

DISCUSSION GUIDES

PICTURE CODES

Discussion Guides

FOR PEER EDUCATORS

NI NINI KATI YETU?

ROLE PLAY

TIMELINE

CONTINUUM OF ENQUIRY

RADIO GROUP

Introduction

This series of six Discussion Guides have been designed by the Program for Appropriate Technology in Health (PATH) for use by Peer Educators of Family Health International's IMPACT project in Kenya. They provide systematic, step by step guidance for a peer educator to engage discussion groups in enquiry and dialogue into **the difference between HIV and AIDS**.

The Discussion Guides are color coded, with different colors for each chapter (as shown alongside). The durable format with thick paper permits Peer Educators to take individual discussions guides out of the file. It also permits specific sheets to be updated as information or knowledge changes.

Finally, as new Discussion Guides are created, they can be added to the collection in this file.

January 2003



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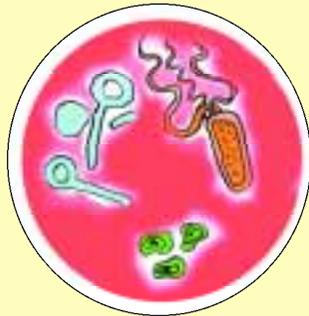
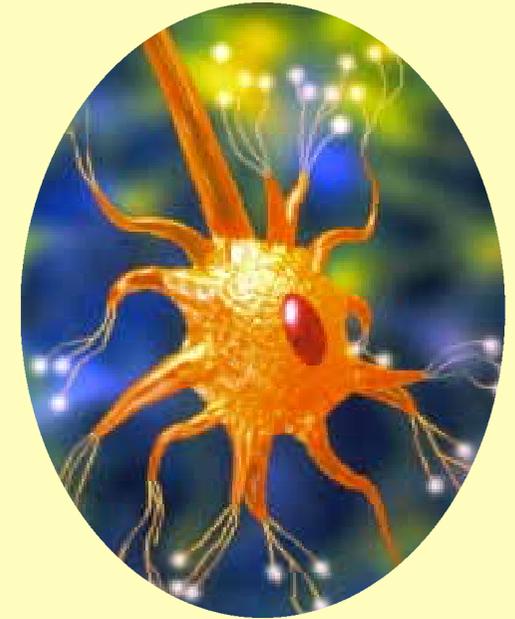
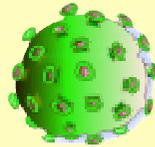
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DISCUSSION
GUIDE

1



The invisible world of germs and cells



What is the smallest living thing that you can see with your naked eyes?

OBJECTIVE: To introduce the world of living microorganisms.

GUIDELINES

1. **Ask:** What is the smallest living thing that you can see with your naked eyes? Participants name living creatures that they can see with their naked eyes. Allow a list of 10 to 12 names to emerge. Typical examples:

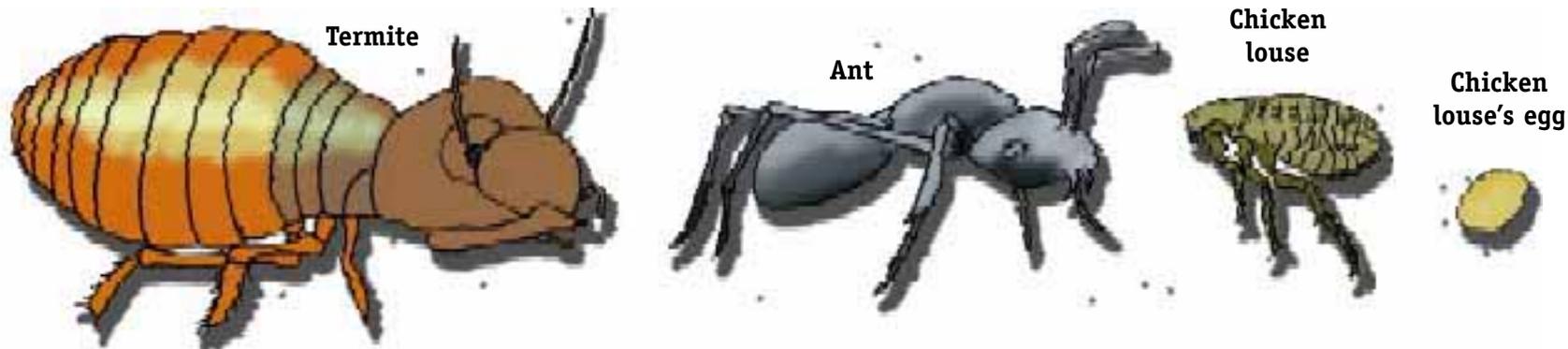
- Bedbugs
- Lice
- Jiggers
- Human lice
- Chicken lice

2. **Wait** for someone to mention chicken lice. This is generally named as the smallest visible living creature. Ask what is even smaller than a chicken lice. (**Correct answer:** The eggs of the chicken lice.)
3. **Ask:** What is even smaller than the eggs of the chicken lice? (**Correct answer:** Baby chicken lice within the egg.)
4. **Tell** participants that there is a universe of tiny living organisms, called **microorganisms**, which cannot be seen with the naked eyes. Microorganisms can only be seen with the help of powerful instruments called microscopes.

INFORMATION

1. **Microorganisms** are tiny living creatures too small to be seen with the naked eyes. There are thousands of different kinds of microorganisms in the world.

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Where are microorganisms found?

INFORMATION

1. **Microorganisms are everywhere — within our bodies, on our skins, plants, garbage, rivers, homes, food and everywhere else.**
2. **Some microorganisms can only live in freezing temperatures, such as in the north and south poles. Some need extremely hot temperatures, such as hot springs or deserts.**
3. **Some microorganisms, such as the one that causes tetanus in human beings, needs an environment where there is no oxygen.**

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Objective: To create the understanding that microorganisms are found inside and outside the human body.

GUIDELINES

1. **Ask:** Where are microorganisms found? List participants' suggestions in two columns on a flip chart sheet. Do not yet write any headings above the columns.

In the **left column**, write locations that belong to the human body, such as skin, stomach, nails, hair, eyes, and intestines. In the **right column** write locations that are outside the human body, such as plants, soil, garbage, and air.

2. When about 10-15 locations have been named, explain that some microorganisms belong to the body; write the word **Insiders** above the left column. Explain that some microorganisms are **Outsiders**, and live outside the body. Write **Outsiders** above the right column.

3. **Explain:** Microorganisms are everywhere

— within our bodies, on the skin, plants, garbage, rivers, homes, food. Some require freezing temperatures, such as in the north and south poles. Some need the extreme heat of deserts. Some, like the one that causes tetanus, need an environment where there is no oxygen.

4. **Ask:** Are microorganisms in stools (feces) insiders or outsiders? (**Answer:** They are insiders who become outsiders.)
5. **Explain:** When outsider microorganisms enter the body, they become insiders, and can make you sick.
6. **Give an example** of the common cold, which is caused when an 'outsider' (the cold germ) enters your body and becomes an 'insider'. When you sneeze, those insiders come out, and become outsiders again. Now they can infect others.
7. **Ask** participants if microorganisms on the skin are insiders or outsiders. (**Answer:** A microorganism on the skin is as much a part of the body as one that is inside.)

What is the human body made of?

Objective: To introduce the concept of **cells**, as the basic unit of life.

GUIDELINES

1. **Ask:** What is the human body made of? Let participants offer their suggestions and note them on a flip chart sheet. Answers may include bone, muscles, teeth, hair, organs, and so on.
2. **Ask** participants what bone, muscles, teeth, hair, organs, and so on are made of. Note their answers on a flip chart sheet.
3. **Introduce the word cells.** Explain that the human body is made of **cells**, which are the basic unit of life. There are hundreds of different kinds of cells, and they vary widely in size, shape, and function. Blood cells are different from hair cells, which are different from muscle cells, which are different from skin cells. Even the skin cells of the feet are different from the skin cells of the face.

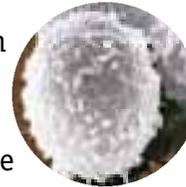
Cells regulate each and every activity that makes us human. Saliva is produced by cells, food is digested by juices cells produce, wounds heal because cells repair the damage. The male's sperm cell and the female's ovum can actually create a new human being when they fuse together.

An average adult human being has about **75 trillion cells** (75,000,000,000,000) in his or her body. There are more cells on the surface of a person's hand than there are people in earth.

Red blood cells



White blood cells



Nerve cells

INFORMATION

1. Human beings are made of cells. The cell is basic unit of life.
2. Cells vary widely in size, shape, and function.
3. An average adult human being has about 75 trillion cells (75,000,000,000,000) in his or her body.
4. There are more cells on a person's hand than there are people on earth.
5. Cells regulate each and every activity that makes us human. Saliva is produced by cells, food is digested by juices cells produce, wounds heal because cells repair the damage. The male's sperm cell and the female's ovum can actually create a new human being when they fuse together.

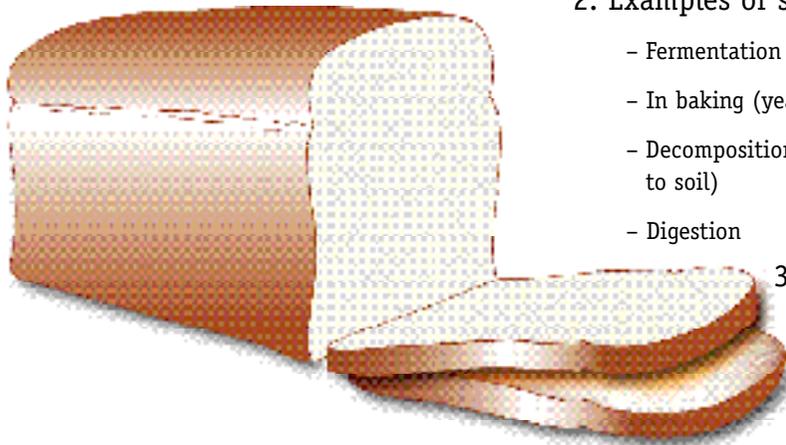
The invisible world of germs and cells

What do microorganisms do?

INFORMATION

1. Some microorganisms are harmful and can cause ill health when they enter the body. Such microorganisms are called '**germs**' in common English. A more technical word meaning 'germ' is **pathogen**.
2. When germs invades a body, the person is said to be **infected**. Infection often leads to disease.

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Objective: To introduce the concepts of useful and harmful microorganisms. To introduce the word **germs**.

GUIDELINES

1. **Ask:** What do microorganisms do? Let participants make their suggestions and note their replies in **two columns** on a flip chart sheet. In the left column, write down useful functions of microorganisms, and in the right column, write down harmful functions of microorganisms.

2. Examples of some useful functions are:

- Fermentation (used to make beer, yoghurt)
- In baking (yeast used to make mandazi soft)
- Decomposition (used to convert dead organisms to soil)
- Digestion

3. The main example of a harmful function of microorganisms is causing disease in human beings.

4. Write the words **Useful** and **Harmful** above the columns.

5. **Introduce the word 'germ'.** Explain that microorganisms that cause infection and disease are called **pathogens**. Explain that we will be using the more colloquial word **germs** to refer to pathogens.



What are the body's gateways or openings through which harmful microorganisms can enter?

Objective: To introduce the concept of body openings through which infection can happen. To introduce the concept of behavior sometimes leading to infection.

GUIDELINES

1. **Ask:** What are the body's gateways or openings through which harmful microorganisms can enter? Let participants offer their suggestions, and write them down on a flip chart sheet. The final list should include the following:

- Eyes
- Ears
- Nose
- Mouth
- Vagina
- Anus
- Penis
- Urethra
- Skin
- Cuts and wounds

2. If participants misunderstand the previous question and talk about modes of

transmission such as infected food, remind them that you are interested in a list of 'gateways' or 'openings' in the body. In the case of infected food, the gateway may be the mouth.

3. **Explain** that **in many cases**, a person's behavior plays a part in enabling infection to happen through one of these body gateways.

- For example, a person gets food poisoning not because he or she has a mouth but because of eating contaminated food.
- A person may get a sexually transmitted infection not because he or she has a penis or a vagina but because of having had unprotected sexual intercourse with another person of unknown STI status.

INFORMATION

1. The body has several **gateways or openings** through which a germ can enter and infect. These include:

- Eyes
- Ears
- Nose
- Mouth
- Vagina
- Anus
- Penis
- Urethra
- Skin
- Cuts and wounds

2. A person may get infected through these gateways because of some act or personal behavior, such as eating contaminated food, or having unprotected sexual intercourse with a person of unknown STI status.

Which different microorganisms can you name?

The invisible world of germs and cells

INFORMATION

1. Some examples of microorganisms are **bacteria (such as bacilli), amoebas, plasmodium, fungi, and viruses.**
2. Bacteria cause many sexually transmitted infections such as **syphilis and gonorrhea**, and may also cause **diarrhea, meningitis, and pneumonia**, among others.
3. Some fungi cause infections such as oral thrush (candidiasis). A well-known fungus is the common mushroom, which is cooked and eaten.
4. Viruses cause diseases like **polio, hepatitis, measles, and chicken pox**, and AIDS.

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Objective: To introduce the word **virus**.

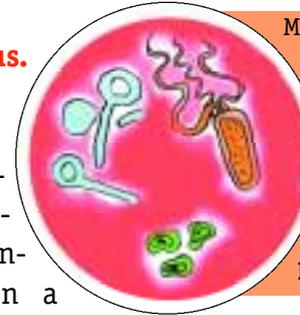
GUIDELINES

1. **Ask:** Which different microorganisms can you name? Allow participants to name different microorganisms, and write them down on a flipchart. The list may include:

- Bacteria
- Bacilli
- Amoebas
- Plasmodium
- Fungi
- Viruses

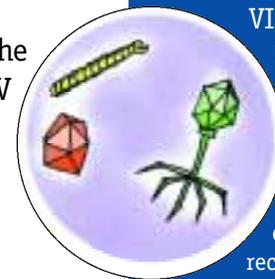
2. **Discuss** each kind of microorganism in the list, and also the diseases they cause, using the boxes on this page as a guide.

3. **Explain:** Viruses are the smallest of germs. HIV is a virus.



Many **BACTERIA** are useful, such as those that ferment beer or turn milk into yoghurt. However, many also cause disease in humans. Some diseases caused by bacteria include **gonorrhea, syphilis, meningitis, diphtheria, diarrhea, pneumonia, and leprosy.**

Examples of **FUNGI** include mushrooms, molds that grow on bread, and yeast used to make wandazi soft. Diseases caused by fungi include **ringworm and athlete's foot**. One yeast-like fungus that lives in the mouth or vaginal tract is called candida and is usually harmless but can cause disease in some situations. Then it can turn into an infection called **candidiasis**, producing an oral infection called **thrush**, or inflammation of the vagina.



VIRUSES are the smallest pathogens known. In order to multiply, viruses must find a home inside some living organism, like a human cell. Some of the diseases caused by viruses include **measles, polio, hepatitis, chicken pox, the common cold, Ebola** — and more recently, **AIDS**.

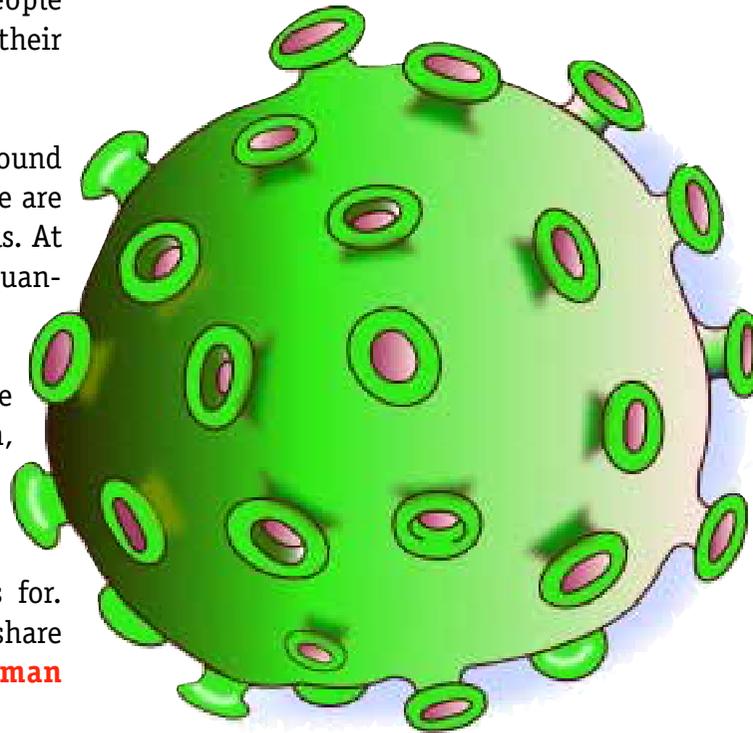
What is the shape of HIV?

Objective: To introduce HIV in simple terms.

GUIDELINES

1. **Ask** participants what they think is the shape of HIV. Let five or six people speak. There is no need to record their remarks.
2. **Explain** that HIV consists of a round shell, like a little ball. On its surface are **bumps** made up of various chemicals. At the centre of the shell is a small quantity of chemicals.

NOTE: In this session, **do not** use the words DNA, RNA, CD4, protein, nucleus or any other words that may sound technical.
3. **Ask** participants what HIV stands for. Take five or six answers, and then share with them that HIV stands for **Human Immunodeficiency Virus**.



INFORMATION

1. HIV consists of a round shell with chemical bumps outside, and a small quantity of chemicals in the centre.
2. HIV stands for Human Immunodeficiency Virus.

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How big is HIV?

INFORMATION

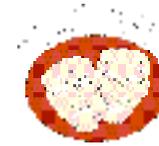
1. A nanometer is one-billionth of a meter. The short way of writing nanometers is NM.
2. HIV, the virus that causes AIDS, is only 100 NM.

Objective: To create an understanding of nanometers and the size of HIV.

GUIDELINES

1. **Ask** participants how long a meter is. (Answer: Roughly three feet)
2. **Explore** participants' understanding of a centimeter and millimeter.
3. **Explain** that a nanometer is a special unit much much smaller than a millimeter, used to measure microorganisms.
4. **Explain** that if a meter were divided into 1,000,000,000 parts, one of those parts would be a nanometer. The short way of writing **nanometers** is NM.
5. HIV is only 100 nanometers in width.
6. HIV exists in the blood and other body fluids of a person. If any of those body fluids finds a way to enter your body, then you are exposed to HIV and may become infected.

Size matters.



DG1

Objective: To create an understanding of the relative sizes of different microorganisms.

GUIDELINES

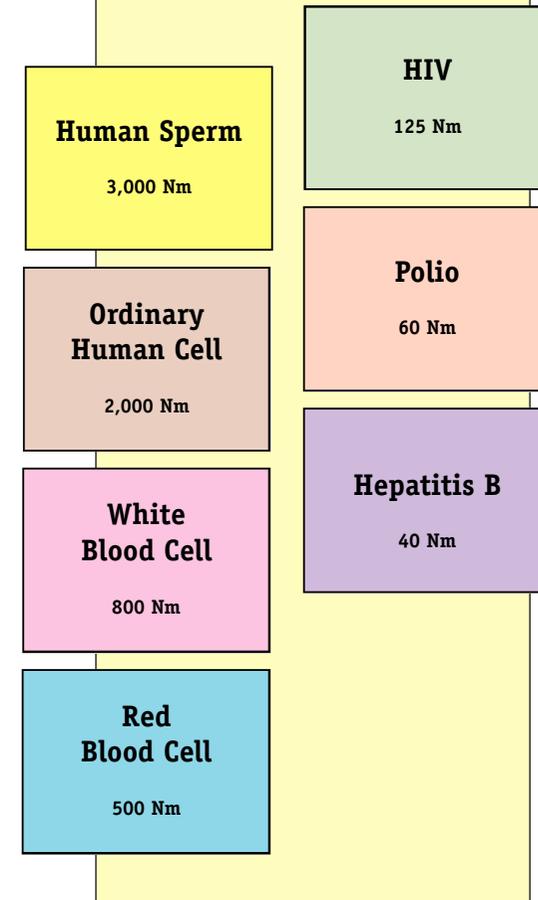
1. Keep all the placards in a large bag.
2. Arrange participants in a 'U' shape.
3. Distribute the placards at random among the participants.
4. **Explain:** Each placard has the name of a microorganism, and the size of that microorganism. Some are human body cells, some are bacteria, some are viruses. The number on each card is the size of that microorganism in nanometers.
5. **Explain** again what a nanometer is (see information on previous page).
6. **Instruction:** Read your placard and note the name of the microorganism on it and its size.
7. **Instruction:** Compare the size on your

placard with the size on the placard to your right. If your size is bigger, then exchange your placard with him or her.

8. **Instruction** Repeat this process until the smallest placards are on your left and the largest ones on your right in the group.
9. Go around the group from the right. Identify each cluster of microorganisms and have participants read out the name and size of the microorganism.
10. Move around the group, and as you proceed, compare the sizes of smaller microorganisms with larger ones. Point out that HIV is among the smallest microorganisms, but that polio and hepatitis B viruses are even smaller. Point out that white blood cells and human sperm cells are giant compared to HIV.

MATERIALS NEEDED

1. Using scissors and stiff card paper, cut yourself about six placards for each of the categories below.



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