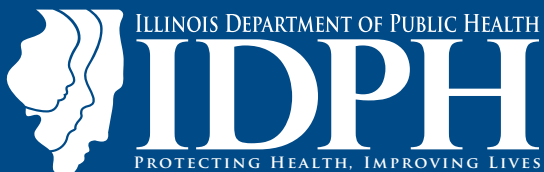




State of Illinois
Illinois Department of Public Health

Illinois Tick Detectives Workbook



Developed in
collaboration with the
Illinois Lyme Association

What Are Ticks?

Ticks are a member of a large family of animals called **arthropods**. Like spiders, they are **arachnids**, not insects. They have eight legs instead of the six that insects have.



Arachnid (tick)



Arachnid (spider)



Insect (beetle)

Ticks are blood-sucking **parasites**. Blood is their food. They attach themselves to **hosts** to eat blood. They will attach to almost any mammal, reptile, or bird.

Because humans are mammals, ticks sometimes attach to humans to suck blood. If a tick carries certain diseases, it can pass it on to the person or animal it is feeding on.

Ticks of Illinois

In Illinois, the most common tick is called *Ixodes scapularis*, also called a **deer tick** or **blacklegged tick**.



Deer/Blacklegged tick



American dog tick



Longhorned tick



Gulf Coast tick

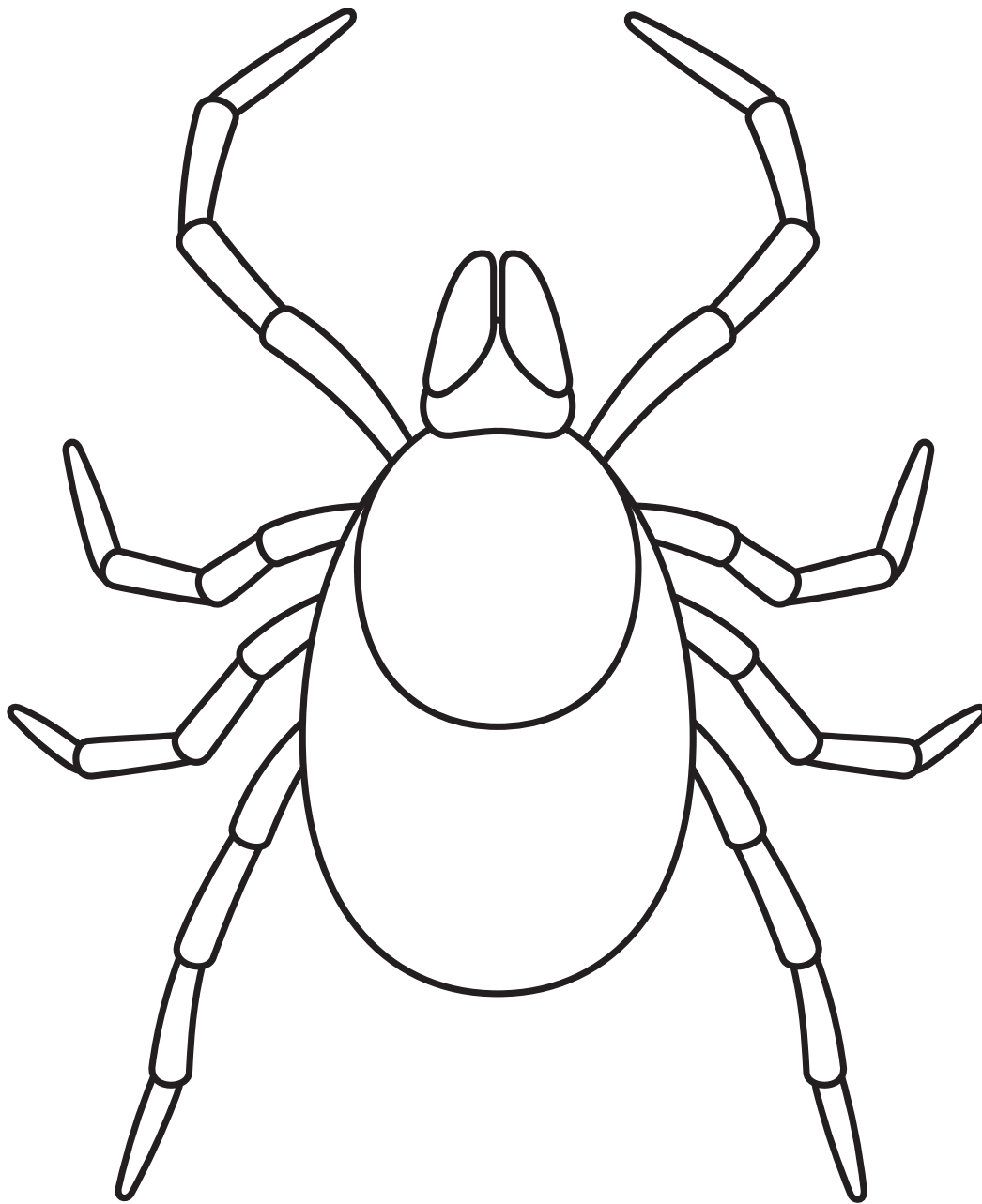


Lone star tick

How do they look the same? How do they look different?

Color the Tick!

Color in the adult female deer tick.



Why Do We Care About Ticks?

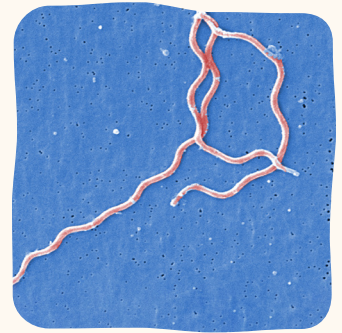
Ticks carry **bacteria** and **viruses** that can make people and animals sick if a tick bites them.

In Illinois, ticks can spread multiple diseases.

Deer/
Blacklegged
tick



Borrelia burgdorferi is a corkscrew-shaped bacteria that causes Lyme disease.



The most common disease is **Lyme disease**. Lyme disease is spread by deer ticks that attach for more than 24 hours. Lyme disease can make you feel like you have the flu. It can also cause an oval or bullseye rash called **erythema migrans** (EM, for short).



EM can be red or pink on lighter skin, but it can look brown, black, or even white on darker skin. Lyme disease can also cause arthritis, pain and swelling in your joints. If Lyme disease goes on for a long time without treatment, it can cause heart problems.

Are There Other Diseases?

Yes! In Illinois, ticks can spread multiple diseases.

Deer ticks can also spread diseases like **anaplasmosis**, **babesiosis**, and **hard tick relapsing fever (HTRF)**.



Lone star tick



American dog tick



Gulf Coast tick

Other ticks in Illinois can carry different diseases. Lone star ticks can spread **ehrlichiosis**, American dog ticks can spread **Rocky Mountain spotted fever (RMSF)**, and Gulf Coast ticks can spread ***Rickettsia parkeri* Rickettsiosis**.

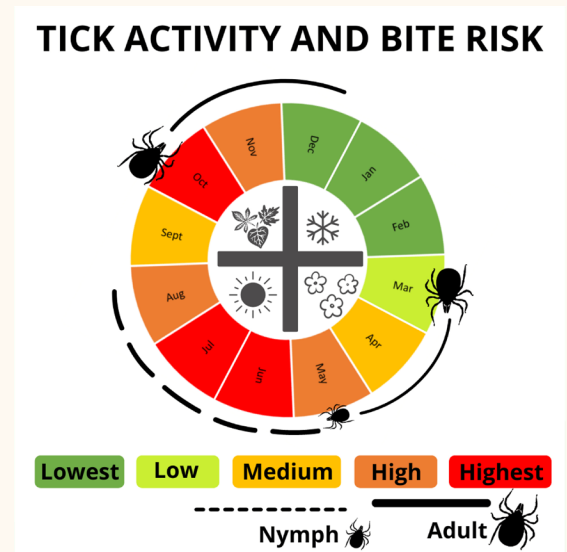
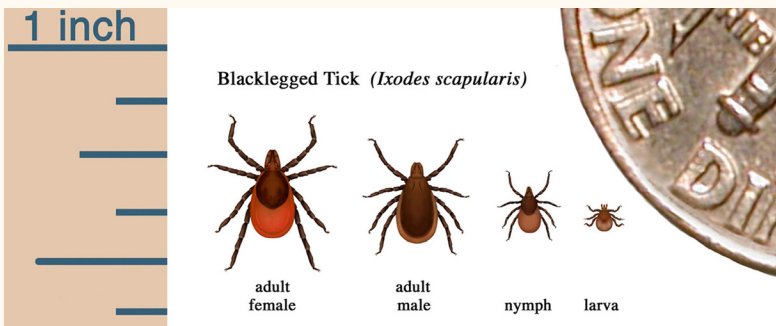
All of these diseases can make you feel like you have the flu.
RMSF can cause a rash all over your body.

Luckily, these diseases can be treated with **antibiotics** or other medicines.



What Is A Tick's Life?

Ticks have four life stages: **egg**, **larva**, **nymph**, and adult. Once they hatch from eggs, ticks must eat one blood meal at each stage before they can **molt** and move to the next life stage.



Female ticks lay about 1,500 eggs in the spring. The larvae emerge in August and have only six legs, like insects. The larvae take a blood meal and molt.

The nymphs emerge in May of the following year and have eight legs. Nymphs are active and bite people and animals in the summer months of June and July.

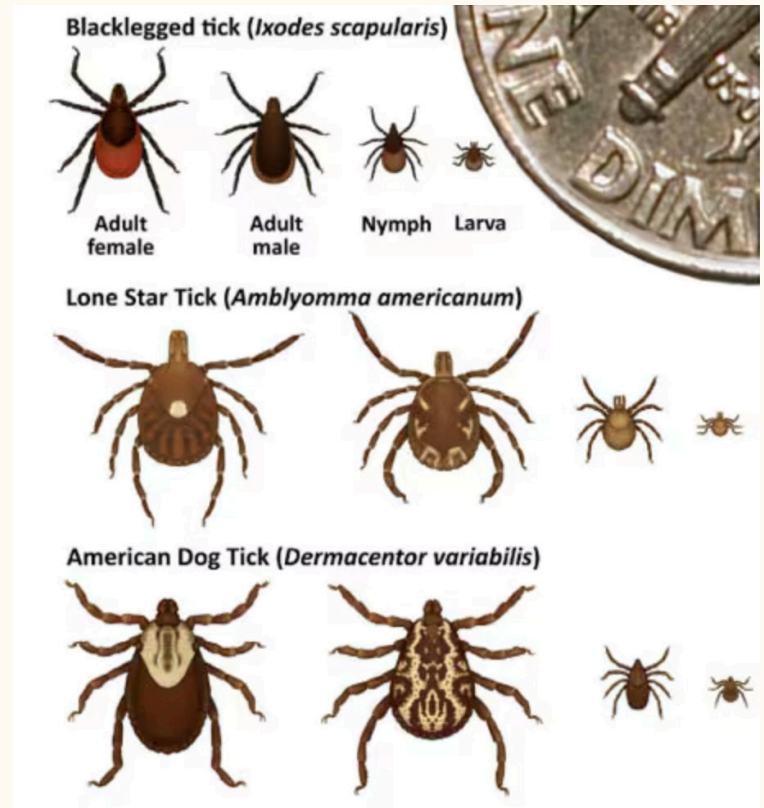
These nymphs develop into adults and become active in October. Ticks can be out anytime during the winter when the ground is not frozen.

How Big Are Ticks?

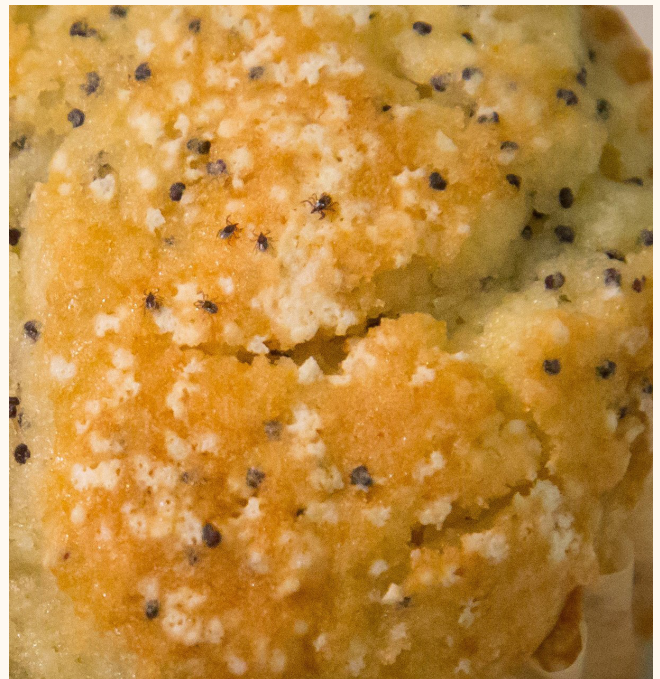
Ticks are tiny!

This is why we have so many tickborne diseases in Illinois. The ticks that attach to you are so small and hard to see that people don't always notice them unless they look for them.

Nymphal ticks are about the size of a poppy seed, and adult ticks are about the size of a sesame seed.

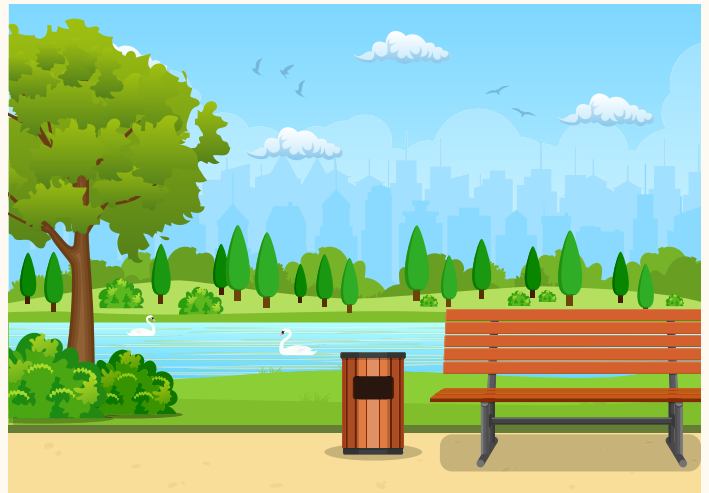


Can you find the five ticks in this picture of a poppy seed muffin?

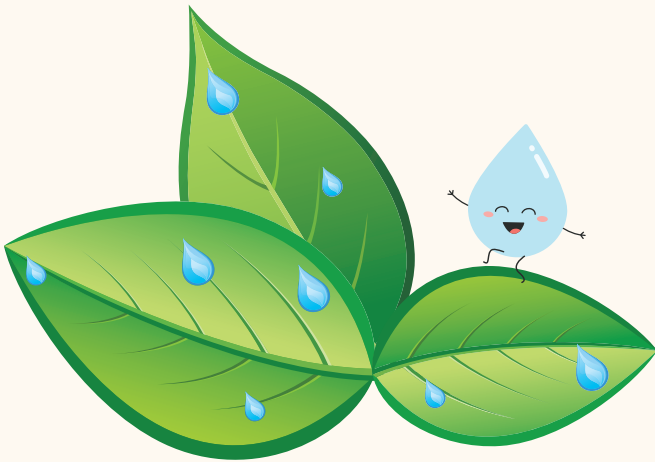


Where Do Ticks Live?

Everywhere! Ticks can be found in every area of Illinois, even in cities like Chicago. These cities have parks that attract wildlife, like mice and chipmunks that can carry ticks.



Ticks can dry out, so they like moist and humid (warm and wet) **habitats**.



Things ticks love:

- Shade
- Leaf piles
- Tall grass
- Wood piles
- Animals for food

Things ticks hate:

- Direct heat
- Water
- Short grass
- Mulch
- No food

Find The Tick Habitats

Circle the places where ticks might live in the pictures below.



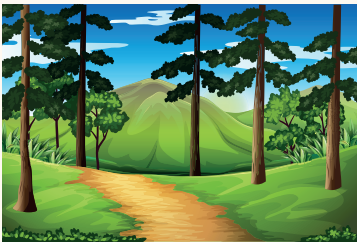
How Do I Protect Myself From Ticks?

Year-round tick bite prevention is the best defense against Lyme disease.



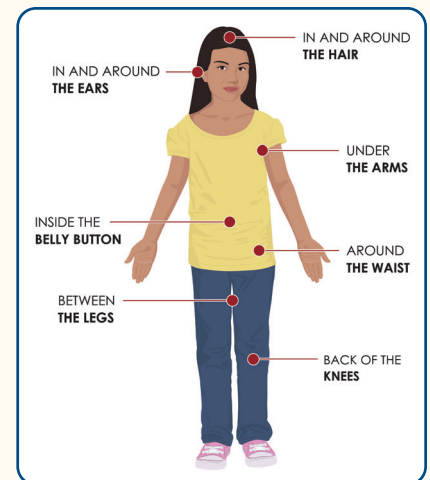
Have an adult help you put on **insect repellent** (bug spray) before you go outside. Have them find one that is registered by the U.S. EPA on this website: <https://www.epa.gov/insect-repellents/findrepellent-right-you>

Have an adult pre-treat your shoes and clothes with permethrin, a spray that lasts through many washes and can protect you for a long time. **Permethrin** kills ticks when used to treat shoes, clothes, and gear. It should not be put on the skin.



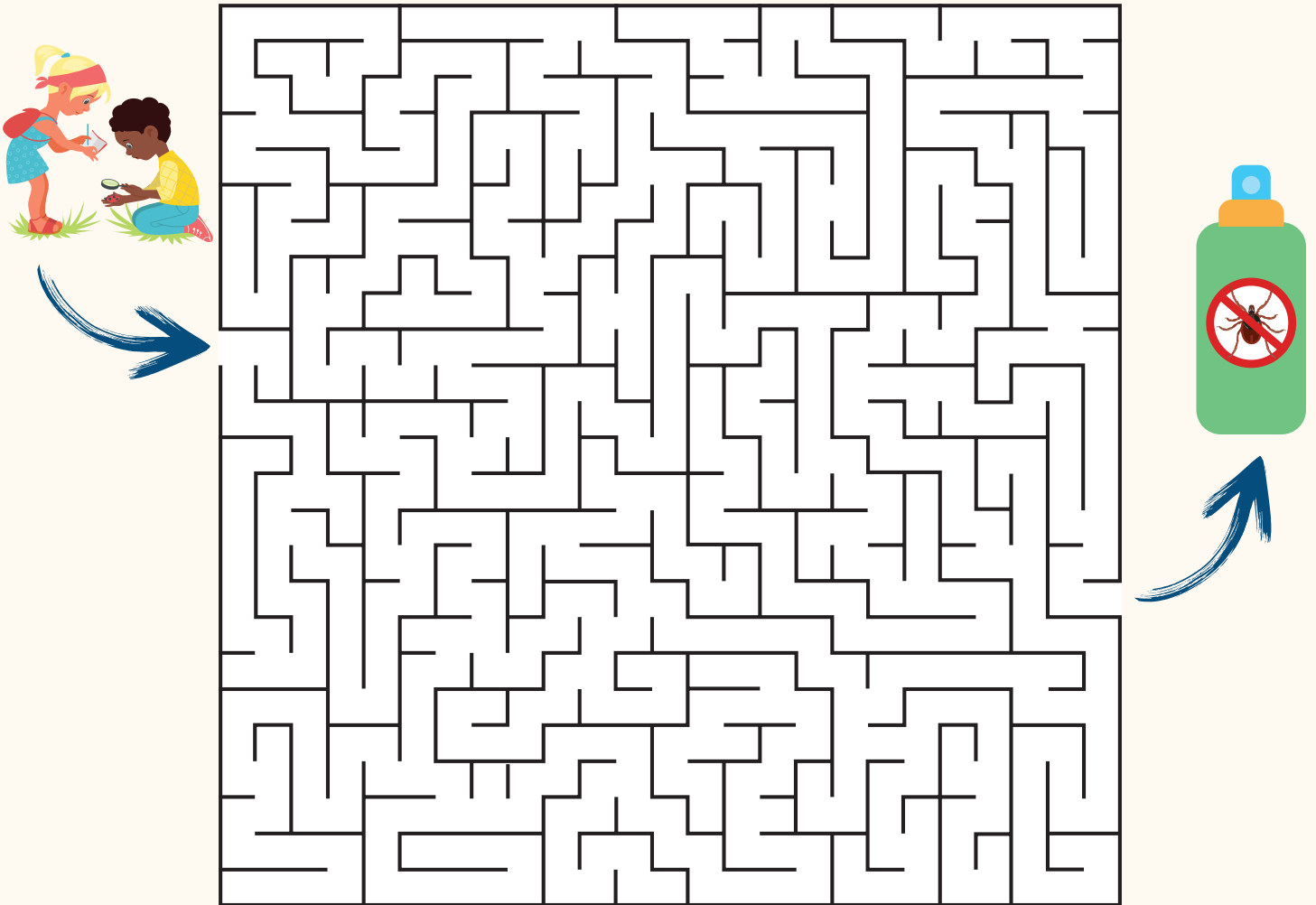
Stay in the middle of the trail in the woods and avoid tick-risky habitats (leaf piles, brush, wood piles).

Shower and check for ticks after being outside. This can help you get ticks off you before they have time to attach and eat. Be sure to have an adult help you check all the spots in the picture to the right.



Be A Protection Hero!

Can you help the kids get to their
insect repellent?



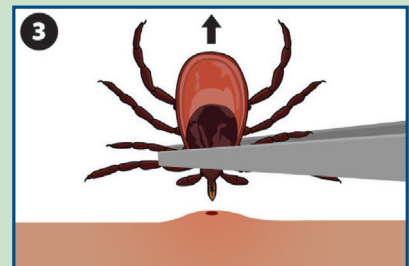
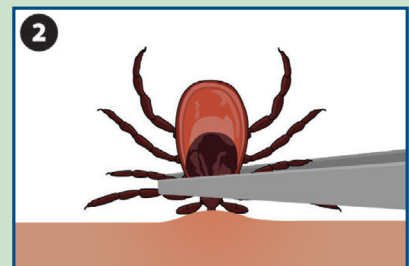
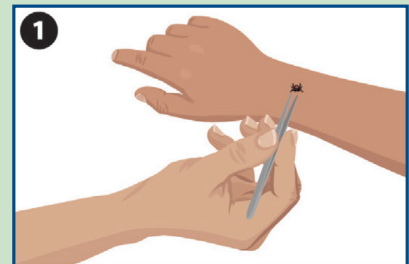
What If I Find A Tick On Me?

If you find a tick on your body, tell an adult immediately!

If the tick did not bite you, have an adult remove it.

If the tick did bite you, have the adult take it off (remove).

1. Use clean, fine-tipped tweezers to grasp the tick as close to the skin's surface as possible. Do not grasp the body of the tick.
2. Pull upward with steady, even pressure. Don't twist or jerk the tick; this can cause the mouthparts to break off and remain in the skin. If this happens, remove the mouthparts with tweezers. If you cannot remove the mouth easily with tweezers, consider contacting your health care provider.
3. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol or soap and water.
4. Never crush a tick with your fingers. Dispose of a live tick by putting it in alcohol, in a sealed bag/container, or wrapping it tightly in tape. Consider saving the tick in a bag for identification.
5. Note the person's name, date, bite site, and estimated tick attachment duration.
6. Consult a health care provider if a rash, fever, or flu-like symptoms develop within several weeks of tick removal.



Can You Find The Tick Detective Words?

Words can be:

forward →

vertical ↓

diagonal ↘ ↗

E	B	G	B	F	A	D	U	L	T	C	Q	H	E	R	J	V	E	M	S
U	R	A	U	Y	C	I	C	R	B	J	S	T	N	P	O	Y	R	D	V
R	U	R	I	K	R	R	A	A	H	A	Q	O	S	W	E	N	E	O	C
F	S	D	M	R	E	Q	R	E	R	J	Q	L	W	S	C	E	M	H	H
F	H	E	O	J	Z	Z	A	B	Y	T	W	T	L	M	W	E	O	W	N
B	Z	N	B	M	Y	K	C	O	I	R	H	L	B	S	T	X	V	J	J
Y	L	X	R	O	E	T	H	G	F	H	U	R	L	S	H	G	E	S	T
P	I	A	Q	H	S	B	N	Q	D	B	L	V	O	W	U	R	R	T	E
Z	F	L	C	O	C	I	I	Y	E	O	F	Y	O	P	R	O	U	I	J
C	B	O	H	K	T	J	D	S	E	E	P	T	D	I	O	P	Q	B	H
B	S	A	U	N	L	P	G	Y	R	S	Y	O	I	D	D	D	E	A	S
Z	J	W	U	C	H	E	C	K	E	E	H	P	T	C	J	G	J	C	E
V	N	H	E	F	O	R	G	V	R	U	P	U	K	X	K	R	X	A	N
P	D	X	Y	C	S	M	A	G	O	V	O	E	H	B	A	A	R	M	X
W	L	A	R	V	A	E	H	X	E	D	L	D	L	J	I	S	E	P	D
A	G	W	K	V	L	T	I	D	Q	D	X	T	G	L	B	S	L	I	Y
V	R	N	Y	M	P	H	K	E	Q	I	P	R	E	V	E	N	T	N	P
C	L	O	O	D	G	R	I	E	U	U	O	P	C	O	I	N	U	G	Y
N	D	R	I	X	H	I	N	T	F	P	O	K	Q	U	K	W	T	V	W
Q	F	I	S	H	I	N	G	Y	M	E	B	I	K	Z	U	X	F	T	V

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ADULT
BLACKLEGGED
BULLSEYE
DEER
FISHING
HIKING
LARVAE
OUTDOORS
RASH
SHRUBS

ARACHNID
BLOOD
CAMPING
DEET
GARDEN
HOST
LEAVES
PERMETHRIN
REMOVE
TICK

ARTHROPOD
BRUSH
CHECK
FARM
GRASS
HUNTING
NYMPH
PREVENT
REPELLENT
WEEDS

Glossary

Arthropod: An animal with no backbone and a hard outside covering called an exoskeleton.

Arachnid: An arthropod of the class Arachnida, such as a spider or scorpion.

Parasite: A living thing which lives in or on another living thing.

Host: A living plant or animal on which a parasite lives.

Species: A category of living things that ranks below a genus, is made up of related individuals able to produce fertile offspring and is identified by a two-part scientific name.

Deer tick: A type of tick commonly found in Illinois and also known as blacklegged tick.

Blacklegged tick: A type of tick commonly found in Illinois. Also known as a deer tick.

Bacteria: A tiny single-celled organism (living thing) that can sometimes make people and animals sick.

Virus: A very tiny organism that can only live and reproduce inside another living cell and can make people and animals sick.

Glossary

Lyme disease: A serious disease that is caused by a bacterium transmitted by some ticks.

Erythema migrans: An oval or bullseye- shaped rash caused by Lyme disease.

Anaplasmosis: A disease caused by a bacterium transmitted by some ticks.

Babesiosis: A disease caused by a parasite transmitted by some ticks.

Hard tick relapsing fever: A disease caused by a bacterium transmitted by some ticks.

Ehrlichiosis: A disease caused by a bacterium transmitted by some ticks.

Rocky Mountain spotted fever: A disease caused by a bacterium transmitted by some ticks.

***Rickettsia parkeri* Rickettsiosis:** A disease caused by a bacterium transmitted by some ticks.

Glossary

Antibiotic: A medicine used to treat illnesses and infections caused by bacteria or tiny organisms.

Egg: The first stage in the life cycle of ticks, which are laid by female ticks in clusters.

Larva: An active immature form of a tick. Tick larvae have six legs.

Nymph: An active immature form of a tick. Nymphal ticks have eight legs.

Molt: The shedding of the exoskeleton (shell) to let the tick grow.

Habitat: The natural home or environment of an animal, plant, or another living thing.

Insect Repellent: A substance that deters insects or other pests from approaching or crawling on people or animals.

Permethrin: A chemical spray used on clothes and gear that kills ticks and mosquitoes.

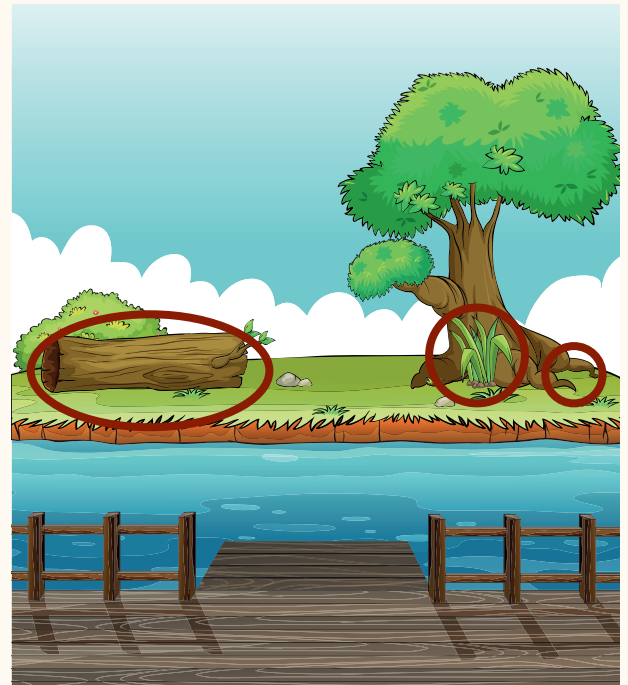
Puzzle Answers

Can you find the five ticks in this picture of a poppy seed muffin?
(Page 7)



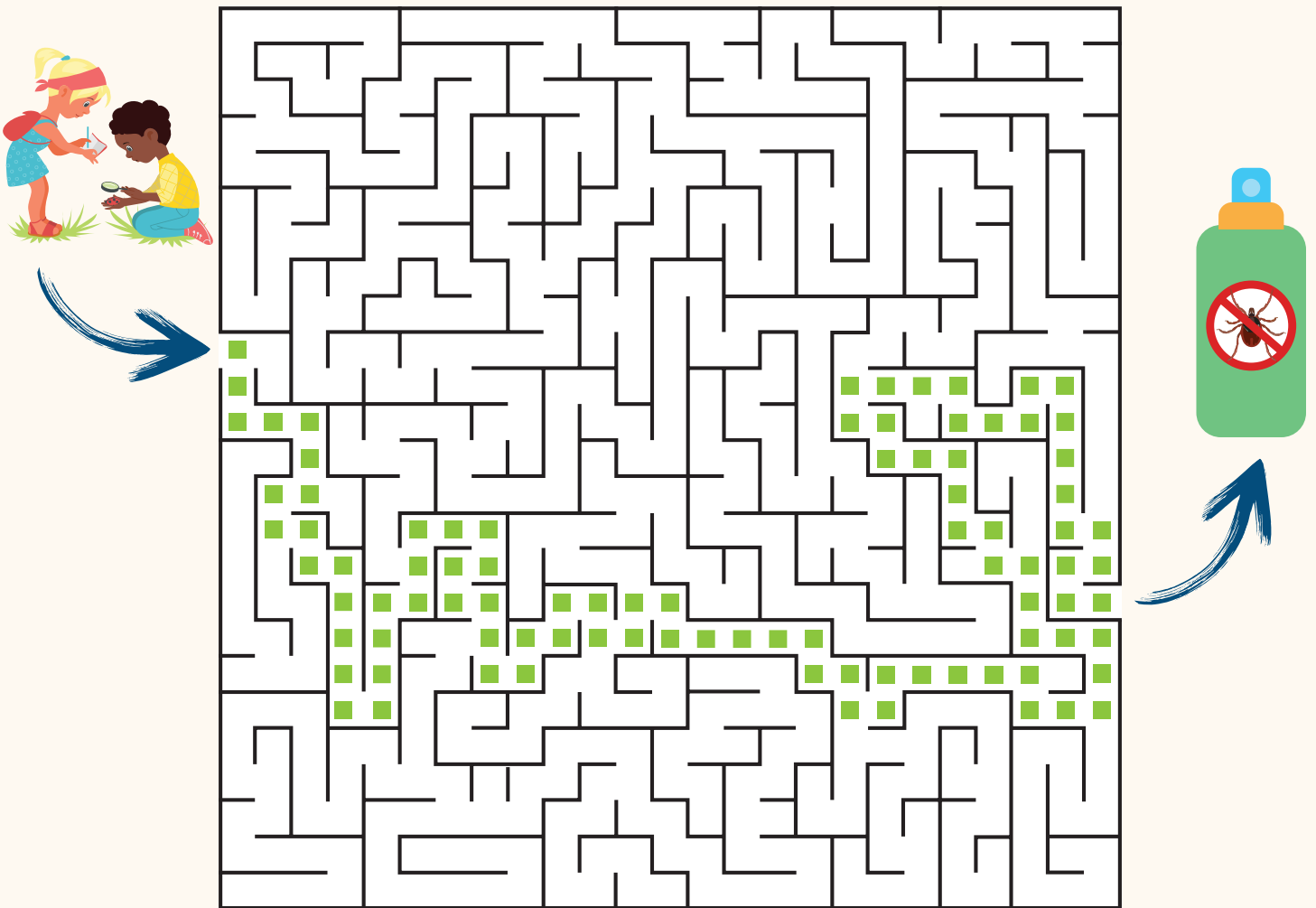
Puzzle Answers

Circle the places where ticks might live in the pictures below.
(Page 9)



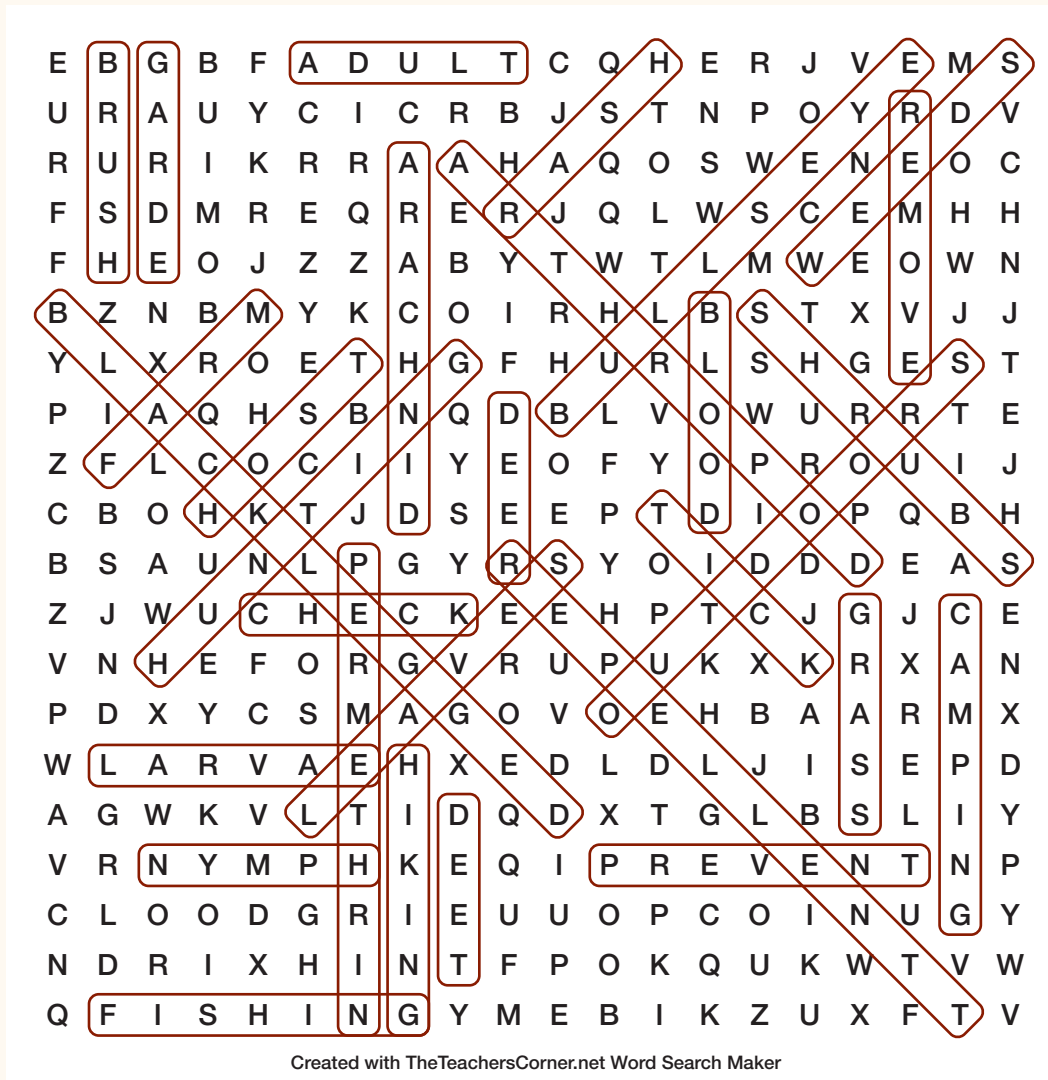
Puzzle Answers

Can you help the kids get to their insect repellent? (Page 11)



Puzzle Answers

Can you find the tick detective words? (Page 13)



ADULT
BLACKLEGGED
BULLSEYE
DEER
FISHING
HIKING
LARVAE
OUTDOORS
RASH
SHRUBS

ARACHNID
BLOOD
CAMPING
DEET
GARDEN
HOST
LEAVES
PERMETHRIN
REMOVE
TICK

ARTHROPOD
BRUSH
CHECK
FARM
GRASS
HUNTING
NYMPH
PREVENT
REPELLENT
WEEDS



Adapted from the Pennsylvania Department of Health's PA Tick Detective Workbook



<https://dph.illinois.gov/ticks>