



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

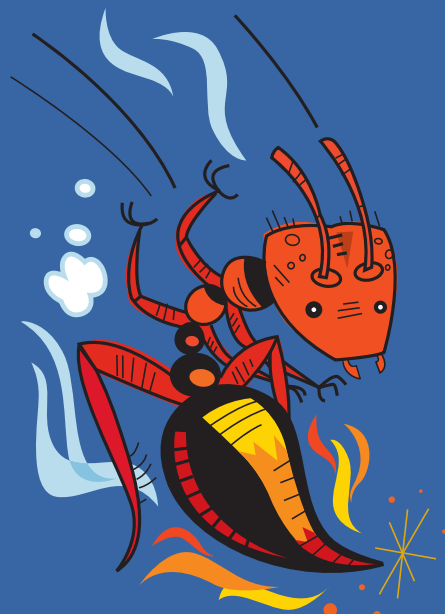
# INSECT | RED IMPORTED FIRE ANT

PLANTHEROES.ORG  
ADVANCED  
ACTIVITY  
BOOK



**BE A PLANT HERO!**  
Help Laura slow  
the spread of the  
red imported fire ant!

**Laura Wilkins**



Plant  
Protection  
Program

AMERICAN PUBLIC GARDENS ASSOCIATION

# Meet the PLANT HEROES!



## LAURA WILKINS

From: Athens, Georgia  
Hobbies: playing the trumpet,  
gardening, studying ecology

## FRANKIE BARKER

From: Shrewsbury, Massachusetts  
Hobbies: climbing trees, camping

## NATE GREEN

From: Tacoma,  
Washington  
Hobbies: going on  
adventures, learning  
about fungi

## APONI STAR

From:  
Southeast  
Illinois  
Hobbies:  
learning  
more about  
entomology  
(the study of  
insects)



[plantheroes.org](http://plantheroes.org)

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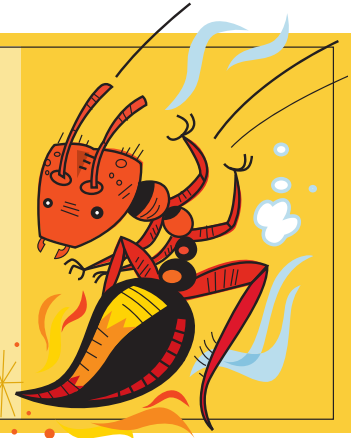
The Plant Heroes are four friends who love spending time in nature more than anything else! They enjoy climbing trees, walking trails, and camping.

The heroes are learning about why our forests are in danger. There are insects and fungi that can impact trees, sometimes affecting the health of whole forests. Trees may become sick or die when they are weakened by an invasive species, a living thing that can cause damage to existing organisms when it is introduced to a new environment.

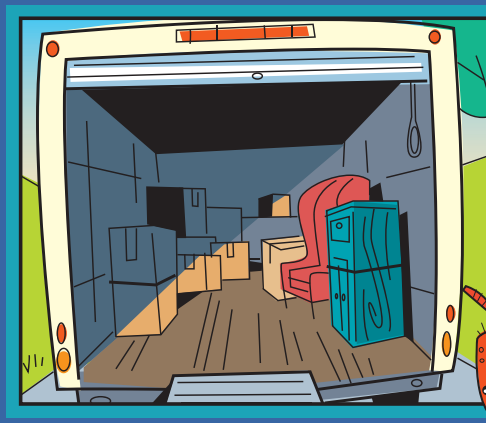
**Follow Laura to learn the story of how she helped slow the spread of the red imported fire ants...**



# 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.



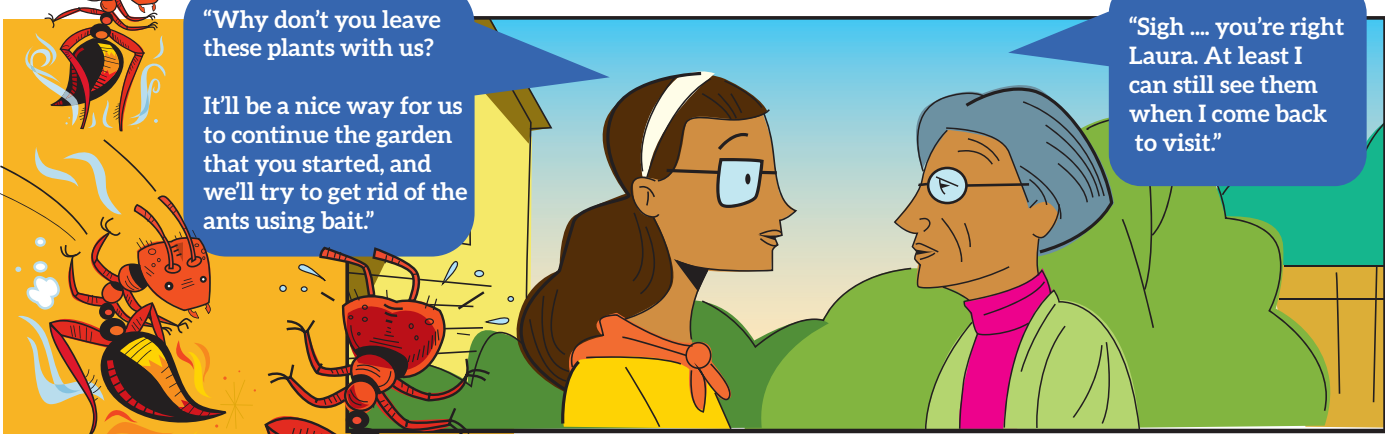
Just then, she remembers when she got badly stung by fire ants here as a kid.

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

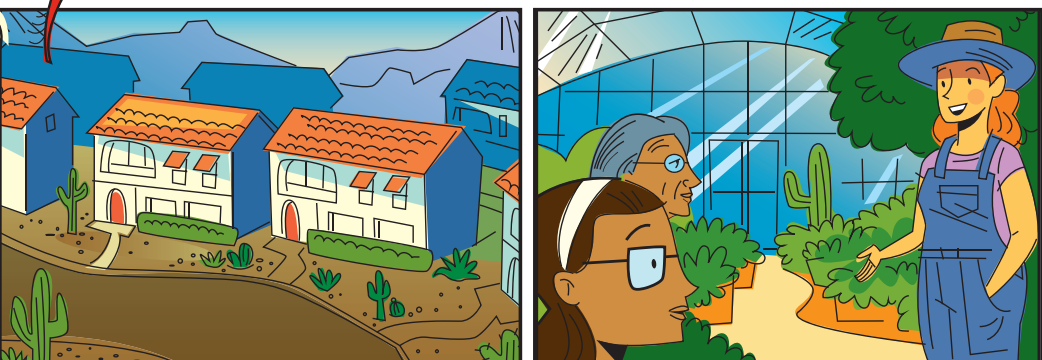


"Why don't you leave these plants with us?  
 It'll be a nice way for us to continue the garden that you started, and we'll try to get rid of the ants using bait."

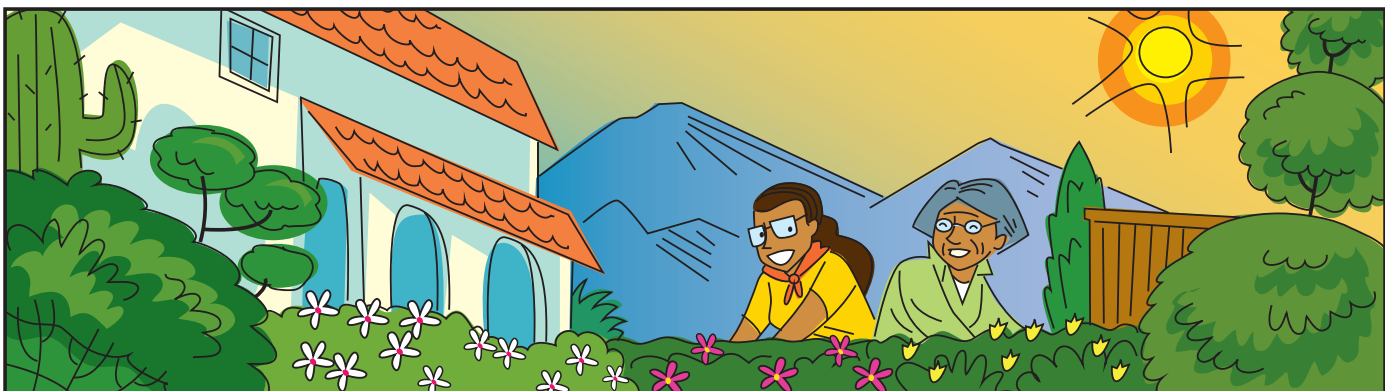
"Sigh .... you're right Laura. At least I can still see them when I come back to visit."



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!



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# Metamorphosis Time!



The red imported fire ant has four different life stages and the process of the ant changing during these stages is called “metamorphosis.” Read the descriptions below to learn how entomologists (people who study insects) spot these life stages and see if you can match the photograph of the ant in each life stage to its description!

1



Out of the egg hatches a worm-shaped **LARVA** with no eyes or legs. Larvae are eating machines and depend on the adults to provide them food. They grow fast, molting in between sizes.

.....

2



Finally, the pupa emerges as an **ADULT**. Young adults are often lighter in color, but darken as they age. The process of development from egg to adult takes about a month.

.....

3



The life of an ant starts with an **EGG**. Ant eggs are really small, soft, and oval-shaped.

.....

4



When a larva is big enough, it metamorphoses (changes) into a **PUPA**. During this stage, pupae rest and reorganize. They look more like adults, but their legs and antennae are folded against their bodies. They start out a creamy white color and gradually get darker.

#### HANDY TIP!

Add an “e” at the end of larva or pupa if you are talking about more than one larva or pupa!

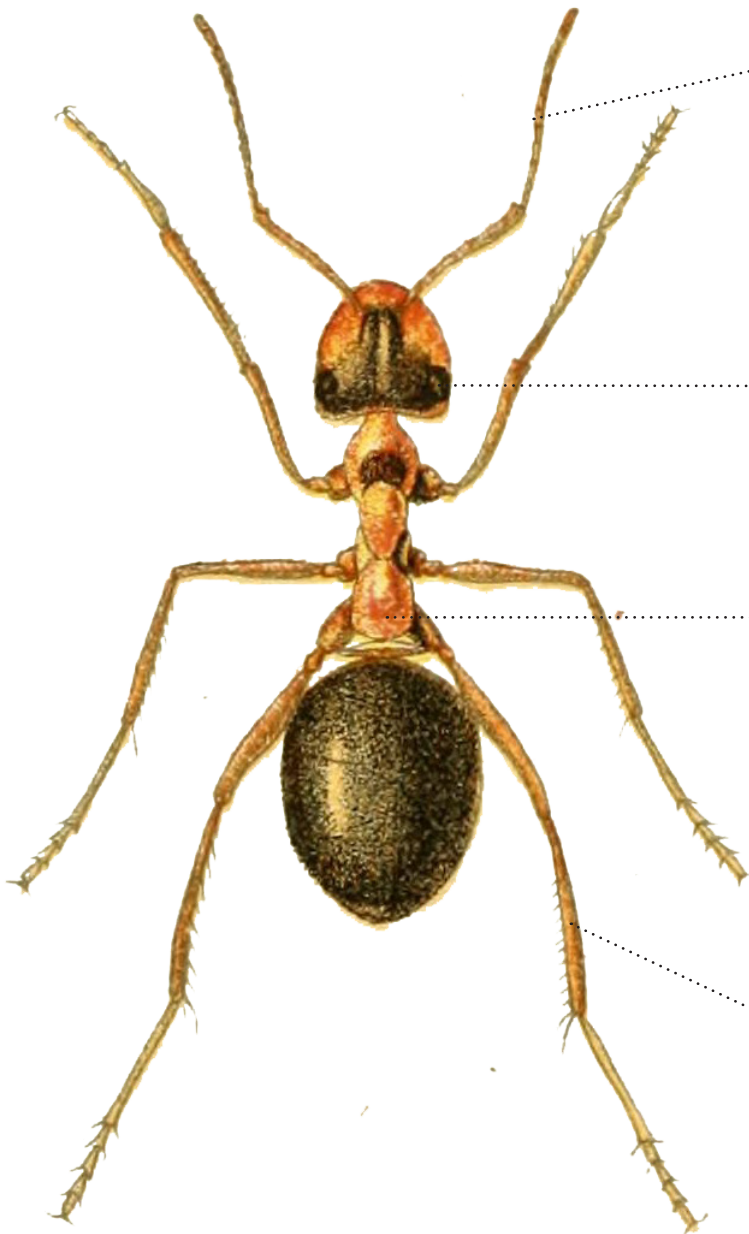


# Parts of an Ant

Ants are insects. They have three different body sections: head, thorax, and abdomen. Read the descriptions for the ant's body parts below and write the correct name in the dotted lines.



**WORD BANK:**  
**THORAX, LEG, EYE, ANTENNA**



Part of the head that helps insects sense the world around them.

Body part the insect uses for seeing.

A part of an insect's body between the head and the abdomen, where the wings and legs are located.

Body part the insect uses for walking.

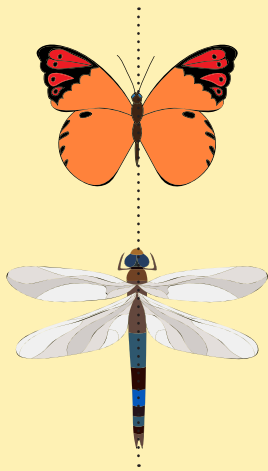


# Ant Symmetry



Did you know ants have symmetry? In fact many things in nature do! Something has symmetry when a line can be drawn through the middle and the object is the same on both sides. Complete the drawing on the other side and learn the ant's body parts! You can add some colors to your drawing.

## EXAMPLES OF SYMMETRY:



## DID YOU KNOW?



Ants can lift 20 times their own body weight? If you were this strong, you would be able to lift a car!

The scientific name for red imported fire ants is *Solenopsis invicta*. "Invicta" means undefeated in Latin.

The queens of this species can live up to six years!



plantheroes.org

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# A Maze of Ants

Ants are social insects, which means they live in colonies or large groups. There are three kinds of ants, called “castes” in a colony: The **QUEEN**, the **FEMALE WORKERS**, and the **MALES**. Each of these castes has a specific role in the colony. Learn more about the different castes of red imported fire ants by completing the maze below!



**START** →

## MALE

They are only born in the colony during the spring and fall and their sole purpose is to mate with the queen.



## WORKERS

All the workers in the colony are females. They have no wings and cannot reproduce. A colony has around 80,000 workers.

## QUEEN

This ant is the single producer of eggs and can lay as many as 1,500 per day.



**FINISH**



# Make your Own Red Imported Fire Ant Poster!

Why is it important that we learn about the red imported fire ant? Make your own poster in the space below with information about this ant and include some illustrations. Write whatever you think people need to know about the ant. What would convince your friends and family to care about the spread of this species?

## RED IMPORTED FIRE ANT

### DESCRIPTION:

.....

.....

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.....

### WHERE DID THEY COME FROM?

.....

.....

.....

### IF YOU FIND THEM, BE CAREFUL BECAUSE...

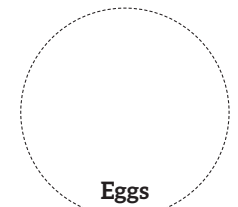
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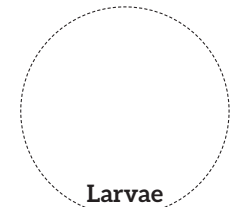
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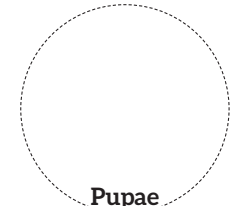
### LIFE STAGES



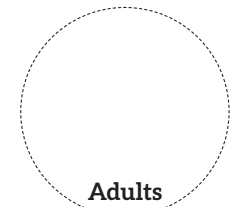
Eggs



Larvae



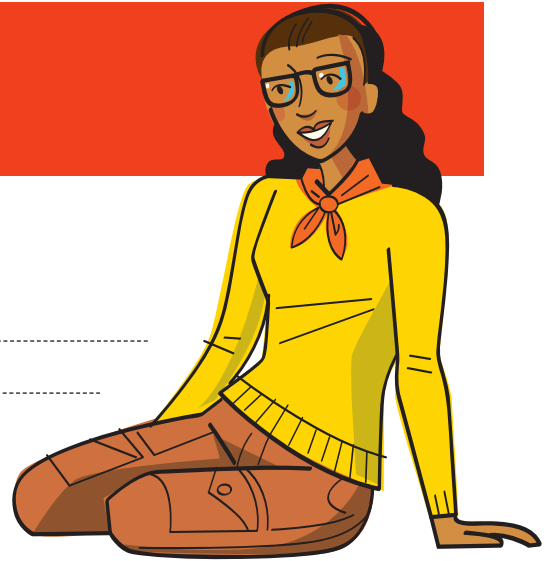
Pupae



Adults



# Time to Journal



**1.** What do you remember most about red imported fire ants?

.....  
.....  
.....  
.....

**2.** What is the most interesting thing you learned in this book?

.....  
.....  
.....  
.....

**3.** Can you name three different things that red imported fire ants feed on?  
(Hint: use your field guide to help answer this question.)

.....  
.....  
.....  
.....

**4.** What is your favorite plant you want to help protect? Why? Write it below.



## ANSWER KEY

**Metamorphosis Time:** 1: Egg; 2: Pupa; 3: Larva; 4: Adult

**Parts of an Ant (from top):** Antenna; Eye; Thorax; Leg





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](http://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.



**American  
Public Gardens  
Association**

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