

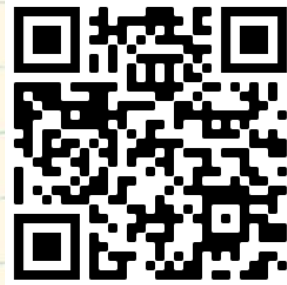
WE NEED YOUR HELP!



We are glad to provide these materials for free. In order for us to continue receiving funding for new materials, we need to collect information on how they are used.

Thank you for taking the time to answer the following one-minute survey.

There are three ways to complete the survey:



- 1** Scan this code with your smartphone camera
- 2** Type the following link into your web browser:
<https://plantheroes.org/educator-survey>
- 3** Email your answers to:
plantheroes@publicgardens.org



- 1) Job title
- 2) Name of organization you belong to
- 3) What kind of educator are you?
 - Teacher
 - Summer camp counselor
 - Home schooler
 - Public garden educator
 - Informal educator
 - Other (please describe)
- 4) What grade level do you teach?
 - Elementary (K-5)
 - Middle School (6-8)
 - High School (9-12)
 - Other (please describe)
- 5) Specify what subject area you teach:
 - Science
 - Math
 - Language Arts
 - Social Studies
 - Other (please describe)
- 6) How many students do you teach in a school year?



Help the Plant Heroes protect our forests
by slowing the spread of pests and diseases!

INSECT | RED IMPORTED FIRE ANT

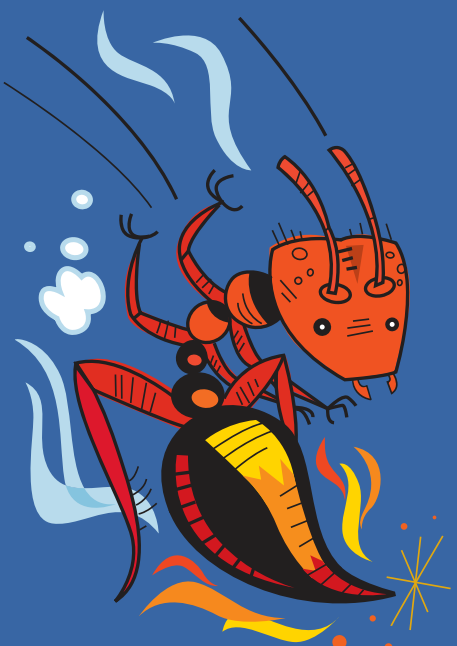
PLANTHEROES.ORG
ADVANCED
ACTIVITY
BOOK



Laura Wilkins



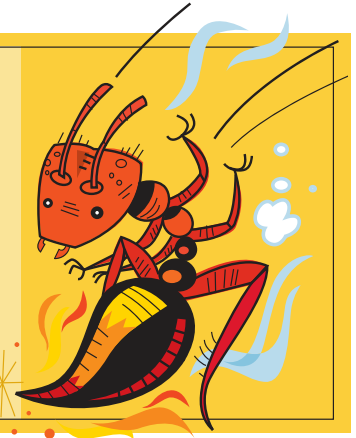
BE A PLANT HERO!
Help Laura slow
the spread of the
Red Imported Fire Ant!



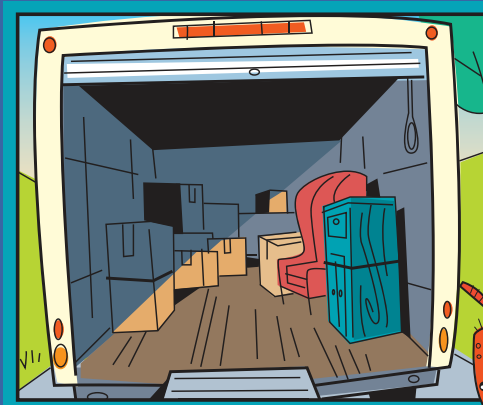
Plant
Protection
Program

AMERICAN PUBLIC GARDENS ASSOCIATION

ANTS in your PLANTS!



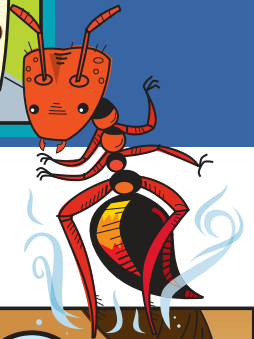
Laura has been helping her family get ready for some big changes. Her grandparents are ready to escape the sticky summers of the southeast and are moving to a retirement community in Arizona. Laura's parents are going to take over their old house on the coast of Georgia.



It's moving day, and they finally finish loading up the truck with her grandparents' belongings. There's still a little room at the back!



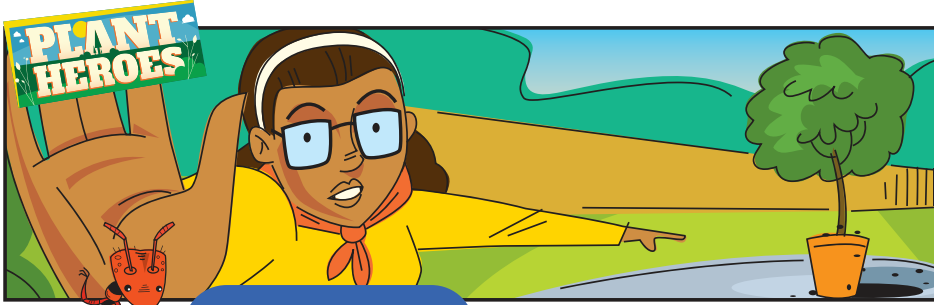
Laura's grandma says she'd like to bring a few of her patio plants to liven up the new place, so they go around to the back patio and pick out a few of her favorites.



As Laura bends down to pick up the first plant, she notices a lot of ants crawling around the base of the pot.

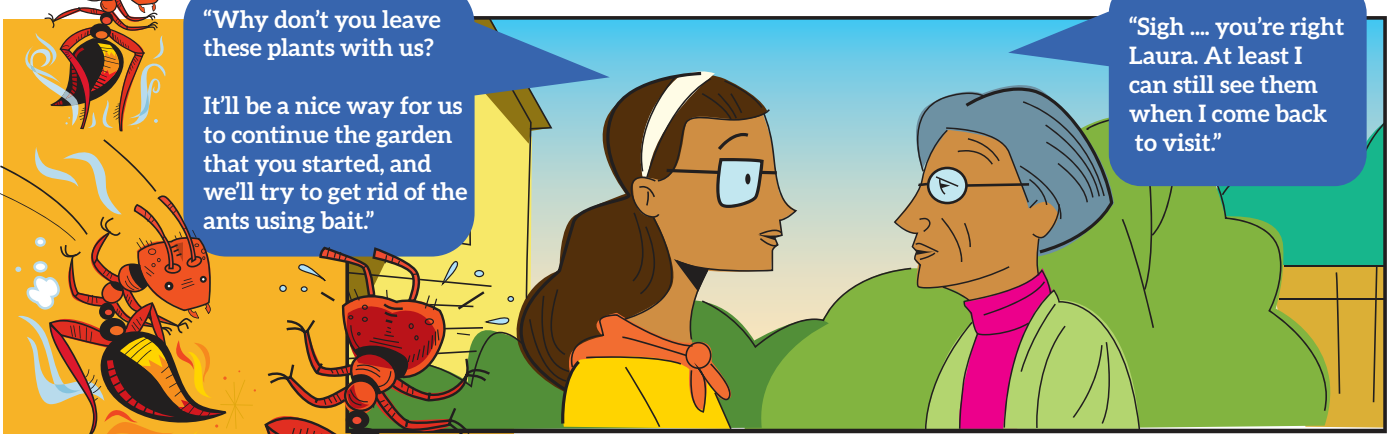


Just then, she remembers when she got badly stung by fire ants here as a kid.



WAIT!!

We don't want anyone to get stung and you definitely don't want to introduce this pest to your new home!



"Why don't you leave these plants with us?"

It'll be a nice way for us to continue the garden that you started, and we'll try to get rid of the ants using bait."

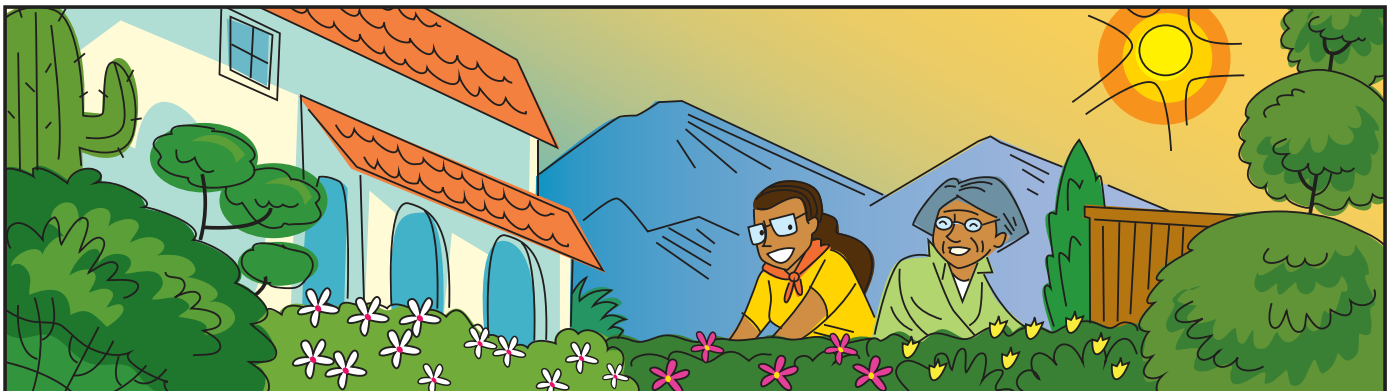
"Sigh you're right Laura. At least I can still see them when I come back to visit."

A few months later...

Laura's family spends the next winter break with her grandparents. They're settled into their new place, so Laura and her grandma go shopping for some new plants.



While talking with the nursery owner, they learned that red imported fire ants hadn't been found in Arizona yet. Later that day, Laura and her grandma start planting the new garden together, thankful that they weren't the first to introduce fire ants into the state!



The Plant Heroes are brought to you by the American Public Gardens Association. This comic was developed with financial support from the USDA – Animal and Plant Health Inspection Service and reproduced with financial support from the USDA – Forest Service. Play games and learn how you can protect plants at plantheroes.org.

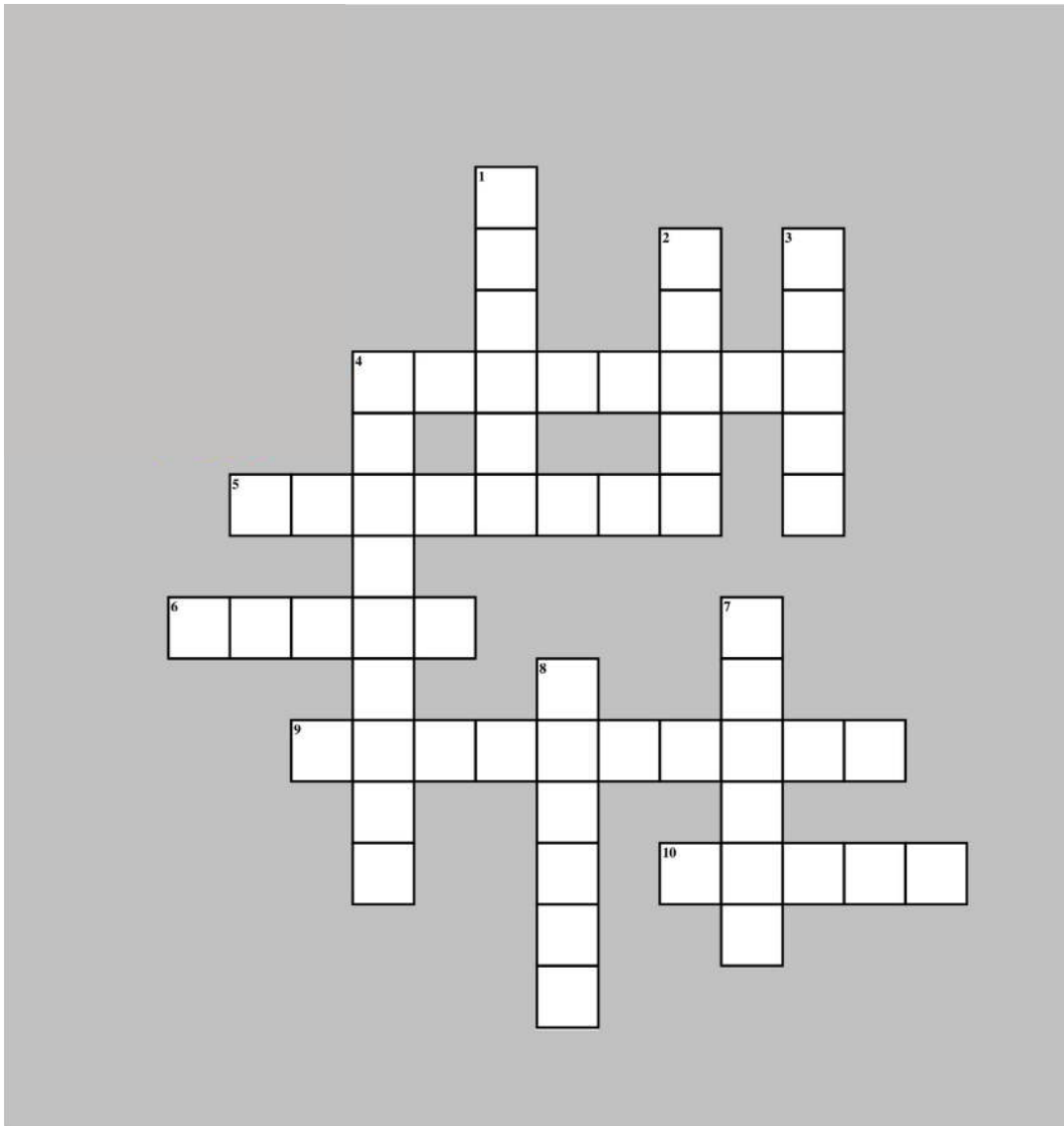




Name _____

Date _____

**Complete the red imported fire ant crossword puzzle.
Look on the next page for word clues!**



**CROPS
OMNIVORE
BIOCONTROL**

**QUEEN
STINGS
WORKER**

**COLONY
INFESTED
OFFSPRING**

**BROOD
PESTS**



GAMES!
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PLANT HEROES

ACROSS

- 4 An organism that eats a variety of food that comes from both plants and animals. The red imported fire ant is an example.
- 5 An area is said to be _____ when red imported fire ants are present in large numbers and causing damage.
- 6 Plants that are grown for the purpose of food production, often grains, fruits, and vegetables. The red imported fire ant threatens many of these.
- 9 A reduction in pest numbers caused by natural enemies. Usually, humans play an active role in this by introducing predators, parasitoids, or pathogens to attack the pest needing to be controlled.
- 10 Organisms that are harmful or destructive, such as certain insects to certain crops.



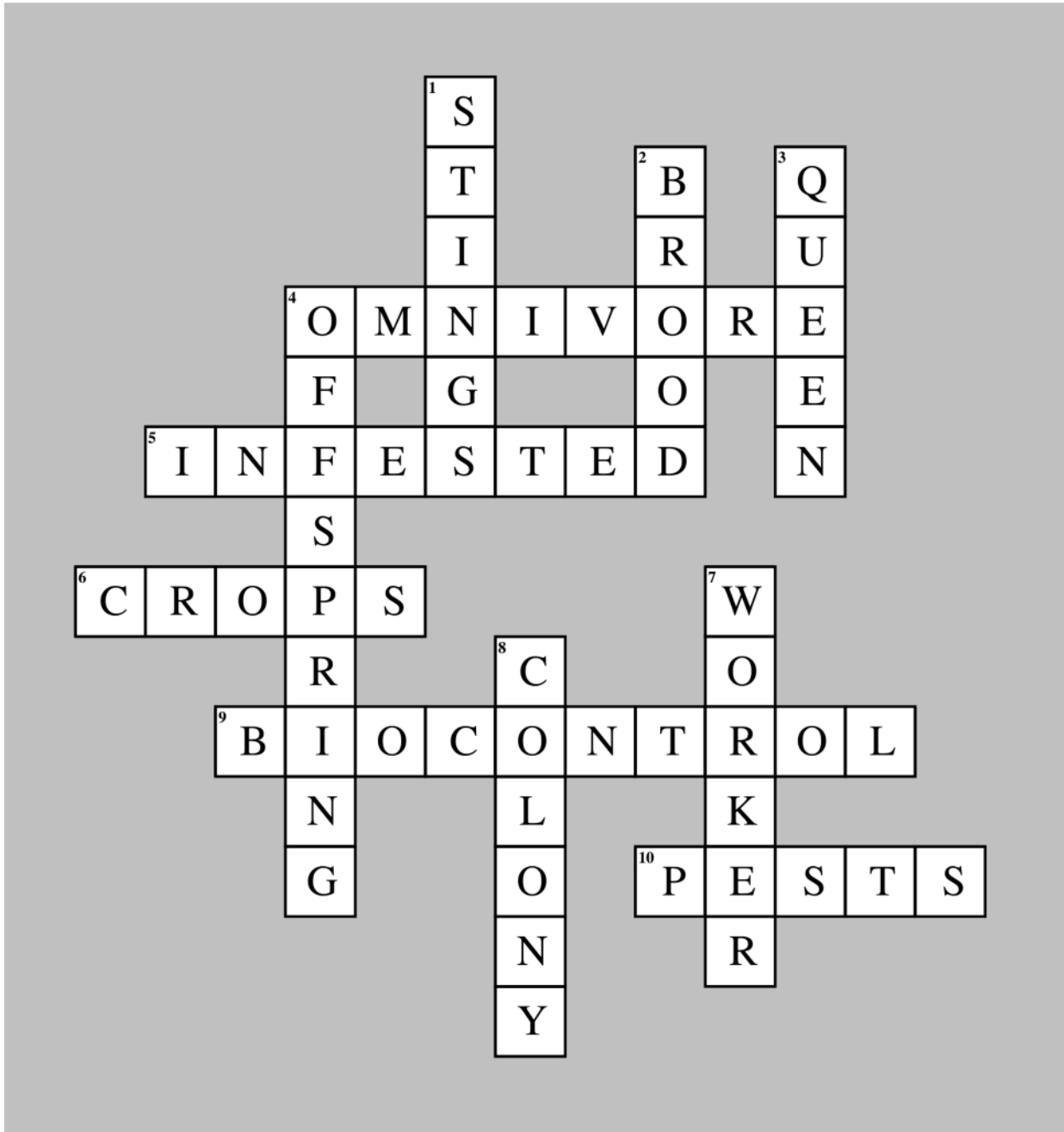
Photo: Bart Drees, www.bugmugs.org

DOWN

- 1 These are caused by the needle-like organ at the tip of a red imported fire ant's abdomen, through which they inject venom into their victims. Ouch!
- 2 The collection of young insects in a colony, made up of eggs and larvae.
- 3 An adult female insect (often an ant, bee, or termite) that is capable of laying eggs
- 4 The babies, or young, that come from a particular parent organism.
- 7 A member of an insect colony, usually a female that cannot lay eggs, that does specialized work for the colony, such as caring for brood, building and maintaining the nest, and collecting food.
- 8 A collection of several individual organisms, normally of the same species, that live very close together.

Red imported fire ants often build their nests among the roots of plants. In orchards, they can damage fruit and nut trees and pose a hazard to field laborers.

Answer Key





Name _____

Date _____

Red Imported Fire Ant

Complete the maze and then find the words. The words can only be found along your maze path.

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

B	S							H			J											U
E	G							H			H											A
F	V							O			O											Q
I	D	PLPCFGPUNJIKJYVBU						N	E	P	K	UFTYP		BEXYS								C
W	R	I					G	H		O	M		N	W	I							R
Q	O	F					Y	G		S	Y		P	L	T							O
P	P	N					V	Q		C	X		G	I	G							P
Y	O	S	MVXOTQSPY				U	DQAKDTHMJ			KLXJY		A	V	V							S
D	C		K				C	H	B			U	N	E	F							
W	X		G				S	M	B		G		T	S	W							
X	E		B				Y	S	R		Q		S	T	M							
K	HVHLLXJRQ						H	D	V	O	OJELIMPORTEDK		O	O	Q							B
			B				C	S	O			H		C								C
END			N				W	J	D			T		K								W
			L				D	E	O			A		V								Q
	TDKLU		W				VOTHMOSJHRMFC				MWBITENHDLGWG		TIWOHRDIE		TGCJM							
	U	L	S				F	D			B	T		F	J	C						
	R	E	T				F	I			O	A		G	V	A						
	Q	V	F				A	N			X	C		S	G	G						
	F	E	B				F	QBQNWHPKGF			EFU	FKXMIGMSDV		K	NSDPW	H	B					
	P	N	A				X				O		U		E	J	P					
	C	O	M				P				S		C		P	R	H	U				
	E	M	C				Q				V		D		J	I	Q	P				
	D	I	AUOMNIVORESJC					A	S	U	X	LVC	GP		T	I	C	U				
	A							P			D		F		D			Y				
	N							G			L		U		B			A				
	R							G			U		R		V			C				
	PRFVDIDAMAGEOIDHJLSPESTS							UWUDNCKBLFXHLRVEPR			DD	BVKOLKESNJLEUQXJN										

Find and circle these words:

VENOM
CROPS
OMNIVORE

BITE
IMPORTED
DAMAGE

ANTS
BROOD
PESTS

LIVESTOCK
EGGS
ATTACK



GAMES!
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Name _____

Date _____

Find each of the following words.

**CROPS
INVASIVE
STINGS**

**COLONY
PESTS
OMNIVORE**

**WORKER
BIOCONTROL
INFESTED**

**OFFSPRING
BROOD
QUEEN**

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



GAMES!

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Name _____

Date _____

Red Imported Fire Ant

Oh no! The letters from 12 words have been curved and hidden in the puzzle. A curved word may start anywhere and can then move in any direction. Once a word has used a square in the puzzle, that word may not re-use the same square, but the square can be re-used for different words.

One word has already been found for you!

I	U	B	R	C	N	T	R	V	T	I	R	O	O	G	I	T
K	I	O	V	N	R	O	S	E	B	A	G	E	U	S	C	M
S	V	L	Q	E	O	E	P	P	A	R	T	L	G	D	S	I
V	E	V	D	I	M	R	C	T	I	S	I	U	T	A	B	T
S	M	U	K	N	P	D	T	V	D	P	U	A	T	S	N	A
S	T	C	C	C	E	G	R	B	L	I	M	L	D	S	E	C
U	O	C	R	B	N	D	G	U	A	S	O	P	V	M	D	P
B	S	A	A	D	U	G	S	N	G	N	T	N	S	A	M	L
I	M	B	T	A	A	C	G	I	C	E	M	O	D	I	A	E
A	L	M	N	T	G	P	B	T	A	E	R	N	U	P	C	G
M	T	L	B	A	O	I	K	C	E	V	T	O	L	K	E	A
A	S	G	C	O	M	R	U	R	D	D	K	V	M	V	C	D
P	E	K	K	K	S	P	O	M	K	S	E	R	P	N	V	T
O	L	R	O	G	E	T	P	R	O	E	B	N	L	G	N	E
T	V	A	E	V	G	E	C	P	B	L	C	B	K	O	T	D
T	L	S	D	I	L	V	K	O	B	V	P	U	S	L	R	O
N	I	B	N	L	E	D	D	T	M	K	E	R	I	M	P	E

Find and draw a line through these words:

~~BITE~~
EGGS
VENOM

IMPORTED
BROOD
ANTS

DAMAGE
ATTACK
PESTS

CROPS
OMNIVORE
LIVESTOCK



GAMES!

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Name _____

Date _____

Complete the maze and then find the words. The words can only be found along your maze path.

START

```

VFXNCLR KTHNCFKLPNMNUQAQDNSFEWMJOBBSDRRQMFWPBJUMBQXVGBLGUUPANMFOHEOFFSPRINGCDAIC
M O H V B C A
K D O R D T
J TBIKAHCMRN GBAWDMW B P Q P A NWRFS YXSFUUA EKBIOCONTROLWPESTSQJUT
Y J I I W N J C O O M
I I L W T B S Q J I R
N SFLS E W Y NRGVVPDWHVHSRFTULMNMJ DBPTVIDOUI SLDC QGTMSYYRYJ R GPYONWJ
X M K K W C W K S T K X
IQGR K R ROBITUW TMUNUTM O XSDDNGR E W EKDINMD OVMG BUFY N QRBJTQP
F O L G C H J B Y J P O Y H R
P N N M P K L X F L L M H B I I
C I NKOU QXNX F OFLNIIG YYTQ R GEWENFS E Y PMJE PITJ K NDVI Y K A
B W K K M Q T F Y Q W H U F Y K
Q A I X H D B A P N J G S K D
N GKMP FXBR TGXTMDH CFVP RIVSFCJYVIKPPNAILKB DPNU I RQBIFUA L YPAI H Q
R C Q B W R G N T C L T K Y W X
B P L K R J Y G J F C H M H Y N
J U MRQI UODQ U MLFL MBROODD Q GXBH A OTHB OADNWUR A N L OJSW ING
C G U Q L H E Q D S W U O J A I
C B X K L X D G S P K P P E O J
Q CYAHYAXLTA JKJQPSI JFAC AVCA TUQC JQUEENF YAQIIUC S JJHTKGFKWQ S K W
P G Y F T O Y L V B U A T Y J
T P M D V T T V Y Y Q D O J O
Q E W T MRSO J A MGEM J JCRO WHPN BIFDSJDDQLBULHMKLRORUK HYHU BCRN O
A O F K V W I C O F B N A K T
E Y Q G Y Y M Q O Y P I I F B M
KYQRFVV BYBMSBE Q E M I L WRDD Y O WGBJ Q XIYODQY CXCA R KYLF S X
T D Q R T N C B O R U O N V M C C M C
I Q V T F V L H G S O C S D W V C J J
S QCDRYJOIYWIVLYO VXJA A L F YURVFTTJVWUTX W C M MLHO Y UTFJ I GHQJ
F X W S V X Q K K K C B J Y
X D Q S B L R F X G W Q A E J D K D R V K S K E X V J Y M B W X D R I V T K L A J E T C G I A P Y O N P S D I B
G Q V X M K E V O K U D M
D O A X G E F T Y X H E
P U M J H W Y F E R H K U X F R P N H W Q I I O C E G Y E H E T F V L R L V S L I I N F E S T E D O A U Y
O G O U F Q D D T S P
Q J V B U M T X Q J M
V U Y I E W L G H U R W M L P C T X D J F S I Q F I T P U Q T P Y Y G X Q G Y H O J T Y R T V M S T Y B P G G E D X D R
W O O E M J S Q M F B Q A H U J P
V H N S Q P H H G N H U H V L N B
A H Y P X H Q H N V P B C D K O K J Y S O R M J P W A U S H D J H Y I I J W Q C H N I O O C X F
M L G V S S J K K W X U M C W
P G Q B K R Q R Y J L O W A Q
E K C C T G X G H V S K T D N T X O M N I V O R E C U A K N P Y I B A R T R E S J B S C V A O U W J D G U A N K X O
I V H L Y Y H S U F I Q G D I P
E T A R D K V G A W K R Y U
X I M K H T D N H Q B F M T F G N B K H D C L R N L W S M P G M C V T R A L Q B T P U S R L V T A S T I N G S C
S D T N Q U G X
F Y N Q F N Y
IAEJLDORUMWHHXHPTNFMAKBKSLYPRYB TVSXECTEVDPJMUNWOCIOEHVVYRJQXYSOREFFSCOLONYDXPEUA

```

END

Find and circle these words:

COLONY
QUEEN
BROOD

BIOCONTROL
PESTS
OFFSPRING

STINGS
WORKER
INFESTED

INVASIVE
CROPS
OMNIVORE



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Plant Heroes Pledge

This Certifies That

is an Official Member of the Plant Heroes Team and pledges to:

**Learn about the
pests and diseases
that affect the
plants in my region**

**Be on the lookout
for symptoms of
pests and diseases
on trees in my
neighborhood**

**Report any suspicious
findings to an adult
who can notify the
local extension agent**

**Refrain from
moving firewood**

Awarded by the
American Public
Gardens Association





Join our team of Plant Heroes and learn about trees, forests, and the natural world around you!

PLANTHEROES.ORG

You can be a Plant Hero!

Are you curious about plants and animals? Do you like asking questions about nature? Do you enjoy being outdoors and having fun, climbing trees, balancing on logs, or finding a new butterfly or beetle? If so, you are already on your way to becoming a Plant Hero! We invite you to join forces with Nate, Laura, Aponi, and Frankie to protect the plants and ecosystems we all love.

How can you become a Plant Hero?

Join our team and go on a journey with Nate, Aponi, Laura, and Frankie. As a Plant Hero, you will learn to notice when plants are in trouble. You will also find out ways you can act quickly to help find solutions in your own neighborhood. Follow their adventures and learn how they help plants and ecosystems stay healthy.

On the Plant Heroes website, you will find materials to help you learn about plants, forest health, and ecosystem balance. The more you know, the more you can help protect plants and ecosystems in your own yard, neighborhood, and community!

Plant Heroes strives to spark curiosity about nature and science in all children. Our program provides hands-on, nature-based learning materials for educators to engage children in topics of plant health, ecosystem balance, and forest health. We also spotlight the amazing work our public gardens do in protecting the plants and ecosystems we all depend on through our website and printed materials. Visit plantheroes.org today to learn more!

Plant Heroes is brought to you by the American Public Gardens Association, founded in 1940. Over the last eight decades, the Association has supported the work of public gardens in North America and beyond. Our mission is to champion and advance public gardens as leaders, advocates, and innovators in the conservation and appreciation of plants. Our vision is "A world where public gardens are indispensable" as they provide botanic, conservation, community, education, and economic resources to their community.

The Association is committed to increasing the knowledge of public garden professionals throughout North America through information sharing, professional development, networking, public awareness, and research, so that they have the tools to effectively serve visitors and members.



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