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## UK entomology student recording, evaluating state's tick population



Female versions of the most common ticks found in Kentucky are from left: the American dog tick, the lone star tick and the blacklegged tick.  
(Photos courtesy of Anna Pasternak, UK entomology graduate student)

Ticks are a concern for anyone who spends a significant amount of time outdoors. A University of Kentucky entomology graduate student is collecting ticks from across Kentucky to determine the make-up of the state's tick population.

Anna Pasternak, a student in the UK College of Agriculture, Food and Environment, is gathering information for the new Kentucky Tick Surveillance Program. She is conducting the program in partnership with the Kentucky Department of Public Health. The program will provide insights into the ticks found in the state and will give UK entomologists, public health professionals, government officials and other stakeholders valuable information to help them prepare for new tick species entering the state and find ways to minimize the effects of tick-borne diseases.

"With our many forests, humidity and large deer population, Kentucky provides an ideal environment for many tick species," said Jonathan Larson, UK extension entomologist and a member of Pasternak's master's degree advisory committee. "Anna's survey will give us a good picture of the types of ticks that are out there, so we can minimize their effects."

Since she began her

graduate degree program in January 2019, Pasternak has cataloged more than 2,700 ticks from across Kentucky. Before her survey, only 36 counties had any type of tick-related data. Now, more than 90 counties have some information about the ticks in their area. In 2019, Pasternak collected ticks from public areas from April through September, the time when ticks are the most active. She is doing so again this year. She also accepts submissions from Kentucky veterinarians and UK Cooperative Extension Service agents.

"Within the past year, the most common ticks found in Kentucky are the lone star tick, blacklegged tick and the American dog tick. All are vectors of human diseases," Pasternak said. "These ticks and their pathogens are established throughout the state."

Fortunately, only a small percentage of these ticks transmit diseases. Most bites are an itchy nuisance that last between seven and 10 days.

Thus far, the lone star tick has been the most common tick in Pasternak's survey. Female lone star ticks have a white spot on their backs, while males are a reddish-brown. Lone star ticks are vectors of human ehrlichiosis, a bacterial disease and alpha-gal syndrome,

known as the "red meat allergy." All developmental stages of the tick will feed on humans, and unlike other tick species that lay in wait for a host, lone star ticks actively seek out a blood meal.

The blacklegged tick is the only species that tends to be active year-round, and it is the only vector of Lyme disease. Blacklegged ticks have a reddish-brown body, dark head, long mouthparts and dark legs. Males have a dark plate that covers their whole body, while females have a dark plate that only covers half of their body.

The American dog tick is the primary vector of Rocky Mountain spotted fever. It is reddish brown with mottled white markings on its back. Only adult American dog ticks feed on humans.

"For Lyme disease and Rocky Mountain spotted fever to transmit to humans, ticks have to be attached to a person for several hours. That's why it's important for people to check themselves for ticks every few hours while outside and especially on areas of their body where ticks are commonly found like the behind the ears, hair, neck, legs and around the waist," Larson said. "Prompt tick removal using fine-tipped tweezers can significantly lower a person's risk for getting a

tick-related disease."

Members of the public interested in submitting ticks to Pasternak for inclusion in the Kentucky Tick Surveillance Program should contact the UK Cooperative Extension Service to learn how to submit samples during the COVID-19 pandemic.

Additional information on tick bite prevention and proper tick removal is available in UK entomology's ENTFACT 618: Ticks and Disease in Kentucky. It is available online at <https://entomology.ca.uky.edu/ef618> or by contacting the Estill County Extension office at 723-4557.

**In this time of social distancing and more time at home, UK Cooperative Extension will offer a weekly online newsletter called "Healthy at Home" that has timely tips for the whole family. Some topics covered are managing stress, boredom busters, and online shopping tips. We invite you to view each edition at the following internet address <https://extension.ca.uky.edu/healthy-home-newsletter>. For a hard copy, contact us and we will mail you one.**

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## Wishing Well®

6	2	7	2	6	4	2	5	2	7	8	4	3
S	S	H	U	O	A	C	B	C	A	Y	B	D
5	2	3	5	4	5	4	2	4	3	8	6	3
E	E	I	C	I	A	L	S	I	S	O	F	P
7	5	6	2	6	2	3	5	4	7	4	3	4
R	U	T	S	H	C	E	T	T	M	I	L	E
8	4	6	8	7	8	7	3	2	3	7	3	6
U	S	E	W	O	I	N	I	L	L	Y	L	A
8	7	8	5	2	4	2	8	6	4	6	3	2
L	A	L	I	O	E	S	E	R	N	T	U	E
6	8	2	6	3	5	4	3	8	4	8	2	5
E	X	B	D	S	O	H	I	C	A	E	Y	U
8	5	4	7	4	3	7	4	7	4	7	3	7
L	S	N	T	C	O	H	E	O	D	M	N	E

HERE IS A PLEASANT LITTLE GAME that will give you a message every day. It's a numerical puzzle designed to spell out your fortune. Count the letters in your first name. If the number of letters is 6 or more, subtract 4. If the number is less than 6, add 3. The result is your key number. Start at the upper left-hand corner and check one of your key numbers, left to right. Then read the message the letters under the checked figures give you.

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## CryptoQuip

This is a simple substitution cipher in which each letter used stands for another. If you think that X equals O, it will equal O throughout the puzzle. Solution is accomplished by trial and error.

Clue: O equals P

ZC UTJ OXJOWX YBX GXNYUZVQ UDX

RXBZUI JC UDXBRJIUYUI, TJSWG ZU

NX Y DXYUXG YBQSRXVU?

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## CryptoQuote

AXYDLBAAXR  
is LONGFELLOW

One letter stands for another. In this sample, A is used for the three L's, X for the two O's, etc. Single letters, apostrophes, the length and formation of the words are all hints. Each week the code letters are different.

DY UIF'GP OIZPIEP SPISAP

VIFEB IE, SRGBDVFARGAU DE

WDYYDVFAB ZIZPEBO, BCRB'O

R ODME IY R ADYP ADXPW

CIEIGRKAU. — GRVCPA ZRWWIN

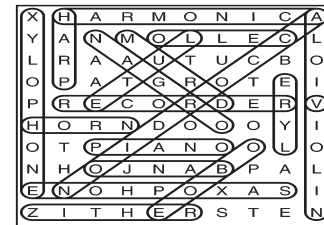
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## Puzzle Answers

April 15, 2020

### Puzzles4Kids

Answer



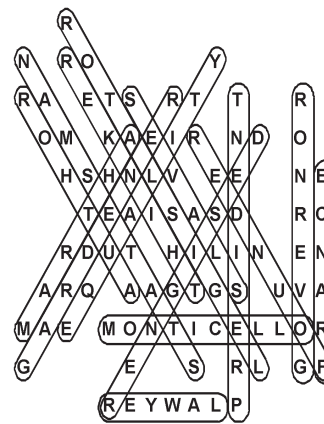
Riddle Answer:  
A tuba toothpaste.

### Weekly SUDOKU

Answer

1	7	4	5	8	3	2	9	6
5	3	2	9	5	7	8	4	1
9	8	6	4	2	1	7	5	3
7	2	5	1	3	6	9	8	4
6	9	3	8	7	4	1	2	5
8	4	1	2	5	9	6	3	7
3	6	9	7	4	8	5	1	2
4	5	8	6	1	2	3	7	9
2	1	7	3	9	5	4	6	8

### THOMAS JEFFERSON



### FEAR & KNOT



### Even Exchange

answers

- Onion, Orion
- Lament, Latent
- Silly, Sally
- Falter, Filter
- Wager, Water
- Pillow, Willow
- Think, Thing
- Hangar, Hanger
- Patch, Pitch
- Bubble, Bumble

### King Crossword

Answers

Solution time: 27 mins.



### Letter Box

Solution

T	X	C	A	E	L	B	O	M
M	L	O	B	T	X	C	E	A
A	B	E	C	O	M	X	L	T
X	L	E	M	O	B	T	A	C
L	A	T	E	X	C	O	M	B
C	O	B	M	L	A	T	X	E
O	T	X	L	A	E	M	B	C
E	C	A	X	M	B	L	T	O
B	M	L	T	C	O	E	A	X

### CryptoQuip

answer

If two people are debating the merits of thermostats, would it be a heated argument?

### CryptoQuote

answer

If you're someone people count on, particularly in difficult moments, that's a sign of a life lived honorably.  
— Rachel Maddow

### Bible Trivia Answers

"Test Your Bible Knowledge," with 1,206 multiple-choice questions by columnist Wilson Casey, is available in bookstores and online.

ANSWERS (1 New; 2) Zechariah; (3) Micah; (4) Foxes; (5) Isalah; (6) Jacob

## The Garden Bug

**Common blue violet**

This modest wildflower is native to many areas in the central and eastern United States. It favors shady woods, thickets, streambanks and small nooks in home gardens. It shows off its delicate blue-violet blossoms on thin stems from late March or April until the heat of summer intensifies in July and August.

Source: plants.usda.gov

## Birding BITS

BY Cindy Brook

**Easy Clean**

When I purchase a bird feeder, it's important that it can be easily cleaned, meaning it shouldn't have a zillion pieces to take apart and put back together. Right now, my favorites are tray feeders. I just hose them off and air dry. Simple! And birds love tray feeders!

E-mail: [birdingbits@gl.rr.com](mailto:birdingbits@gl.rr.com)  
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