

What's Bugging You?

Mosquitoes and Ticks



Written and illustrated by Joe Sutliff
Developed by the Fairfax County Health Department



Dr. Gloria Addo-Ayensu, MD, MPH
Director of Health

Pieter A. Sheehan, REHS
Director of Environmental Health

John Milgrim, REHS
Environmental Health Program Manager

The Disease Carrying Insects Program (DCIP) was established in 2003 to monitor and control mosquitoes and West Nile virus in Fairfax County. Since then, it has expanded to include ticks and tick-borne diseases. The mission of the program is threefold: vector and disease surveillance, vector management and control as well as community education and outreach activities.

The program's goal is to minimize the impact of mosquito and tick-borne diseases with an integrated approach to pest management.

Disease Carrying Insects Program

Jorge R. Arias, Ph.D., Supervisor
Carl I. Sivertsen, Education and Outreach
Joshua D. Smith, M.S., Senior Biologist
Sonya E. Graves, M.S. Biologist
Sara M. Bennett, Technician
John M. Orr, M.S. Technician
Ada E. Garcia-Ayala,
Administrative Assistant

Copyright © 2011 by Fairfax County, Virginia. All rights reserved. Customization and printing of this publication are made available through the American Mosquito Control Association. Please visit their web site www.mosquito.org/books-a-merchandise for more information.

Carl was playing in his backyard when he saw something wiggling in the water of his wading pool. When he looked closely, he saw tiny creatures moving in the water.

"What funny-looking things!" Carl said. "I wonder what they are."



A voice from the next yard surprised him with the answer. "They are mosquito larvae," it said and Carl's next door neighbor popped up.

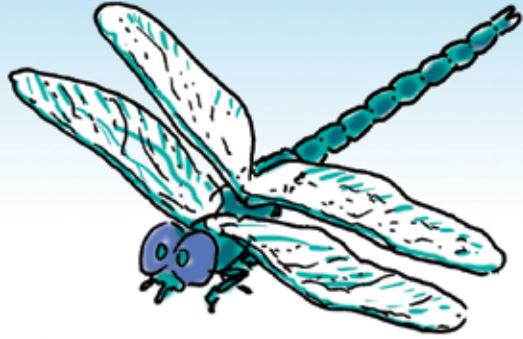
"Professor James! What are you doing in the bushes?" Carl asked.

"Well Carl, I'm an entomologist - that's a scientist who studies bugs. I was doing a little research."

"In your yard? I thought scientists worked in laboratories."

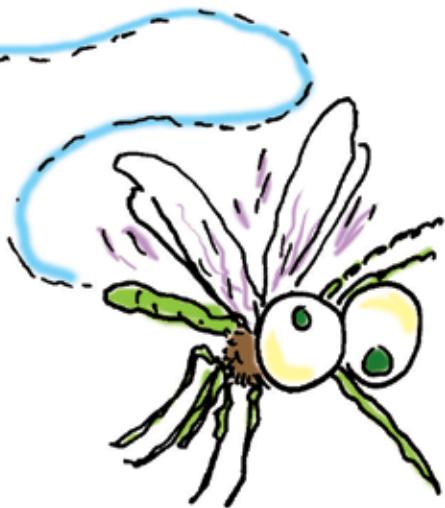
Professor James shook his head. "Yes, I do work in a lab sometimes but insects are found everywhere."



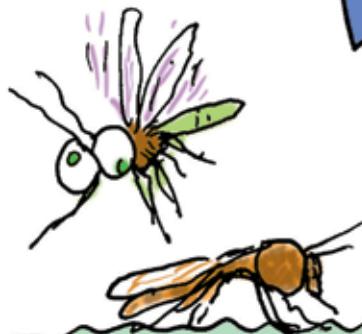


"For example, mosquito larvae like the kind in your pool are found in water all over the world. Let me tell you about the mosquito life cycle..."

A mosquito goes through four stages in its life.



A female mosquito bites a person or animal to get a blood meal.



The adult mosquitoes emerge and when their wings are dry they fly away in search of food. Then the whole cycle starts over again.



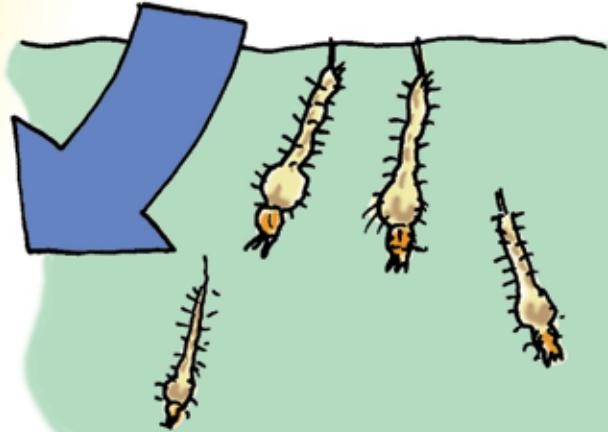
The mosquito then looks for standing water and lays her eggs. Mosquitoes can lay up to 300 eggs at a time.



The eggs soon hatch and larvae emerge. The larvae swim and feed in the water as they grow.



The larvae turn into pupae which are also found in the water but do not feed. In this stage, the larvae are changing into the adult mosquitoes.

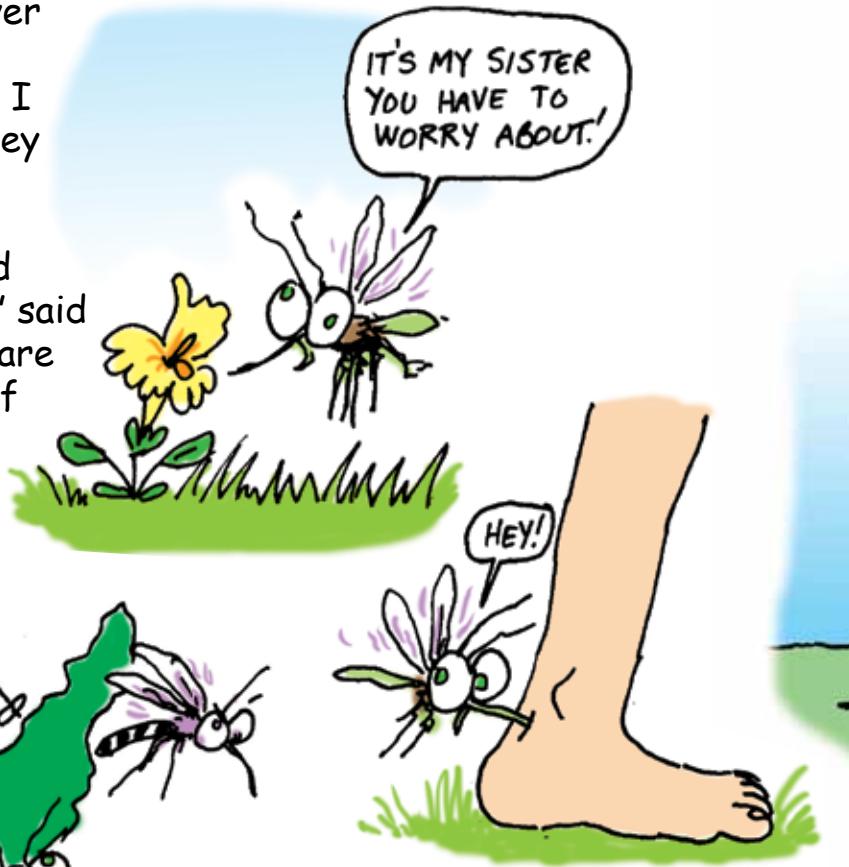


"Wow!" said Carl "I never thought about where mosquitoes came from. I always thought that they were just pests."

"Mosquitoes can spread many kinds of disease," said the professor. "There are many different kinds of mosquitoes, too."



Almost 200 types live in the USA. There are over 2,500 kinds of mosquitoes around the world.



Only female mosquitoes bite because they need the blood to lay eggs. Male mosquitoes feed on flower nectar.

Asian Tiger mosquitoes are black with white stripes. They are usually found around houses.



Some mosquitoes live around ponds and sewers where water stands still and there are no fish or other animals to eat the larvae.



These mosquitoes bite during the day.



Most mosquitoes usually bite from dusk until dawn.

"Professor, I'm scared! All those mosquitoes will bite me and there's nothing I can do about it!" worried Carl.

"Oh no, Carl, entomologists have learned a lot by studying mosquitoes. There are some simple steps that will keep you safe from them."



By getting rid of standing water around your yard, mosquitoes won't have a place to lay their eggs.

It's always a good idea to wear long, light-colored, loose-fitting clothes to prevent mosquito bites.

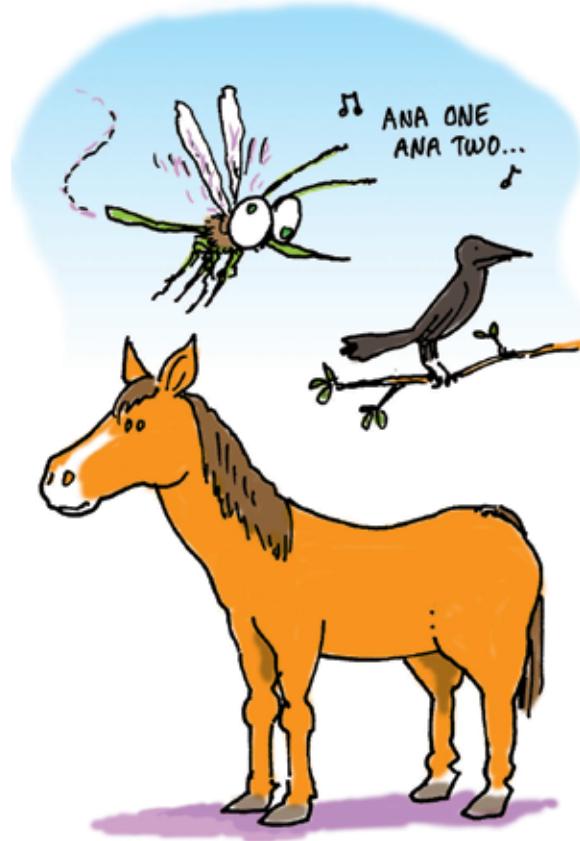


Parents, keep your grass short and trim ground cover like ivy.

Carl was glad to hear this advice.
"Are mosquitoes the only kind of bug
that bites?" he asked the professor.

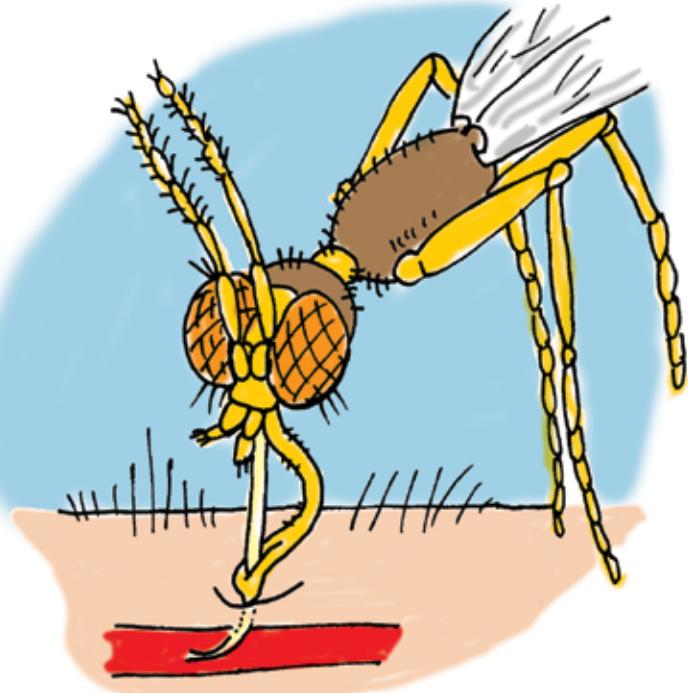


"Well, lots of insects bite people,"
answered the professor. "Mosquitoes
are dangerous because they can carry
diseases like West Nile virus."



West Nile virus is
transmitted when
a mosquito bites an
infected bird then bites
a human, a horse, or
another bird.

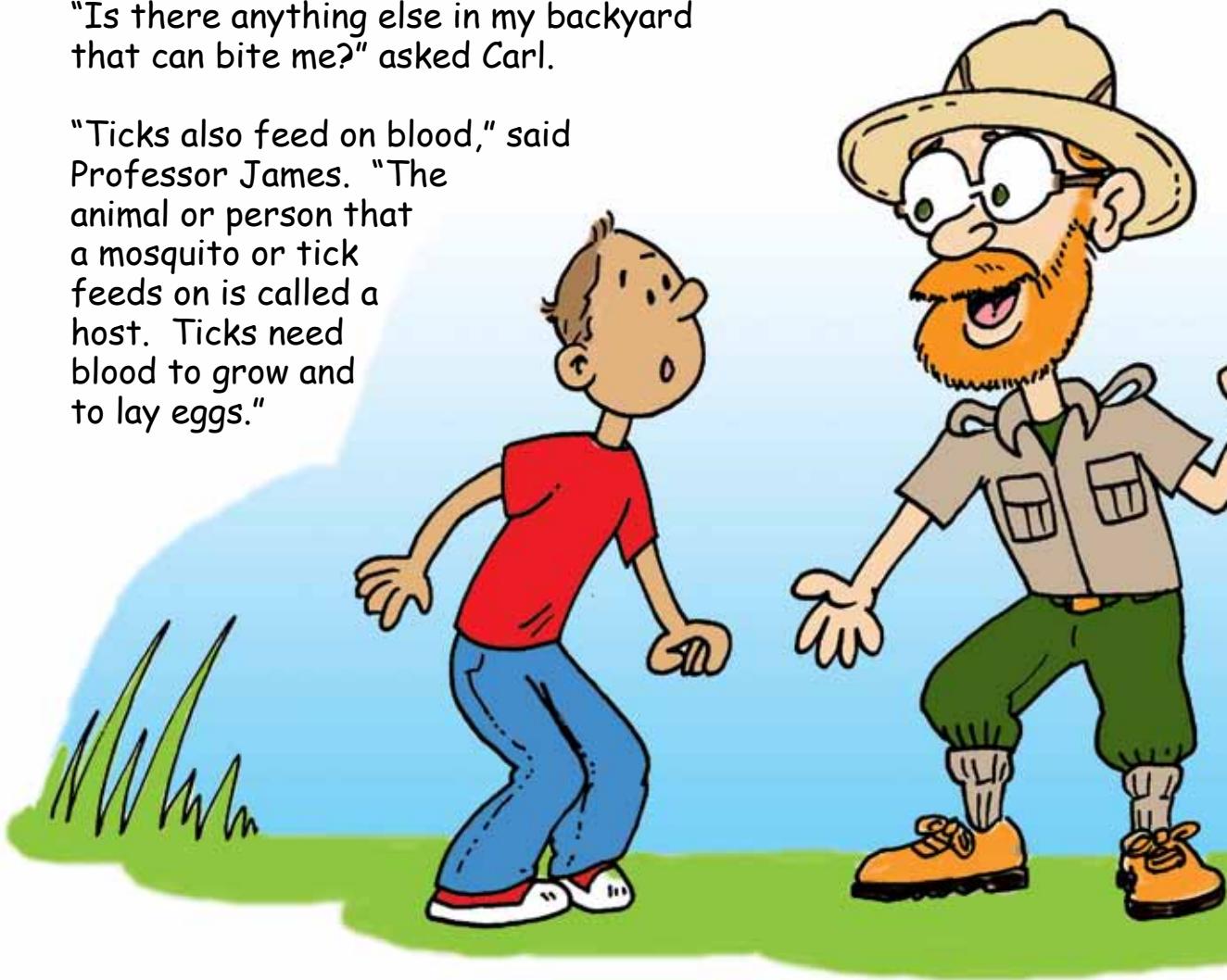
Mosquitoes use their mouth like a straw to suck blood.



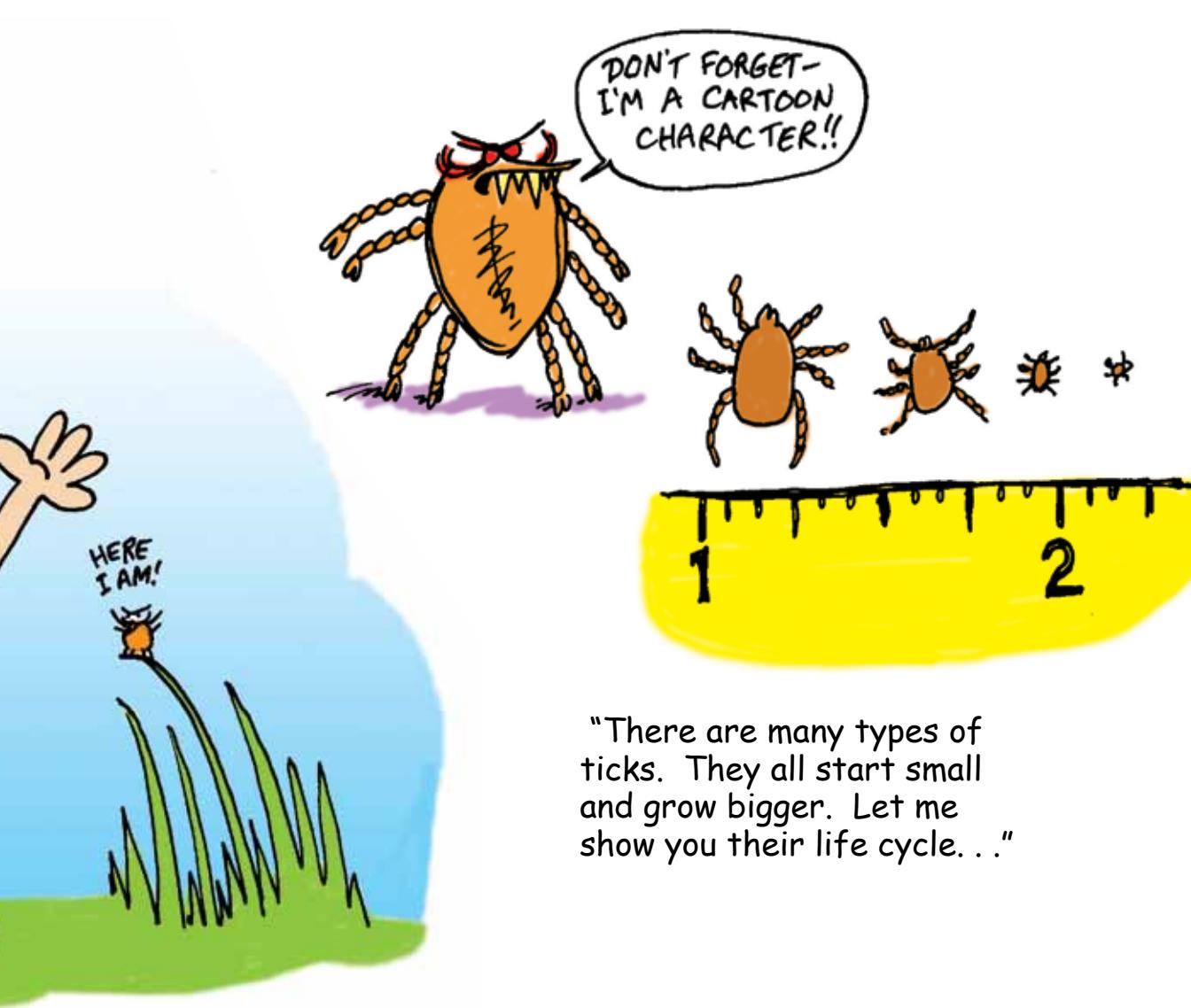
West Nile virus can make you very sick. The symptoms are like having the flu: aches, pains, fever and overall feeling yucky. However, most people don't feel sick at all.

"Is there anything else in my backyard that can bite me?" asked Carl.

"Ticks also feed on blood," said Professor James. "The animal or person that a mosquito or tick feeds on is called a host. Ticks need blood to grow and to lay eggs."



"Sometimes you can't feel a tick biting you so it's important to check yourself for ticks after spending time outdoors."

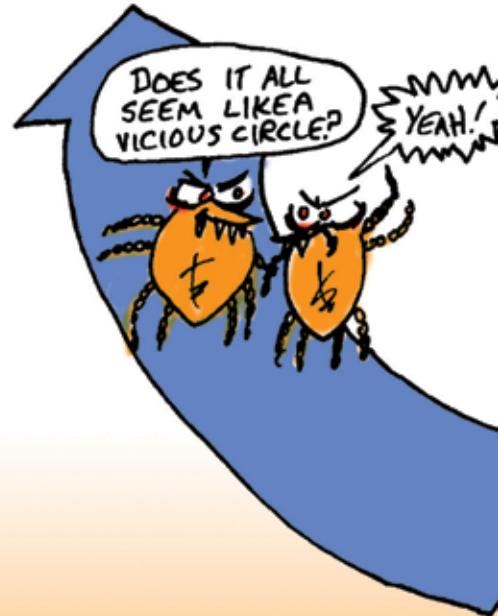


"There are many types of ticks. They all start small and grow bigger. Let me show you their life cycle. . ."

A tick goes through four life stages.



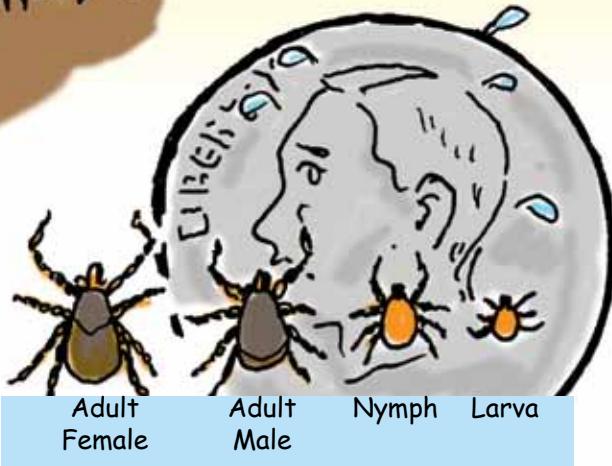
A female tick needs blood to lay eggs. After she feeds on an animal or person, she lays her eggs on the ground.



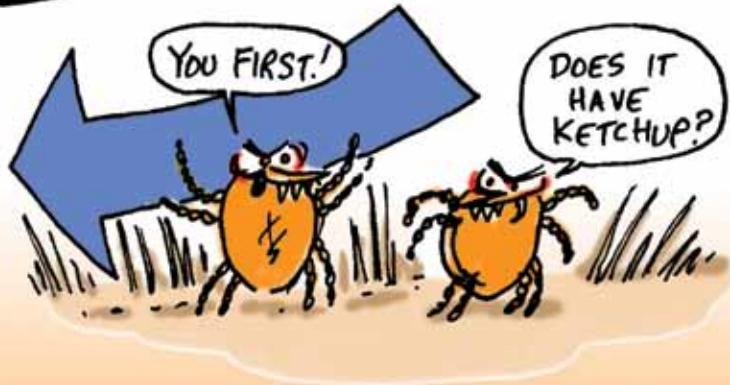
The eggs hatch into larvae which have only six legs. They find an animal or person to feed on and drop off when they are full. Later, they shed their outer skin. This is called molting.



The new ticks are called nymphs and they have eight legs. The nymphs find a host to feed on, drop off when they are full, and then molt again.



After the nymph molts, it is an adult. Then the whole cycle starts over again.



"Where do ticks live?" asked Carl.

"Ticks can live anywhere," answered the professor.



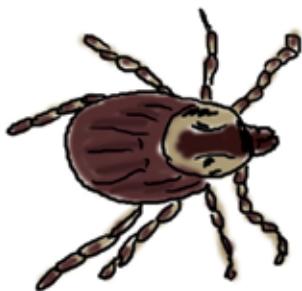
There are more than 850 kinds of ticks in the world. They come in different sizes and colors too.



Some ticks have names that match how they look or where they live.



The deer tick (also called a black-legged tick) likes to live where deer are found.



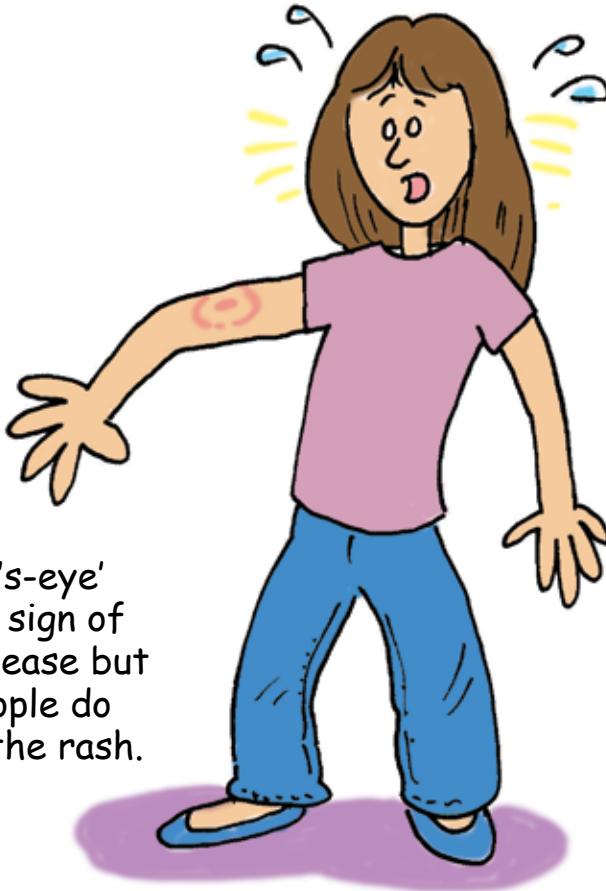
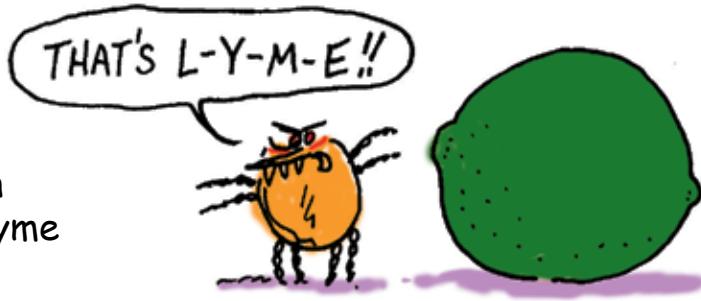
Dog ticks are often found on dogs but can also feed on people.



The Lone Star tick is reddish-brown and may have a white dot on its back.

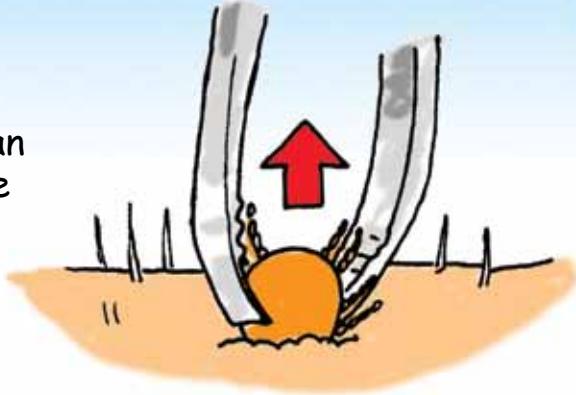


Deer ticks can give humans Lyme disease.



The 'bull's-eye' rash is a sign of Lyme disease but some people do not get the rash.

Your parents can help you remove a tick by using tweezers.



Gently pull straight away from the skin. If the tick does not let go right away, keep pulling gently until it does.



DEET is the best repellent for keeping away mosquitoes and ticks. Repellents can help prevent bites.



Always have an adult apply repellent.



The best repellent is the one you use!

NUTS!

When walking in the woods or tall grass, tuck your pants into your socks.

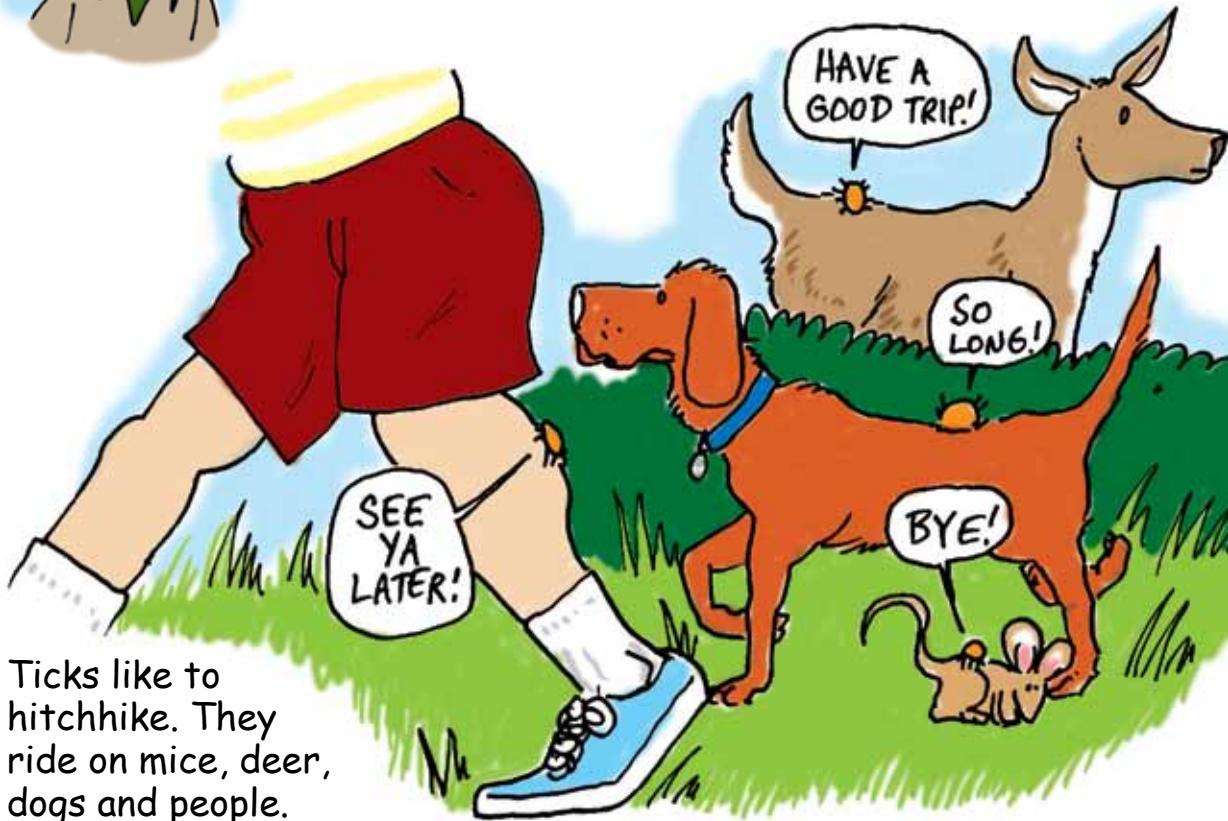


If you find a tick, save it in a plastic bag or container and bring it to the Health Department offices. They will identify it for you.





Ticks are sneaky and they can be hard to see.



Ticks like to hitchhike. They ride on mice, deer, dogs and people.



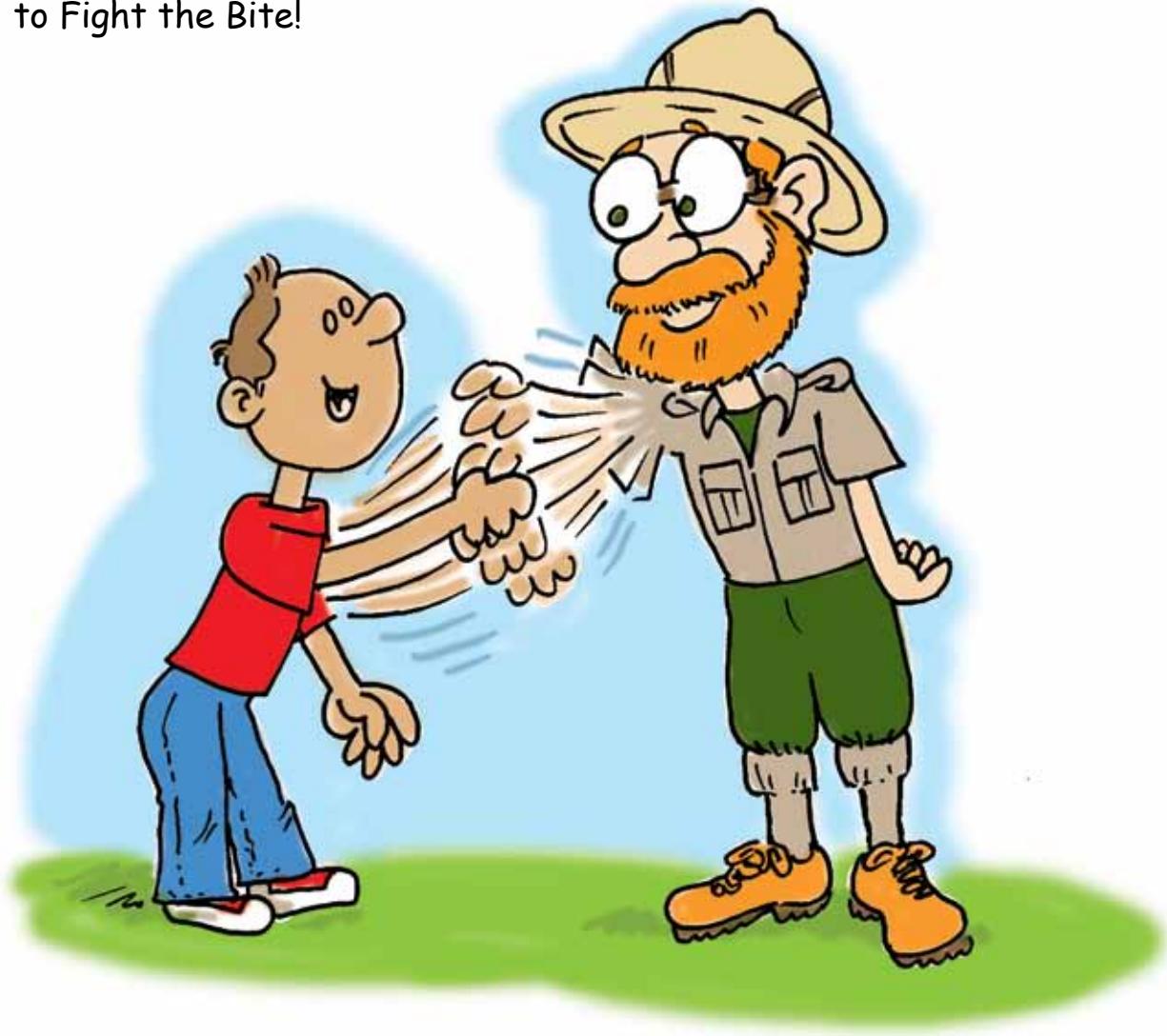
IT'S CALLED
"QUESTING"!!

Ticks wait on tall grass, short grass and bushes. When a host walks by, they grab on.



Always check for ticks after playing outside. Ticks can be found anywhere on your body.

Thanks, professor! Now I'm ready
to Fight the Bite!



What did we learn?

A scientist who studies insects is called an entomologist.

Insects usually hatch from eggs. They go through different stages of life, where they change size and shape.

Mosquitoes and ticks depend on people and animals for a bloodmeal.

Mosquitoes and ticks can transmit diseases by biting infected animals and then biting humans.

Mosquitoes and ticks can be found in many different habitats.

Mosquitoes can be kept away by keeping your yard clean and getting rid of standing water.

Repellents will keep away mosquitoes and ticks.

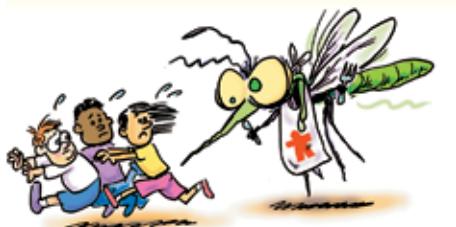
Wear light, loose clothes to avoid getting bitten.

Always check for ticks after you have been outdoors!

Fairfax County Health Department,
Disease Carrying Insects Program,
10777 Main Street
Fairfax, VA 22030

703-246-8931
TTY 711

fightthebite@fairfaxcounty.gov
www.fairfaxcounty.gov/fightthebite



Second Edition 2011



A Fairfax County, Virginia, publication.
(Nov. 2012)

To request this information in an alternate format,
call the Fairfax County Health department at
703-246-8931/TTY 711

