

NAME \_\_\_\_\_

PERIOD \_\_\_\_\_  
DUE DATE \_\_\_\_\_

# THE FACTS ABOUT HIV & AIDS

## UNDERSTANDING AIDS

AIDS is an infectious and devastating disease caused by a virus called Human Immunodeficiency Virus, or HIV. The virus primarily attacks the body's immune system, but can also damage the brain and nerve cells. HIV selects, attacks, and destroys the white blood cells (T-lymphocytes) crucial to the body's immune system and severely weakens its ability to fight off infections and cancers. This collapsed system leaves victims vulnerable to invading infections and diseases a healthy immune system normally overcomes. As AIDS

progresses, the victim becomes overwhelmed with life-threatening illnesses (such as pneumonia, cancer, wasting syndrome, and other severe diseases) and eventually dies. **AIDS** stands for Acquired Immune Deficiency Syndrome. Acquired means the virus comes from the environment, not the result of genetics. Immune refers to the body's defense system against disease. Deficiency indicates the system is less than normal. Syndrome means a group of signs and symptoms occurring together revealing the disorder.

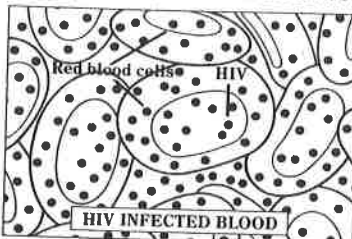
- (1) What does "HIV" stand for? \_\_\_\_\_
- (2) What does "AIDS" stand for? \_\_\_\_\_
- (3) Why does invasion by the AIDS virus kill people? \_\_\_\_\_

## HOW AIDS IS TRANSMITTED

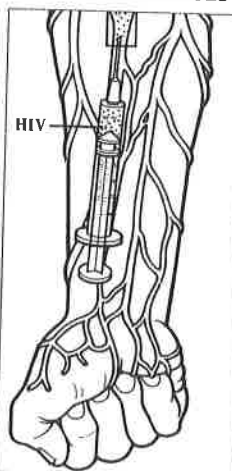
The AIDS virus lives in all body fluids, but enters the body through intimate sexual activity with exchange of an infected person's fluids, by sharing contaminated

needles, through transfusions of infected blood (mainly during 1978 to 1985), and from an infected mother to her baby before, during and after birth.

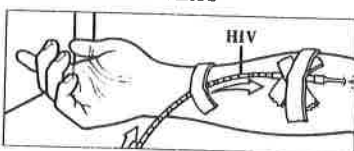
### 1. SEXUAL ACTIVITY INVOLVING EXCHANGE OF INFECTED BLOOD, SEMEN, OR VAGINAL FLUIDS



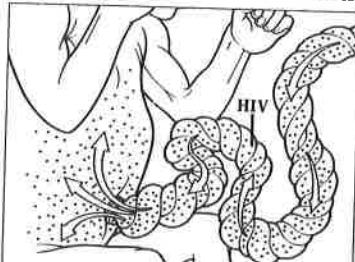
### 2. IV DRUG USE WITH CONTAMINATED NEEDLES OR SYRINGES



### 3. BLOOD TRANSFUSIONS OR BLOOD PRODUCTS INFECTED WITH THE AIDS VIRUS



### 4. MOTHER TO BABY BEFORE, DURING, AND AFTER BIRTH



- (4) What body fluids can be infected with the AIDS virus?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

# HIGH-RISK BEHAVIORS FOR AIDS

These behaviors significantly increase the risk of HIV infection:

- HAVE OR HAVE HAD MULTIPLE SEX PARTNERS.
- SEXUALLY ACTIVE HOMOSEXUAL AND BISEXUAL MEN.
- USE OR HAVE USED INTRAVENOUS DRUGS.
- HOMOSEXUAL AND BISEXUAL MEN WHO ALSO USE IV DRUGS
- HETEROSEXUAL SEX WITH SOMEONE HAVING AIDS OR AT RISK FOR AIDS.
- HAVE OR HAVE HAD SEX WITH PARTNERS WHO RECEIVED BLOOD TRANSFUSIONS BETWEEN 1978 AND 1985.
- HAVE HAD SEXUAL RELATIONS WITH A PROSTITUTE.
- RECTAL, VAGINAL, OR ORAL SEX.

**WHEN  
IT COMES  
TO AIDS,  
NO  
ONE IS  
IMMUNE!**

## HOW TO PREVENT AIDS

AIDS is a frightening and deadly disease with no cure, but it can be prevented. The only sure ways to protect ourselves completely is to abstain from premarital sex,

and once married, remain mutually faithful for life to an uninfected partner.

- 1. SEXUAL ABSTINENCE BEFORE MARRIAGE.**
- 2. MUTUAL FIDELITY DURING MARRIAGE FOR LIFE TO AN UNINFECTED PARTNER.**

**3. LONG-STANDING MUTUALLY MONOGAMOUS RELATIONSHIPS HELP REDUCE THE RISK OF TRANSMITTING AIDS.**

**4. AVOID USING IV DRUGS, SHARING NEEDLES, OR HAVING SEX WITH IV DRUG USER.**

**5. CONDOMS HELP "REDUCE" THE RISK OF TRANSMITTING AIDS, BUT CANNOT PROVIDE 100% PROTECTION.**

Condoms are not absolutely "safe" because men don't use them correctly or consistently, and also because they aren't always manufactured properly. A percentage are torn during manufacturing or during use, allowing the incredibly small virus (which is about 25 times smaller than the diameter of sperm) to pass through microscopic holes and tears.

**6. INSIST ON AN AIDS ANTIBODY TEST BEFORE MARRIAGE, IF YOUR PARTNER HAS A DRUG HISTORY, OR HAS A PAST OF MANY SEX PARTNERS.**

(5) Why isn't condom use a guarantee against AIDS? \_\_\_\_\_

## HIV Simulation

(6) Were you HIV positive at the beginning of the lab? \_\_\_\_\_

(7) How many partners did you exchange body fluids with? \_\_\_\_\_

(8) Were you HIV positive at the end of the simulation? \_\_\_\_\_

## PART 2: ONLINE

Directions – Go to Youtube.com and search “HIV and AIDS” (Nucleus Medical Media 6:52)

As you watch the video clip, answer the following questions.



\_\_\_\_\_ 1. What system does HIV damage?

- A. Circulatory      B. Digestive      C. Immune

\_\_\_\_\_ 2. What kind of cells attack invading bacteria and viruses?

- A. Red blood cells      B. White blood cells      C. Platelets

\_\_\_\_\_ 3. What molecules are “markers” for foreign invaders into your body?

- A. Antigens      B. Antibodies      C. Antidotes

\_\_\_\_\_ 4. What does the HIV virus do to the T-Helper white blood cells?

- A. Makes them multiply      B. Sticks to them      C. Kills them

\_\_\_\_\_ 5. What is “AIDS?”

- A. HIV alone      B. Opportunistic infections alone      C. HIV + Opportunistic infections

\_\_\_\_\_ 6. What drug can reduce the amount of HIV in your body?

- A. Antiretroviral medication      B. Ibuprofen      C. Acetaminophen

\_\_\_\_\_ 7. Why should you avoid drugs and alcohol?

- A. Because alcohol can contain HIV  
B. Both increase your chance of engaging in unsafe behavior  
C. Because alcohol and drugs contain high amounts of antigens

Now search for the video “Understanding HIV and AIDS (HIV #1) by Healthguru 3:32

\_\_\_\_\_ 1. Where does HIV live?

- A. Body Fluids      B. Counters & surfaces      C. The palm of the hand

2. TRUE or FALSE: The HIV DNA combines with the host cell's DNA \_\_\_\_\_

\_\_\_\_\_ 3. How do doctors detect HIV infection?

A. X-rays

B. MRI

C. Blood test

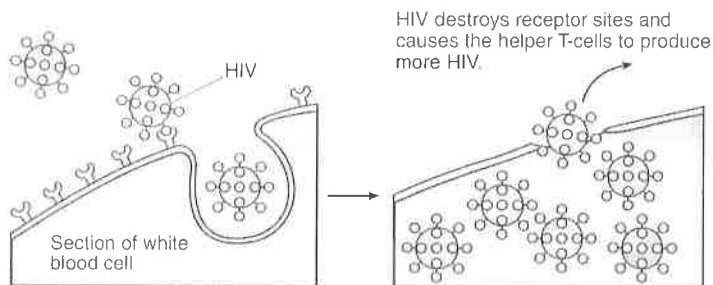
\_\_\_\_\_ 4. How many Americans are infected with HIV? ANSWER: "Over 1 \_\_\_\_\_"

### PART 3: REGENTS PRACTICE QUESTIONS

\_\_\_\_\_ 1. Which type of pathogenic microbe causes AIDS?

- A) a bacterium
- B) a virus
- C) a multicellular fungus
- D) a single-celled algae

The diagram below represents how HIV, the virus that causes AIDS, interacts with a certain type of white blood cell called a helper T-cell.



\_\_\_\_\_ 2. What is one possible result of the cellular activity represented in the diagram?

- A) Immune responses of an infected individual will be weakened.
- B) The red blood cells of a person infected with AIDS will no longer be able to make antibodies.
- C) This virus will strengthen future immune responses against blood-related diseases.
- D) Immune responses will prevent the spread of AIDS in humans.

\_\_\_\_\_ 3. People who have AIDS are more likely than others to become ill with multiple infections because the pathogen that causes AIDS

- A) targets many body systems
- B) mutates, releasing toxins directly into the bloodstream
- C) increases the rate of enzyme activity in different types of body cells
- D) damages the immune system

\_\_\_\_\_ 4. The virus that causes AIDS is damaging to the body because it

- A) targets cells that fight invading microbes
- B) attacks specific red blood cells
- C) causes an abnormally high insulin level
- D) prevents the normal transmission of nerve impulses

\_\_\_\_\_ 5. Which disease damages the human immune system, leaving the body open to certain infectious agents?

- A) flu
- B) AIDS
- C) chicken pox
- D) pneumonia