

Unit 6

HIV and AIDS

Description

Understanding how some people are able to resist HIV or how others are able to harbor the virus without developing AIDS has given us insights into the way this virus infects cells of the immune system and may lead to new kinds of treatments for AIDS or even to an HIV vaccine. But even if new treatments or vaccines are developed, this disease will continue to have a huge influence on human societies, especially in some African countries.

Menu of Unit Activities

Note: All activities, handouts, solutions, and tips can be found in the Appendix of this guide.

Choose either Activity 1 or Activity 2:

Activity 1: Multiple Choice (15 minutes + 30 minutes of video)

Ten quick questions about HIV to go over before and after the video.

Activity 2: According to WHO? (15 minutes + 30 minutes of video)

An alternate warm-up activity that is more open-ended. It focuses on the top 10 worldwide health risks.

Choose either Activity 3 or Activity 4:

Activity 3: The Mighty Immune System (45 minutes)

An overview of the non-specific and specific immune systems, achieved by making diagrams and tables of the individual components and cells, then considering how they interact to fight disease.

Activity 4: Miracle Drugs? (45 minutes)

Presentations to the group on anti-HIV drugs, guided by the online text, video interviews, a suggested outline, and provided transparencies.

Activity 5: DNA Vaccines (10 minutes)

Discussion questions that compare DNA vaccines to traditional vaccines.

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(Menu of Unit Activities, continued)

Choose either Activity 6 or Activity 7:

Activity 6: Lesson Plans (20 minutes)

A discussion on how HIV and AIDS are presented to high school students now, and what new information might be incorporated into biology classes.

Activity 7: Public Opinion, Public Policy (20 minutes)

A discussion on how HIV infection is perceived and how this perception affects public policy on treatment and prevention.

Before the Session

Facilitator: Copy and assemble the required activity materials. (See the Activities section in the Appendix of this guide for master copies of transparencies and handouts, plus Tips and Suggested Answers.)

Choose either Activity 1 or Activity 2:

Activity 1: Multiple Choice requires:

- One copy of the Multiple Choice Questions per person (master copy provided)
- Transparency of the Multiple Choice Answers (master copy provided)

Activity 2: According to WHO? requires:

- Transparency of the list of Top 10 Risks for Health from The World Health Report 2002 (master copy provided)

Before the Session, cont'd.

Choose either Activity 3 or Activity 4:

Activity 3: The Mighty Immune System requires:

- One copy of the Activity Instructions per person (master copy provided)
- One copy of the HIV and AIDS online text chapter per two people (available online at <http://www.learner.org/channel/courses/biology>)
- One copy of Dr. Jay Levy's interview transcript per two people (to approximate marker 11:20:55; available online at <http://www.learner.org/channel/courses/biology>)

Activity 4: Miracle Drugs? requires:

- Video available for people to review
- One copy of the HIV and AIDS online text chapter per two people (available online at <http://www.learner.org/channel/courses/biology>)
- One copy of the interview transcript with Dr. Jay Levy per two people (available online at <http://www.learner.org/channel/courses/biology>)
- One copy of the interview transcript with Dr. David Weiner per two people (available online at <http://www.learner.org/channel/courses/biology>)
- One copy of the Guide to the Presentations plus Discussion Questions per person (master copy provided)
- Tips and Suggested Answers
- Transparency of the HIV infection cycle (master copy provided)
- Transparencies of the HIV drugs and the molecules they resemble to use for presentations (optional, master copies provided)

Activity 5: DNA Vaccines requires:

- One copy of the Discussion Questions per person (master copy provided)

Choose either Activity 6 or Activity 7:

Activity 6: Lesson Plans requires:

- Transparency of the Activity Instructions and Discussion Questions

Activity 7: Public Policy, Public Opinion requires:

- One copy of the Discussion Questions per person (master copy provided)

Facilitator: Make sure that the room has these supplies:

- pens or pencils and paper
- overhead projector and markers
- VCR and TV
- black/white board with chalk or markers

Session Activities and Video

Facilitator: Follow the instructions for the activities you have chosen.

Activity 1a or 2a: Pre-Video Discussion:

If you chose Activity 1: Multiple Choice (10 minutes)

- Read the Setup and have each person take a copy of the Multiple Choice Questions.
- Let each person go through the questions at their own pace, but don't use more than 5–10 minutes. Stress that answers might vary, especially for statistics, and this is just to get people thinking.
- Variation: Watch the video first and then go through the questions briefly as a group.

If you chose Activity 2: According to WHO? (10 minutes)

- Read the Setup.
- Spend a few minutes making a group list of the Top 10 Risks for Health.
- View the transparency of the Top 10 Risks for Health from the World Health Report and discuss the discussion questions.

Video (30 minutes)

- Watch the HIV and AIDS video.

Activity 1b or 2b: Post-Video Discussion:

If you chose Activity 1: Multiple Choice (5 minutes)

- Put the Multiple Choice Answers on the overhead projector.
- As a group, go through the Multiple Choice Questions while looking at the answers from the video. See if anyone in the group has heard or read information that is different and if so, what the explanation for the discrepancy might be.

If you chose Activity 2: According to WHO? (5 minutes)

- Go over the discussion questions again and see if there are any new ideas for reducing HIV infection risk after viewing the video.

Session Activities and Video, cont'd.

If you chose Activity 3: The Mighty Immune System (45 minutes)

- Arrange into pairs.
- Read the Setup and have each person take a copy of the Activity Instructions.
- Distribute the HIV and AIDS online text chapter and Dr. Jay Levy's interview transcripts so that everyone has a copy of one or the other.
- Spend 5–10 minutes reading/skimming the parts of the text or transcript that are relevant to the specific and non-specific immune systems.
- Swap texts, so people who read the online text now have the interview transcript and vice-versa. Spend another 5–10 minutes reading/skimming the new document.
- Working in pairs, spend 5 minutes making the Non-Specific/Innate vs. Specific defense list according to the activity directions. Refer to the online text and interview transcript whenever necessary.
- Spend 5 minutes making the Specific Immune System list.
- Spend 5 minutes making the Big Picture diagram.
- Choose diseases from the supplemental discussion question list and go through the roles of the non-specific and specific defenses in fighting the disease. Refer to the Big Picture diagrams.
- Variation: Make the Non-specific/Innate vs. Specific and Specific Immune System lists in pairs, then do the Big Picture diagram and the supplemental discussion questions as a group.

If you chose Activity 4: Miracle Drugs? (45 minutes)

- Arrange into pairs.
- Read the Setup and have each person take a Guide to the Presentations plus Discussion Questions.
- Hand out the HIV and AIDS online text chapter and transcripts of Dr. Jay Levy's and Dr. David Weiner's interviews so that each pair has a copy of all three documents.
- Spend 5–10 minutes becoming familiar with the text and transcripts that are relevant to the immune system and the HIV replication cycle.
- From the list of drugs or treatments in the Guide to the Presentations, have each pair choose one or more drugs or treatments to present.
- Spend 15 minutes preparing short descriptions of the assigned drug or treatment.
- As a group, spend about 5 minutes discussing each drug or treatment, led by the pair in charge of investigating the drug. Refer to the transparencies of the HIV infection cycle and HIV drugs.
- As time permits, discuss the Discussion Questions.

Session Activities and Video, cont'd.

Activity 5: DNA Vaccines (10 minutes)

- Read the Setup and have each person take a copy of the Discussion Questions.
- Discuss the questions in pairs or as a group.

If you chose Activity 6: Lesson Plans (20 minutes)

- Arrange into pairs.
- Read the Setup and put the transparency of the Activity Instructions and Discussion Questions on the overhead projector.
- In pairs, make the two lists of five facts about HIV and AIDS.
- As a group, go through the lists generated by the pairs and discuss the Discussion Questions.

Facilitator: Be sure the discussion remains focused on pedagogical issues and does not become a forum for classroom anecdotes!

If you chose Activity 7: Public Opinion, Public Policy (20 minutes)

- If the discussion will be done in pairs, arrange these.
- Read the Setup and have each person take a copy of the Discussion Questions.
- In pairs or as a group, discuss the questions.

Summary (5 minutes)

- If time permits, as a group or in pairs, define the major ideas or “take home” lessons of this unit and its applications.