What is malaria?
Malaria is a life-threatening disease caused by parasites that are transmitted to people by mosquitoes. An estimated 700,000 people were killed by malaria in 2010 globally and approximately half the world’s population are at risk of the disease. Malaria is preventable and curable.

In the map on the left, the territory size is proportional to the number of malaria cases. 9 out of 10 malaria deaths occur in Africa and most of these are in children.

What causes malaria?
Malaria is caused by a microscopic parasite called Plasmodium. Four species of this parasite infect humans to cause malaria but Plasmodium falciparum is the most deadly. Plasmodium is transmitted between people by blood-eating mosquitoes. The mosquito is described as a malaria ‘vector’ because it spreads but doesn’t actually cause disease.

Plasmodium has a complex life cycle involving the infection and destruction of red blood cells (see left).

 Symptoms of malaria
Initial symptoms are similar to the flu:
>> Fever, headache, shivering, vomiting
In severe cases of Plasmodium falciparum malaria, these symptoms can develop:
>> Severe anaemia (lack of oxygen in blood), breathing difficulties, organ failure, problems with the nervous system

How can malaria be prevented?
The main way of preventing malaria is to target mosquitoes by:
> Reducing areas of standing water where mosquitoes breed
> Using insecticide-treated bed nets that help prevent mosquito bites
> Spraying houses indoors with insecticides that kill mosquitoes when they land

How is malaria treated?
Quick diagnosis and treatment of malaria with anti-malarial drugs prevents deaths and reduces transmission. But the cost of such drugs and the development of resistance by Plasmodium poses challenges.

Ideally, we would prevent people from getting malaria in the first place.

How is malaria diagnosed?
Because the symptoms of malaria can be similar to those of other conditions, the best way of diagnosing it is to look at samples of a patient’s blood down a microscope. If you can see malaria parasites then the patient has malaria.

Malaria is caused by a microscopic parasite called Plasmodium. Four species of this parasite infect humans to cause malaria but Plasmodium falciparum is the most deadly. Plasmodium is transmitted between people by blood-eating mosquitoes. The mosquito is described as a malaria ‘vector’ because it spreads but doesn’t actually cause disease.

Plasmodium has a complex life cycle involving the infection and destruction of red blood cells (see left).

Plasmodium (yellow) inside a red blood cell (red). This image was taken with an electron microscope.

Malaria is caused by a microscopic parasite called Plasmodium. Four species of this parasite infect humans to cause malaria but Plasmodium falciparum is the most deadly. Plasmodium is transmitted between people by blood-eating mosquitoes. The mosquito is described as a malaria ‘vector’ because it spreads but doesn’t actually cause disease.

Plasmodium has a complex life cycle involving the infection and destruction of red blood cells (see left).

Plasmodium (yellow) inside a red blood cell (red). This image was taken with an electron microscope.