



Sweat for Nets™

Getting Active in the Fight Against Malaria

Lesson Plan

Grades levels: 9-12

Purpose: This lesson plan provides a simple classroom activity for teachers and students to help them better understand the global threat of malaria, and the methods of fighting its spread. As participants of Sweat for Nets, students will come to understand how they can take action against malaria through fundraising to purchase insecticide treated bed nets.

Objective(s):

1. Participants will learn about the urgency of the fight against malaria in Africa.
2. Participants will better understand how people who are exposed to malaria react to its effect on their communities and their country (in this case, Ghana).
3. Participants will discuss and learn about the connection between poverty and malaria, and the innovative ways that people and organizations are trying to reduce both in Africa.

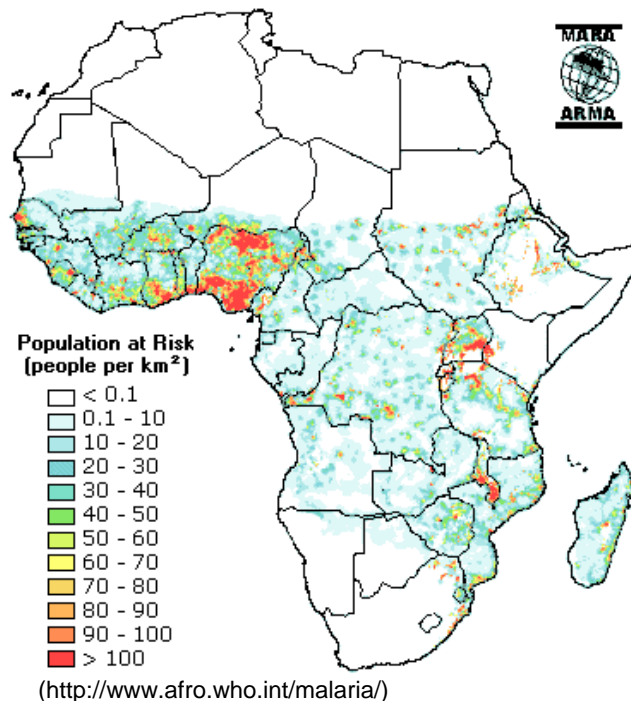
Materials needed:

- Interview on malaria (or other first hand account of malaria).
- Research opportunities for students, either through internet, school library or public library.
- Information on insecticide treated bed nets
(http://www.cdc.gov/malaria/control_prevention/vector_control.htm#itn).

Lesson:

- Have all students read the attached interview from Ghana on the influence of malaria on communities and countries. You may also find stories about the fight against malaria on the World Health Organization website: (www.who.int/features/2005/malaria/en/print.html)
- Discuss these stories with the students. Begin by asking basic questions such as: What is malaria? How is it spread? How do people in sub-Saharan Africa prevent malaria? What treatments are available?
- Focus on the last question; how does malaria affect Ghana? Have students discuss the woman's answer to this question regarding the overall affect of malaria on her country. How is this different than in the U.S.? What methods of medical treatment do we have here that differ from Ghana?

- Use the below map to introduce students to the spread of malaria in Africa. Have them discuss the areas that appear to have the most people at risk (the central region). Where is Ghana on this map?



Project:

- Have each student research malaria and the methods for its control and treatment. (www.cdc.gov/malaria/)
- How is poverty connected with malaria? Have a debate about how poverty causes malaria and how malaria causes poverty. Both sides of this debate are important in understanding why malaria is more prevalent in certain areas of the world.
- Each student should come up with a proposal on how best to combat malaria, both short term and long term. Students should also have strong arguments for why they prefer some methods over others, and how they would obtain funding or awareness about the issue of malaria.
- *Optional:* Students may choose individual countries (in Africa or elsewhere) and research their policies on malaria. They may use this research to create an in depth proposal on how that country should improve upon their existing methods.

Conclusion:

- This lesson plan aims to help students better understand their role in the fight against malaria by participating in Sweat for Nets. By introducing them to the urgency of providing help to those at risk, students are mobilized to participate in the global effort to eradicate the disease.

- By the end of this lesson, students should understand how insecticide treated bed nets are an important part of the fight against malaria, especially for those most at risk – children and pregnant women.
- You may use this lesson just before handing out the CFC sponsor sheets to be used throughout the Sweat for Nets program. As part of their outreach for sponsors, you may have students create their own handouts (either individually or as a class) to distribute to help others understand the overall goals of purchasing bed nets to protect children at risk.

Attachment #1: Interview on Malaria

The interviewed person, 32 years of age, is a mother of two children, who is working as a secretary for an insurance company in Kumasi, second biggest town of the country and one of the major trading centers. The woman, who has completed college in Tamale some years ago, and her family are living in the outskirts of the town in a setting which is typical for the Ghanaian middle-class. The interview took place in a private house in Tamale on the 18th July 1999.

What can you tell me about malaria?

A: Malaria is a sickness caused by mosquitos or bad surroundings. When the female mosquito bites you, then you get malaria. By getting malaria you are first experiencing weakness, headache, then nausea. Then you realise you have malaria.

Q: So, if you have this symptoms, you know you are suffering from malaria?

A: If you are not sure, you go to hospital for a malaria test. So when they test it and they realize you have malaria plus [*probably malaria positive*], then they have to give you some treatment: Chloroquine.

Q: Do you normally take chloroquine?

A: Chloroquine tablets or injection. When they realize, the malaria parasite it too much, then they give you a higher drug, more than chloroquine. Like halfan or chamoquine.

Q: You said, if you go to hospital, they would test you. How do they do this testing?

A: They pull your blood and test it on a machine. The machine will determine whether you have the parasite or not. So, if they test it, the machine will let you know whether you have it.

Q: Have you seen this machine? Do you know how the machine works?

A: For the machine, if they pull your blood, they just let you out and they test it. It is like a microscope. So, they put the blood under, looking through it.

Q: Is there something else you can tell me about malaria?

A: It is just a deadly disease. So, by avoiding to get malaria, one has to get a better ventilation and try to be closing your doors. Then your area should be neat. Where you live should be neat. No standing waters. And at least, get a mosquito spray to spray your room.

When did you last suffer from malaria?

A: About two month ago.

Q: Did you go to the hospital? Or how did you realize it was malaria?

A: I realized that I was very weak, I had some headache, then I felt like vomiting. So, I realized I was sick. I was not able to eat. So, I went to the hospital. When I went and complained to the doctor, he gave me a lab form for malaria investigation. So, when I went, they said it was malaria. I had malaria plus. So, I took the form back to the doctor and he gave me some chloroquine.

Q: When they told you that you had malaria, did they just tell you that you had malaria or did they tell you, that you had a certain type of malaria?

A: They said I had malaria. You know they have malaria plus and malaria plus plus or what. So, they said I had plus. *[Either she means "malaria positive", or less likely a parasitaemia of 11 - 100 parasites per 100 thick film fields.]*

Q: You had probably chloroquine tablets, how did you take them?

A: I took four, four and two. *[A normal course in Ghana.]*

Q: Afterwards, were you alright?

A: I had itching body, so I went back and they prescribed hydrocortisone for me, injection. *[Itching is a common side effect of chloroquine in dark skinned people.]*

Q: But the treatment was successful?

A: Yes.

How do you treat malaria?

Q: You said, you normally go to the hospital. Do you always go to the hospital or do you sometimes treat yourself?

A: Sometimes I do self-medication, when I realize the suffering is not too much for me. When the sickness is not too much.

Q: Do you use chloroquine in all cases? Not anything else like Halfan?

A: Halfan — when the malaria is so serious. Then, they prescribe me that one once. So I normally use chloroquine. And for the headache, they give paracetamol. *[Paracetamol also lowers the fever, but possibly prolongs some aspects of the disease.]*

How do you prevent malaria?

A: As I told you, by spraying the rooms. Every week I give Maralex *[probably a chloroquine-based drug]* to my children for prophylaxis. So my children don't usually get malaria.

Q: Are you also taking some prophylaxis or is it only for the children?

A: It is only for the children. (laughs)

Q: So do you think the prophylaxis works?

A: Yes.

Q: Do you remember the last time your children had malaria?

A: About six month ago.

Q: If you spray the rooms, how do you do it?

A: I spray the corners.

Q: Do you spray the walls, too, or just the corners?

A: Oh, just the corners.

Q: Can you tell me, why you spray the corners?

A: They say, if you spray the corners it's better. Like it circulates.

Q: Who told you, that it is the best to spray the corners.

A: (laughs) I don't know. I think I learned it from my mother.

Q: Is there anything else apart from spraying and the chemoprophylaxis you do to prevent malaria in you and your children?

A: Apart from that, they have some pomade — when they are sleeping — on their body. So the mosquitos would not come close to them.

Q: If you put this repellent on your children, do you put it every day?

A: It should be put every day.

Q: So, are you actually putting it every day, or are you saying it should be put every day?

A: OK, I am putting it small, small. I put it on their bodies small, small.

Q: But how often, every day?

A: Not every day, at least two days interval.

Q: If you put the repellent on your children, to which parts of the body do you apply it?

A: Their face, their hands and their legs.

Q: The children, if they are sleeping, are they wearing long-sleeve or short-sleeve dresses?

A: Long-sleeve dresses. If the weather is warm, they wear short-sleeve dresses.

Q: Do you apply the repellent to the feet?

A: Yes, I put the pomade on the feet.

Q: Is there any other thing you do to prevent malaria?

A: That is all. Some people also use mosquito coils.

Q: Now, let me ask you some other questions concerning malaria prevention. Maybe in your house you've got a water tank. If yes, is it covered?

A: Yes, it is covered.

Q: Are there any bodies of water around the house?

A: At least, outside the house. The water is far from the house.

What causes malaria?

Q: You said, if a mosquito bites you...

A: It has to be a female mosquito.

Q: Do you have any idea, why it is actually a female mosquito and not a male mosquito that gives you the malaria?

A: Is it because of the eggs, or what? I've forgotten.

Q: Because of the eggs?

A: Yes, because of the eggs.

Q: Let's say a female mosquito bites you. Do you always get malaria, if one bites you? Is every mosquito dangerous? Or are there maybe some female mosquitos which are not dangerous?

A: Like, the male mosquito, if they bite you, you won't get malaria. But the female one, you get malaria.

How does malaria affect Ghana?

A: The effect of malaria in Ghana is too much, because there are a lot of mosquitoes around and the government has to spend a lot of money on it, by buying drugs. A lot of drugs, from outside. Then, eventually due to lack of production, because a lot of people fail to go to work. So, eventually production falls. And a lot of deaths in the country. Even when you suffer from a different sickness, finally it is malaria which kills in the country. That's all.

Source: <http://www.gigers.com/matthias/engmala/intviewe.htm#Q16>