Life Cycle of Malaria for Primary Schools

This lesson provides the teacher with material to teach the life cycle of malaria in a basic way. It may therefore be appropriate for primary school classes, or classes with slow understanding.

Topic: Life Cycle of Malaria Parasites

Malaria is one of the most important infectious diseases in the tropics, causing one to two million deaths a year worldwide. Unlike other infectious diseases as tuberculosis and AIDS, malaria can be cured easily, if treated in time. Teaching the life cycle of malaria is one way of rising awareness towards this disease and can, if properly understood, help to prevent unnecessary suffering among the affected population.

Instructional Objectives:

1. Importance of the mosquito
2. Importance of preventive measures
3. Importance of prompt treatment

Reference Books:

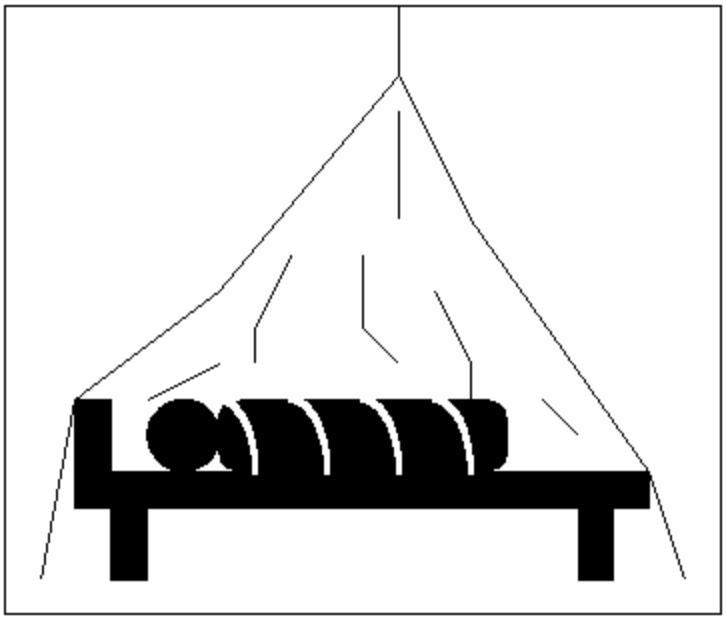
WHO, 1996: "Malaria: A manual for community health workers"; World Health Organization, Geneva 1996

Teaching and Learning Aids to Be Used:

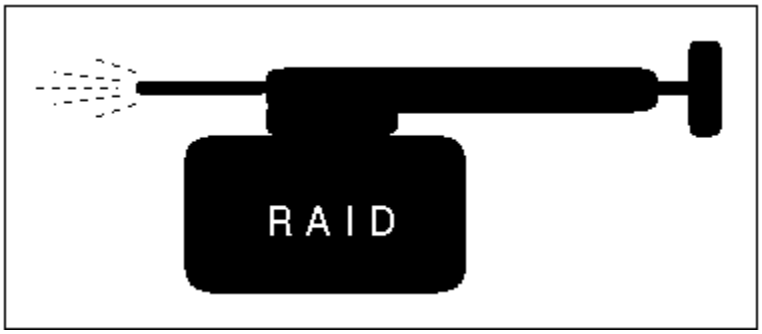
The listed materials will ease the task of teaching. However, if some items should not be available, you can still teach the lesson.

Materials

If possible organise a bed net, a mosquito spray (empty or full), and a mosquito repellent (coil or other).

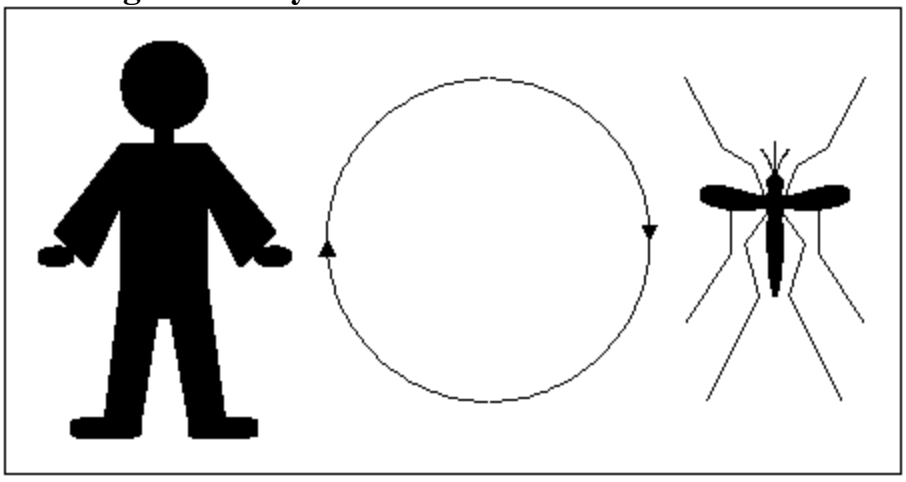


Simple drawing of bed net (mosquito net).



Simple drawing of refill spray.

Drawing of Life Cycle



Simple drawing of basic malaria life cycle.

This drawing can be replaced by any other showing a human being and a mosquito. It should either be copied on the blackboard before or during the lesson, or onto a poster-size paper. The latter one can be used several times, which may be convenient if many classes are taught on the subject.

Text "Malaria Life Cycle"

Malaria Life Cycle

Malaria is caused by tiny parasites which enter and leave the body through mosquito bites. When a mosquito bites a person it sucks up blood. If the person has malaria, some of the parasites in the blood will be sucked into the mosquito. In the mosquito, the malaria parasites multiply and develop. After 10-14 days the parasites are mature and ready to be passed on to somebody else. If the mosquito now bites a healthy person, the malaria parasites will enter the body of the healthy person. After a week or longer the person will then become ill.†

This text has been adapted from WHO, 1996, p. 10-11.

Main Points (Conclusion)

What do I have to remember about malaria:

1. The malaria parasite needs the mosquito to spread from one human being to another.†

2. Mosquito bites can be prevented by: Using a mosquito net; always closing the doors, spraying the rooms, and use of mosquito repellents.†

3. Prompt Malaria treatment can save lifes.

Students Previous Knowledge:

Basic understanding of the English language.

Presentation of Lesson or Methodology:

Content/Breakdown	Teacher Activity	Student Activity	Time
a) Introduction	Introduce the topic with approach 1 "Malaria is dangerous disease", or approach 2 "Why do you think, so many people are suffering from malaria at this time of the year?".	Approach 1: Listen to the teacher.† Approach 2: Discussion.	00'
b) Development of period	Malaria Life Cycle: Draw or show the malaria life cycle on the blackboard or a poster.† Tell the pupils how the malaria parasite jumps from man to mosquito and back.† Write the text "Malaria Life Cycle" on the black board.†	Malaria Life Cycle: Copy the drawing and the text "Malaria Life Cycle".	05'
	Importance of Mosquito and Prevention: Point out that the mosquito is central for the outbreak of malaria.† Show and explain the four main ways of avoiding mosquito bites: bed net, closed doors, spray, repellent.	Importance of Mosquito and Prevention: Listen to the teachers instructions.	20'
	Treatment of Malaria: Discuss the symptoms of malaria with the class. Stress the importance of quick treatment as malaria may make somebody very sick in a short time.	Treatment of Malaria: Describe own experience with malaria.†	30'
c) Assignment	"Discuss with your parents, what they do to prevent mosquito bites in and around the house."		35'
d) Conclusion	Write "Main Points" on the black board. If you are short of time, you may repeat the three main points orally.	Copy "Main Points" from black board.	40'

Remarks:

If the above mentioned materials, especially the bed net and the spray cannot be organized, still explain the use of the bed net and the spray to the children by using the drawings provided.

Background: Information Malaria Parasite
Malaria parasites are small single-cell beings, which invade the red blood cells in humans and animals. There are four different types infecting humans of which so-called Plasmodium falciparum is not only the most common but also the most dangerous as it can cause deathly attacks of severe malaria. Unfortunately some strains of Plasmodium falciparum are resistant against common drugs such as chloroquine. Whereas grown-ups in endemic regions (places where malaria is common) normally develop some resistance against the disease, this is not the case in small children and pregnant women.

Background Information: Mosquito Nets
Mosquito nets have shown to reduce the prevalence of malaria in several settings throughout Africa. Properly used, e.g. tacked under the bed, they give protection from mosquito bites during sleeping hours. The WHO recommends the use of insecticide-treated mosquito nets and calls them "a very good way to protect people from getting malaria". Contrary to popular belief, the new nets on sale do not block the circulation of air.

Background Information: Mosquito Spray
Indoor spraying is a method to reduce the prevalence of mosquitoes in the house. If the doors are kept closed in the house, spraying may have to take place once or twice a week. As many mosquito sprays contain powerful chemicals, the instructions on the spray should be followed. In the long run, a refillable spray may be cheaper than the disposable ones.

Background Information: Malaria Symptoms
The most important feature of malaria are fever attacks which normally start with shivering and end in profuse sweating. Headache and pains in the back, joints or all over the body are common. Loss of appetite, vomiting and diarrhoea may also occur. In between the attacks the patient may feel better, but the repeated attacks will slowly weaken him or her more and more. Especially young children can become very ill and die within a few days, displaying convulsions or even loosing consciousness. In this case, urgent treatment in a hospital is needed to save the child's life.

Background Information: Mosquito
There are many kinds of mosquitoes. However, only a few species, all of them belonging to the anopheline genius, are carriers (vectors) of the malaria parasites. Anopheline mosquitoes have spotted wings and their body displays an angle to the surface they are sitting on. Only the females bite • the male only sucks plant sap. Female and male mosquitos can be recognised by their antenna: Whereas the male mosquito has bushy antennas, the female one has thinner looking ones. Malaria mosquitoes normally bite during the evening hours, the night and in the early morning hours.

Comments, suggestions or corrections, especially from Ghanaians, people from the teaching field or in malaria research to mattgig@crosswinds.net are most welcome.

Matthias Giger, 2001