, to allow for free movement.
- A copy of Transmission Runaround ‘True/False Sheet’ for yourself and the answer sheet.
- Two large sheets of paper clearly marked ‘STRONGLY AGREE’ and ‘STRONGLY DISAGREE’
- Pins

Procedure

1. Put up the ‘STRONGLY AGREE’ and ‘STRONGLY DISAGREE’ sheets on the wall at opposite ends of the room.
2. Explain to the group as a whole that you will read out a series of statements, one at a time. Each person is to think about whether they agree or disagree with it, and move to the appropriate side of the room. It is all right to stay in the middle if they are uncertain.
3. Read the first statement. Once everyone has moved to their chosen place, ask members to choose one person near them and discuss why they are standing where they are.
4. Now ask people to choose one person standing as far away from them as possible, and to discuss the statement with them, explaining why each has chosen to be where they are.
5. Repeat the procedure with as many statements as time allows.
6. Re-assemble as a group and, going round the group, ask each individual to identify one piece of information they are confused or unclear about. Ask members of the group to clarify the issues involved and intervene yourself where necessary.

Symbols

-  — video
-  — discussion
-  — hands-on
-  — on-line or web based
-  — homework

Discussion

At the end of the exercise, it will be clear what areas of uncertainty remain. Individuals will have had a chance to think about ways of transmitting HIV, and to discuss these with other group members. It will also be clear that transmission routes for HIV are very specific e.g. It is not 'sex' that transmits the virus, but unprotected sex involving penetration. People can sometimes become quarrelsome during this exercise so you may need to intervene to settle disputes.

Sources

Last updated April 23, 2004 © Avert 2004, [www. AVERT.org](http://www.AVERT.org)
Modified from www.Avert.org, reproduced with permission.

True/False Question Sheet

1. You can become infected with HIV by sleeping around.
2. Injecting drugs will give you HIV.
3. You can get HIV from toilet seats.
4. If you are fit and healthy you won't become infected with HIV.
5. Married people don't become infected with HIV.
6. If you stick with one partner you won't become infected with HIV.
7. Women are safe from HIV as long as they use a contraceptive.
8. You can become infected with HIV from sharing toothbrushes.
9. If you have sex with people who look healthy, you won't become infected with HIV.
10. If you only have sex with people you know, you won't become infected with HIV.
11. Anal sex between two men is more risky than anal sex between a man and a woman.
12. You can become infected with HIV from kissing.
13. A man can become infected with HIV if he has oral sex with a woman.
14. A woman can become infected with HIV if she has oral sex with a man.
15. Condoms can stop you becoming infected with HIV.

True/False Answer Sheet

1. Sleeping around (having multiple sexual partners) increases one's risk of exposure to HIV and STDs.
2. Only if the needle/syringe and/or drug 'works' (used to prepare the drugs) are shared.
3. There are no known cases of HIV infection via toilet seats.
4. It does not matter how healthy or unhealthy you are, if you engage in risky activities you stand a chance of being infected.
5. This depends on the partners involved, what they did before they met, whether either has unprotected sex outside of the marriage or injects drugs using contaminated equipment. Marriage by itself offers no guarantees of safety.
6. As for No 5.
7. Only condoms offer women protection against HIV, and even condoms cannot offer complete safety. Other forms of contraception do not offer protection from HIV.
8. There is no evidence of transmission via this route, but it is sensible not to share toothbrushes for general health reasons.
9. Most people with HIV will look perfectly healthy. Looks are therefore a useless way of assessing risk.
10. Knowing someone well offers no reliable guide to whether or not they have HIV infection.
11. Anal sex is equally risky regardless of whether it takes place between two men or a man and a woman.
12. There is no evidence of transmission in this way, although kissing when there are sores or cuts in the mouth may pose some risk.
13. HIV is present in cervical and vaginal secretions as well as in (menstrual) blood, so there is the possibility of transmission this way.
14. HIV is present in pre-ejaculate fluid as well as in semen so there is a possibility of transmission in this way.
15. Condoms used properly will help to prevent transmission of HIV from an infected partner to an uninfected partner. Condoms are not 100% safe though. Use a lubricant which is water based, as oil based lubricants can weaken the condom. When buying condoms check the 'sell by' date. Condoms exist for both men and women.



Objectives

Students will be able to:

- see that the rate of infection has increased over time.
- HIV/AIDS continues to be a global challenge.

Class Time

The activity takes about 10 minutes, plus discussion time.

Introduction

This activity simulates the number of worldwide cumulative HIV infections during the last 25 years, from 1980 until 2004. Each student standing around the circle represents 3 million people. When an additional 3 million people become infected with HIV, a student steps into the Pandemic Circle. In simulating infection rates, students experience the changing rate of infection.

Materials






Yarn, string or chalk to make a 10-foot diameter circle

Pandemic Circle cards

Procedure

1. Cut out the Pandemic Circle counting cards (included).
2. Tape or draw a 10-foot diameter circle to the floor. Explain to students that this represents the planet and we will be looking at HIV infection rates over the last 25 years.
3. Hand out a Pandemic Circle card to 26 students. Tell the students that each person standing around the circle represents 3 million people (approximately the population of the Puget Sound Region).
4. Ask the class if anybody has the year 1980 on his or her card? (no). Ask why not? In 1980, there were less than 3 million people on the planet infected with HIV/AIDS.
5. Tell the class that we will be counting from 1980 to 1994. When students hear the date on their cards, they should step into the circle, thereby adding another 3 million people with HIV to the pandemic.
6. Ask the students to predict the year when the first person will step into the circle.
7. As a group, begin counting slowly from 1980 to 2004.

Symbols

-  — video
-  — discussion
-  — hands-on
-  — on-line or web based
-  — homework

Cumulative HIV Infections Worldwide, 1980-2004	
Year	Number of People Infected (million)
1980	0.1
1981	0.3
1982	0.7
1983	1.2
1984	1.7
1985	2.4
1986	3.4
1987	4.5
1988	5.9
1989	7.8
1990	10.0
1991	12.8
1992	16.1
1993	20.1
1994	24.5
1995	29.8
1996	35.3
1997	40.9
1998	46.6
1999	52.6
2000	57.9
2001	62.9
2002	67.9
2003	72.9
2004	77.8

Sources

2000-2004 data from UNAIDS, *Aids Epidemic Update* (Geneva, various years); 1980-1999 data from electronic communication with Neff Walker, UNAIDS, 20 March 2000. Worldwatch Publications: *Vital Signs 2005*.

Discussion Questions

- When did most people begin stepping into the circle? What does this mean?
- Is the infection rate increasing, decreasing, or holding steady? What would this look like on a graph?
- Were there any fluctuations in the infection rates?
- Tell students that this activity simulates the cumulative number of people who have been infected with HIV worldwide; it does not take into account the number of people who have since died. When all the participants are standing in the circle, almost 80 million people are represented. There are currently thought to be about 40 million people alive today who have HIV/AIDS. Almost half the students standing in the circle would no longer be living.
- Tell students that we may not have a viable AIDS vaccine for another 10 years. What does the Pandemic Circle look like 10 years from now? What can we do about it today?

Homework

- Have students graph the data from the chart at the left.
- After graphing the data, have students extrapolate 50 years into the future, showing lines for “best case”, and “worst case” scenarios. Have them list three or more factors which would contribute to best and worst case scenarios.
- Choose some of the discussion questions for students to answer in paragraph form.

Pandemic Circle 1986	Pandemic Circle 1988
Pandemic Circle 1990	Pandemic Circle 1991
Pandemic Circle 1992	Pandemic Circle 1993
Pandemic Circle 1993	Pandemic Circle 1994
Pandemic Circle 1995	Pandemic Circle 1995
Pandemic Circle 1996	Pandemic Circle 1996
Pandemic Circle 1997	Pandemic Circle 1997
Pandemic Circle 1998	Pandemic Circle 1998
Pandemic Circle 1999	Pandemic Circle 1999
Pandemic Circle 2000	Pandemic Circle 2001
Pandemic Circle 2001	Pandemic Circle 2002
Pandemic Circle 2002	Pandemic Circle 2003
Pandemic Circle 2004	Pandemic Circle 2004