

GERMS and DISEASE

[Click here to start](#)



What are Germs?

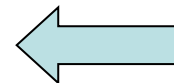
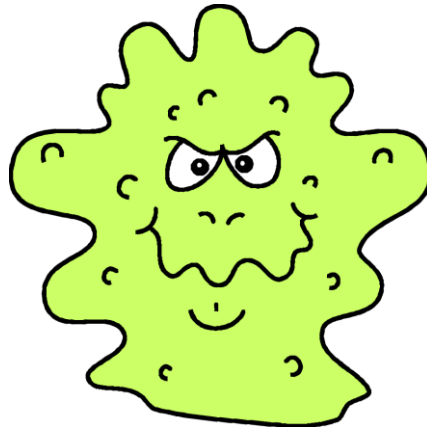
Germs are tiny organisms that cause disease.

Germs can make you ill if they get into your stomach or your lungs.

You need a microscope to see germs.

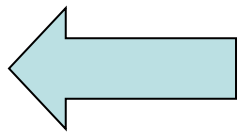
Germs are carried in the air and on things that you touch.

Germs can be passed on to you by other people and animals.

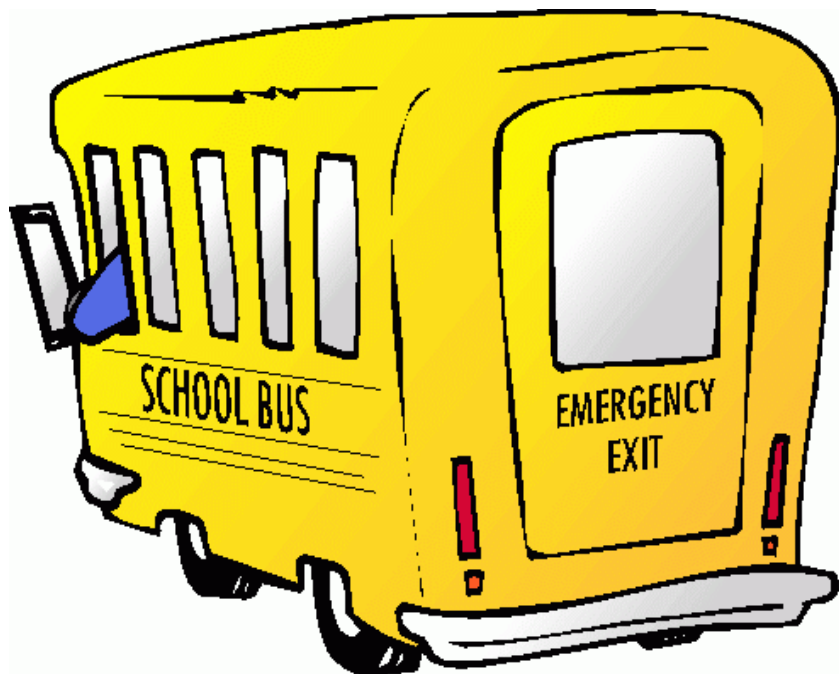


Click on the
germ to find out
more.

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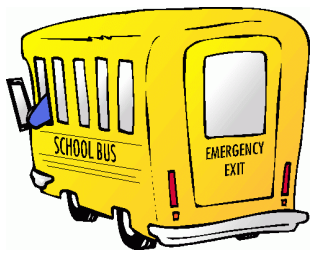
You are going to school with your best friend who has got a cold. Would you like to walk to school or take the bus?



[Click here to take the bus](#)



[Click here to walk to school](#)



You are in close contact with your friend who has a cold.

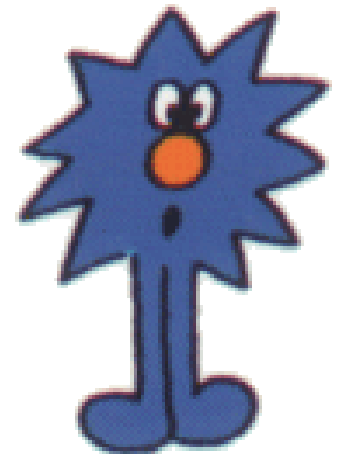
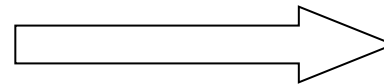
You can catch a cold from other people if they sneeze or cough on you.

Oh no... 2 days later you have got a cold!

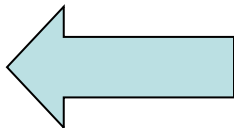


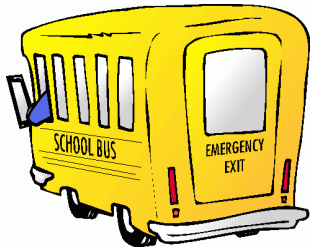
So how do you catch a cold?

Click on Mr. Sneeze to find out about colds.



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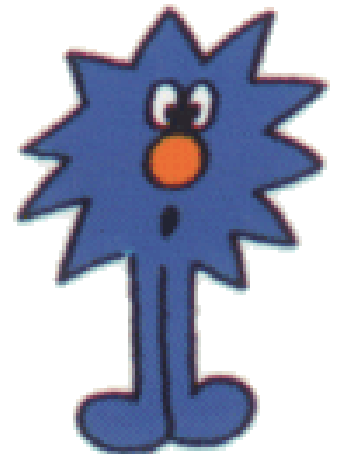
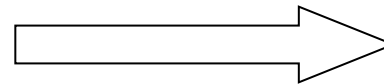
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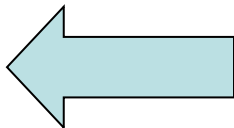


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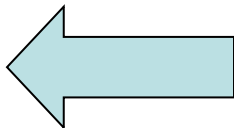
- When you sneeze very small droplets of water are sprayed out of your mouth. In these droplets are **viruses**.



- **Viruses** are a type of germ. It is a virus that gives you a **cold** and makes you feel ill.
- You should cover your mouth when you sneeze and cough to stop spreading coughs and colds to other people.

Click **here** to see what a sneeze looks like!

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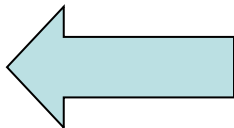
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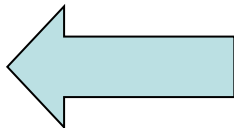


@ Did you know...

When you sneeze, your snot can travel 2-3 metres at 150km/hr. It's a very good way of spreading germs!

- When you have a temperature, this means that you are infectious and can spread your illness to others.
- When you are ill and have a temperature you should not go to school because you will spread your germs to other people and make them ill.

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Now lets learn
more about
viruses...

[Click here](#)



[**VIRUSES**](#)

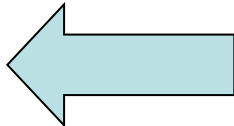


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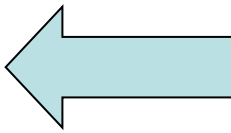
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[**VIRUSES**](#)

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Viruses

Viruses are the smallest life forms. They are too small to be seen even with microscopes.

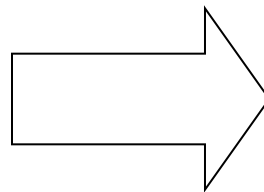
@Did you know...

There are over 250 different types of cold virus!

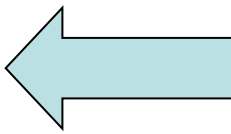
Viruses cause other illnesses like the flu.

Now lets go to the zoo...

Click on the picture.



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Viruses

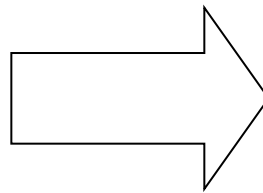
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What would have happened if you had walked to school?





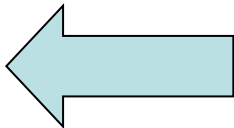
Walking to school

You walk to school. You are not in close contact with your friend who has a cold.

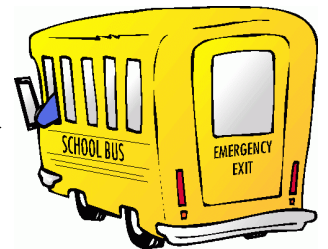
Congratulations! You get to school and 2 days later you are not ill.

If you do not wear enough clothes and get cold, it is easier to get a cold but you still need to catch it off someone who already has a one.

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What might have happened if you had taken the bus? Click on the bus to find out.





Walking to school

You walk to school. You are not in close contact with your friend who has a cold.

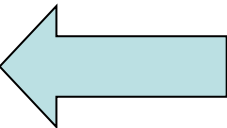
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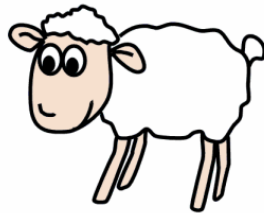
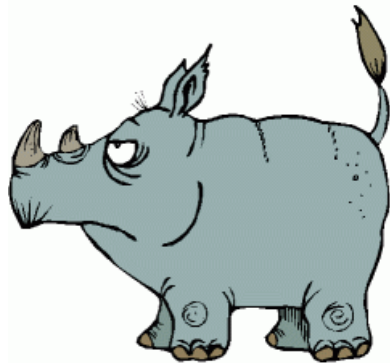




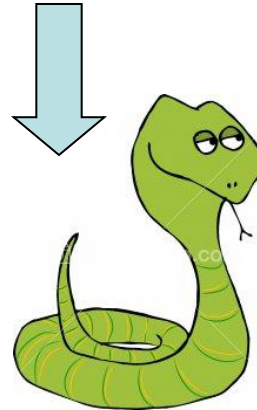
At the zoo...



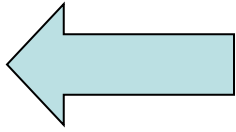
There are lots of animals in the zoo. You go to Pets Corner and handle a snake.



Click on the
snake to
move on



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When you get home, it is dinner time.

Do you...

Wash your hands?



Just go ahead and eat
your dinner?





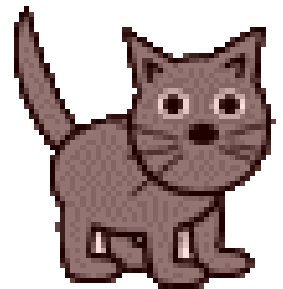
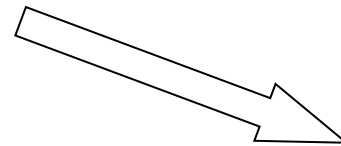
You should always wash your hands before you eat especially after touching animals.

Congratulations you don't get ill!

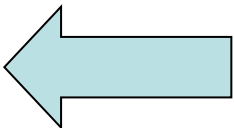
Animals carry lots of germs like **viruses** and **bacteria**.

What would have happened if you had not washed your hands?

Click on the cat to find out.



BACK

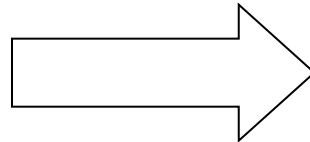




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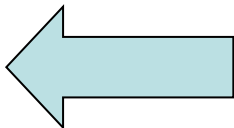
Congratulations you don't get ill!

Lets learn about another disease that is caused by a virus...



Click on the boy.

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Oh no... you didn't wash your hands and so you ate germs that were on your hands carried by the animals.

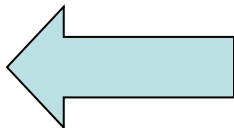
You get sick!

So why do you get sick?

Click on the dog to find out more about germs from animals...



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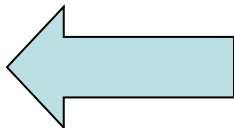
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BACK



You can catch lots of illnesses from animals



A photograph of bacteria
under a microscope

Bacteria are another type of germ.

There are many types of good bacteria found in foods like cheese and yoghurt and inside your body.

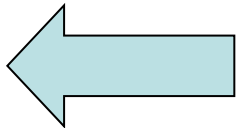
There are also lots of bacteria that animals carry that can make

you ill. A type of bacteria called Salmonella is found in uncooked eggs and chicken but also on snakes!

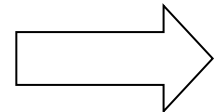
Animals also carry **viruses**.

At the moment scientists are worried that humans might catch a certain type of flu virus from birds. It is called Bird Flu.

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What would have happened if
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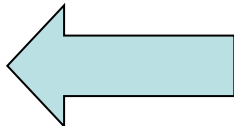
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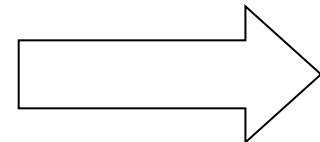
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Lets look at another disease
caused by a virus.





Jack has the measles.

He has a high temperature and spots all over his body. He feels ill.

Click on who you would like to be- jack's brother or sister?



Jack's brother **John**



Jack's sister **Jill**



Oh no... John has caught measles off Jack!

Why did John catch measles off his brother?

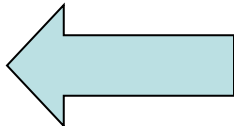
Measles is caused by a **virus** and is spread by droplets from coughs and sneezes in the air, contact with the skin, or by objects with the live virus on them.

What can the doctor do to stop you getting diseases like measles?

John did not have an injection to stop him getting measles. The doctor can give you an injection to stop you getting certain diseases. Click on the needle to find out more...



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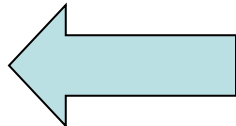
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Why did John catch measles off his brother?

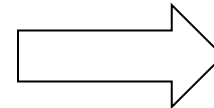
Measles is caused by a [virus](#) and is spread by droplets from coughs and sneezes in the air, contact with the skin, or by objects with the live virus on them.

John did not have an injection to stop him getting measles. He was not immune to measles.

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Now lets go on a picnic.
Click on the picnic basket.





Congratulations, Jill does not catch measles from her brother!

Measles is caused by a [virus](#) and is spread by droplets from coughs and sneezes in the air, contact with the skin, or by objects with the live virus on them.

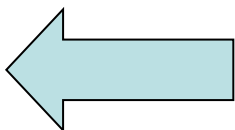
So why didn't Jill catch measles?

When Jill was a baby, the doctor gave Jill an injection that protected her from measles.

Click on the needle to find out more...



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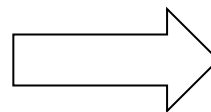


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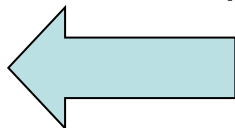
So why didn't Jill catch measles?

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Now lets go on a picnic.
Click on the picnic basket...



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Injections

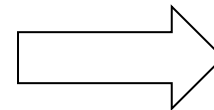


Injections are also called **vaccinations**.

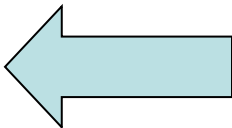
When a doctor gives you a vaccination for a disease like measles, you become **immune** to the disease. A vaccination makes your body's defence system ready to kill the germs so you cannot catch the disease.

Edward Jenner was an English doctor who made the first vaccination for a disease called smallpox. He realised that people who got another less serious disease called cowpox were immune to smallpox and so he injected people with cowpox to protect them against smallpox.

Now lets see
what happened
to Jill...



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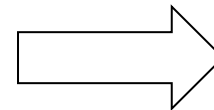
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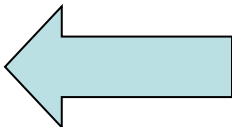
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Now lets see
what happened
to John...



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A picnic in the park!

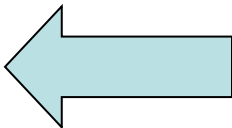


Flies are attracted to food.

Click on the flies to
find out more...



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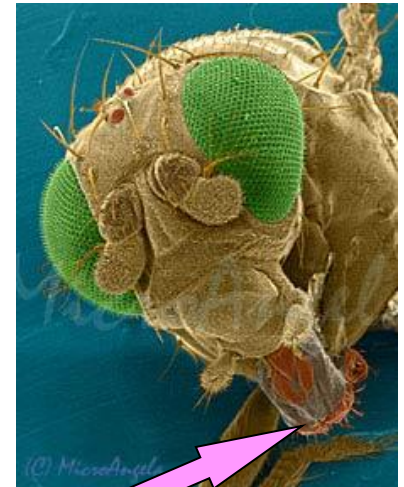
Flies carry germs!

You should not let insects walk or land on food.

Flies and other insects carry germs on their feet and using their mouth. They spit saliva onto food and then suck it up. By doing this they can move dirt onto food. The germs in dirt can make you ill.

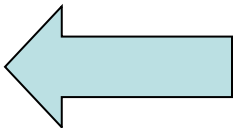


A fly has 6 legs and tiny hooks on its feet.



The mouthparts of a fly.

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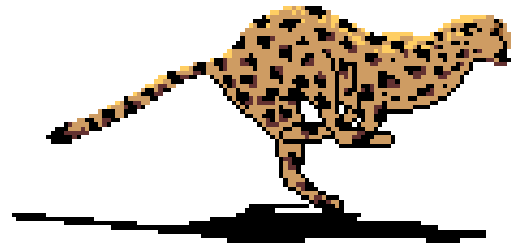
[Next](#)



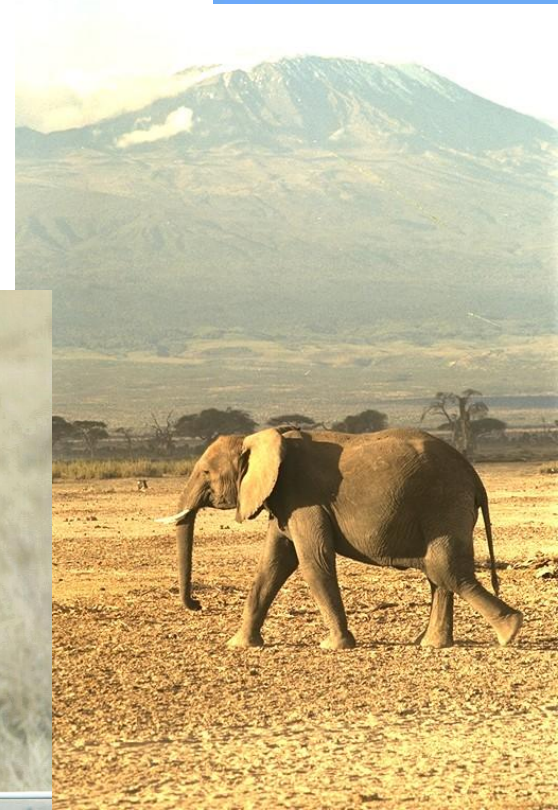


Lets go to Africa on safari...

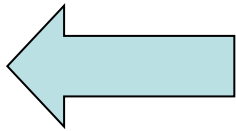
Click on the running
cheetah to continue



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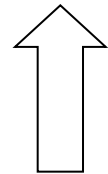
In Africa and other tropical places, there are more biting insects which carry diseases.

An important example of a biting insect that carries a disease is a **mosquito**.

The mosquito is known most for carrying a disease called **malaria**. In Africa the mosquito passes malaria from person-to-person through its mouth when it sucks blood.

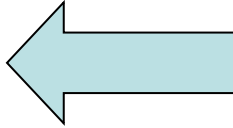
Malaria kills **more than 1 million** people in Africa every year.

In 15 minutes, malaria will kill over 30 children in Africa. That is the same number of children as in your whole class!



Click on the mosquito to continue

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The germ that causes malaria is a **parasite**. Parasites live in or on another animal or person and are harmful.



This man has become infected by a worm parasite carried by a mosquito that has made his leg swell a lot!

Mosquitos are **vectors**.

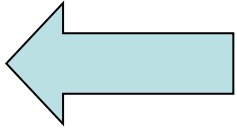
Vectors carry parasites inside their bodies and are usually insects.

Malaria is a single-celled parasite. Vectors can carry bigger parasites like worms that can make you very ill if they get inside you.



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How can we stop insects biting us?



What would you like to wear on your safari?



or



[Click here to wear long clothes](#)

[Click here to wear short clothes](#)



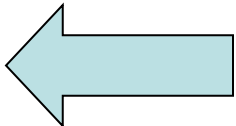
Long clothes are a good idea

Insects cannot bite you through clothing and so are unlikely to pass on their germs to you.

Insect repellent is a good idea too. The doctor may also give you some pills to stop you getting ill. These pills kill the malaria germ directly and are different from a vaccination that prepares your body's defence system to kill the germ.



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What would have happened if you had worn short clothes? [Click here](#)



Wearing short clothes in tropical countries is a bad idea.

Oh no... you get bitten by a mosquito and get ill.

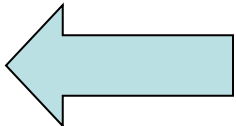
If the mosquito has the malaria parasite inside it, it will inject it into you. The parasite gets into your red blood cells and makes you ill by giving you a high temperature.



A mosquito biting a person

What should you have worn? Click [here](#) to find out.

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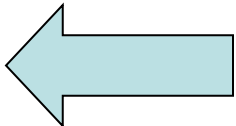
Oh no... you get bitten by a mosquito and get ill.

If the mosquito has the malaria parasite inside it, it will inject it into you. The parasite gets into your red blood cells and makes you ill by giving you a high temperature.



A mosquito biting a person

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Long clothes are a good idea

Insects cannot bite you through clothing and so are unlikely to pass on their germs to you and make you ill.

Insect repellent is a good idea too. The doctor may also give you some pills to stop you getting ill. These pills kill the malaria germ directly and are different from a vaccination that prepares your body's defence system to kill the germ.

Thank you for using this resource. Please contact the [Manchester Immunology Group](#) if you have any queries

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