

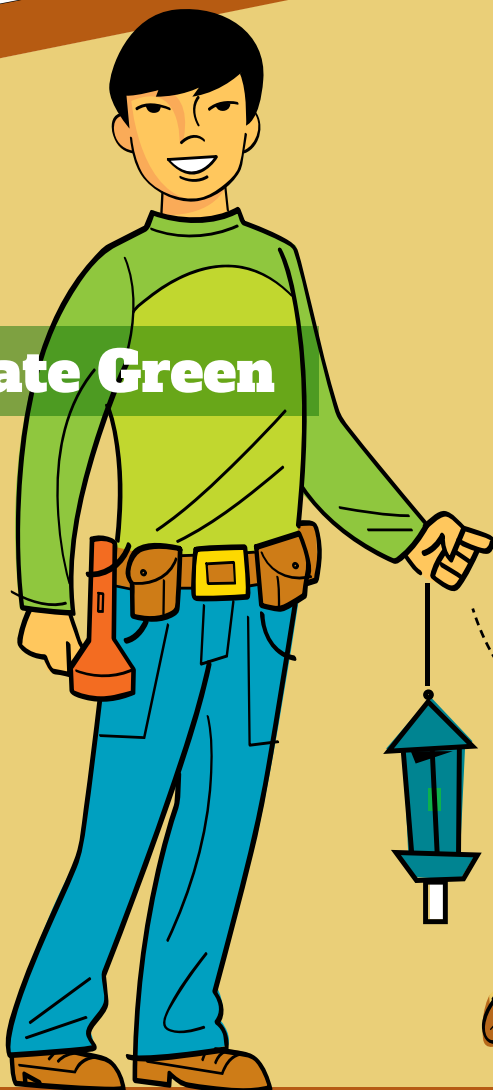


Help the Plant Heroes protect our forests
by slowing the spread of pests and diseases!

INSECT | LIGHT BROWN APPLE MOTH

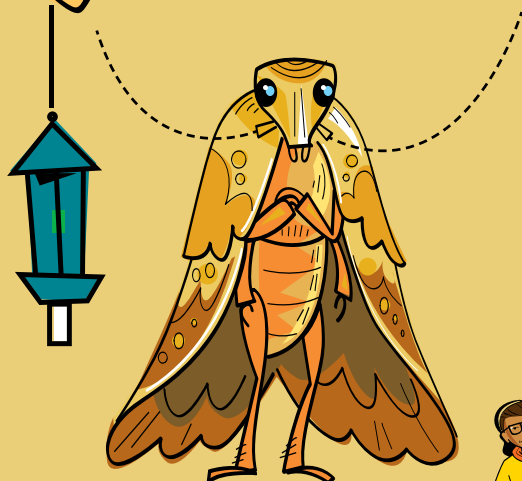
PLANTHEROES.ORG
**BEGINNER
ACTIVITY
BOOK**

Nate Green



BE A PLANT HERO!

Help Nate slow
the spread of the
light brown
apple moth!

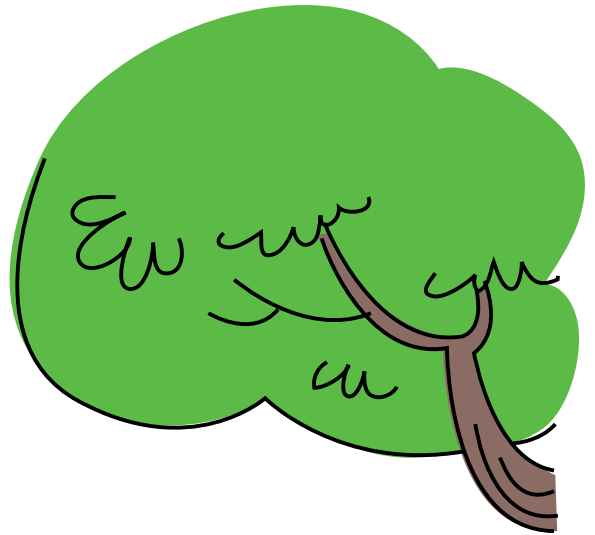


Plant
Protection
Program

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

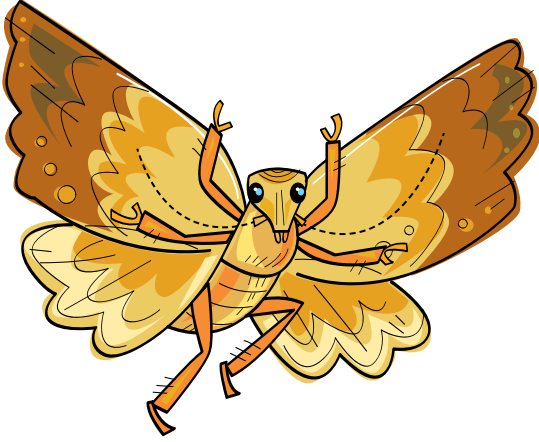
APONI STAR

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



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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 is introduced to a new environment where it can cause damage to existing organisms.

**Follow Nate to learn
the story of how
he helped slow the
spread of the light
brown apple moth...**

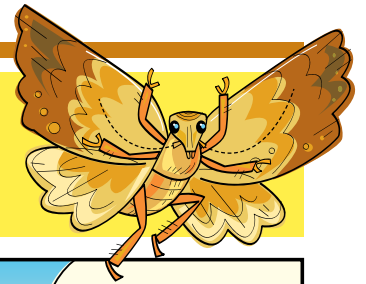


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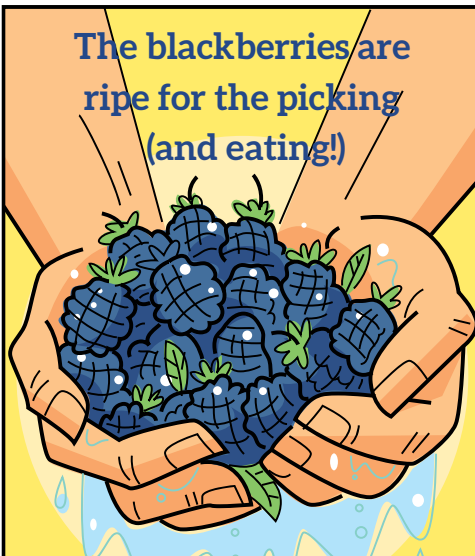
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IN A JAM WITH LBAM!

A.K.A. LIGHT BROWN APPLE MOTH



It's harvest time in California, and Nate sets out to visit his older cousin Sammy who, with his father, owns and operates a blackberry farm in the Napa Valley.



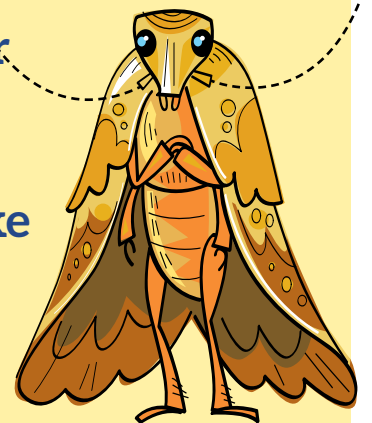
The blackberries are
ripe for the picking
(and eating!)

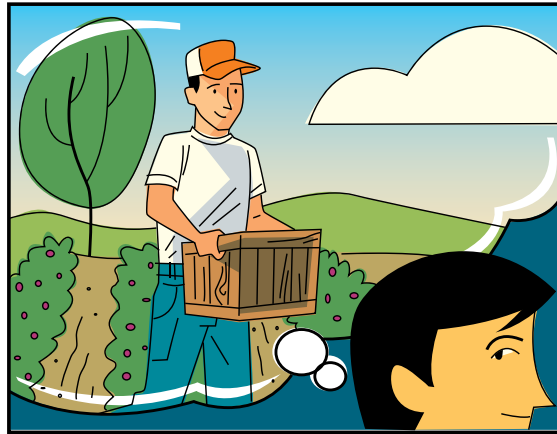
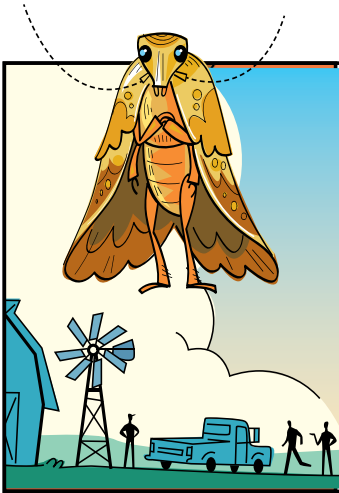


Nate and Sammy decide to haul the berries to a local market for sale! With tourist season in full swing, these California blackberries are sure to go quickly and provide a good bit of pocket money as well.



As they're leaving for market the next day, Nate says, "Is it just me or does it seem like there are more crates than yesterday?"





Sammy explains that his dad got up extra early to pick a few crates from their other patch across the street.

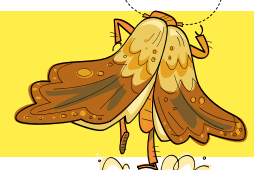


Nate has a flashback of the inspector visiting the day before and cries out, "WAIT! You mean AFTER the inspector was here?" We can't be sure that they're not infested with light brown apple moth and we shouldn't bring them to the Lake County Market because the area is practically moth free!

Nate and Sammy decide that the only way to get themselves out of a potential jam by spreading light brown apple moth is to well, make jam!



The boys were delayed a day, but at the market, music is in the air, everyone is cheery by far, and there is money to be made with fresh blackberries in a jar!



Metamorphosis Time!

The light brown apple moth has four different life stages, and the process of the egg changing into an adult is called “metamorphosis.” Learn more about each life stage below by matching each photo with the life stage it shows. Use the descriptions for help.



1



A tiny worm or **LARVA** comes out of the egg. The green larvae eat a lot and grow very fast.

.....

2



Finally, a pupa changes into an **ADULT**. Adults have wings with different patterns of brown.

.....

3



The life of a light brown apple moth starts with an **EGG**. The eggs are pale green and look like fish scales on a leaf.

.....

4



When a larva is big enough, it changes into a **PUPA**. At this stage, you can see the outline of the wings and antennae folded against their bodies.

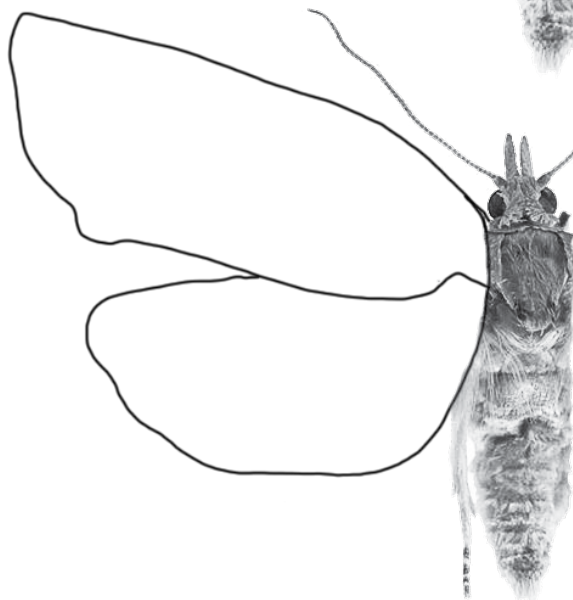
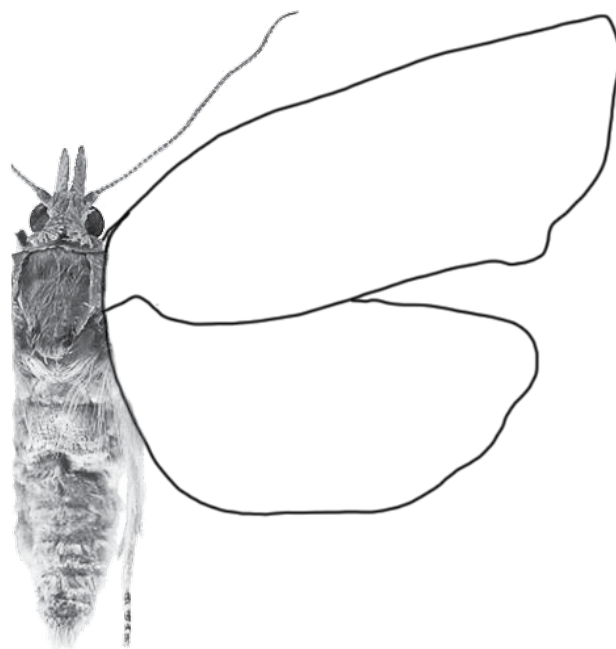
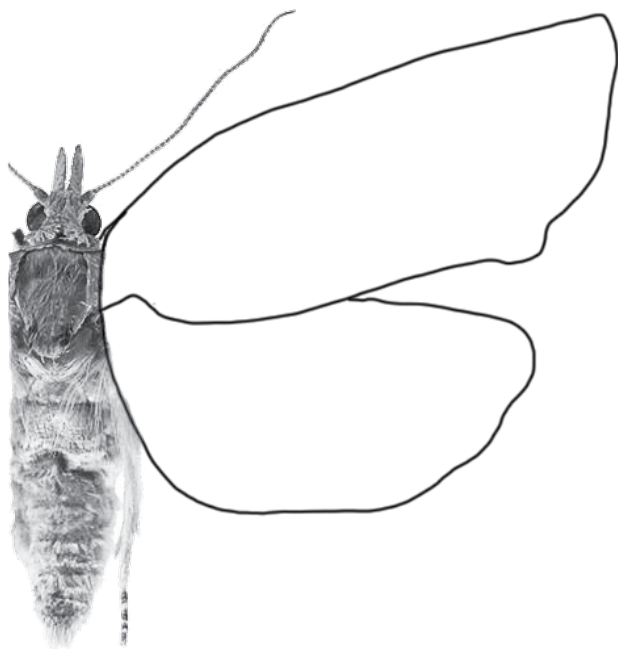
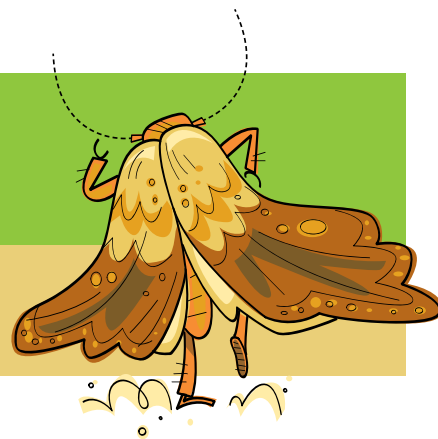
.....

HANDY TIP!

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

Wing Diversity

Light brown apple moths have many different wing patterns. Using page 2 of your field guide, color the different wing patterns on the moths below.



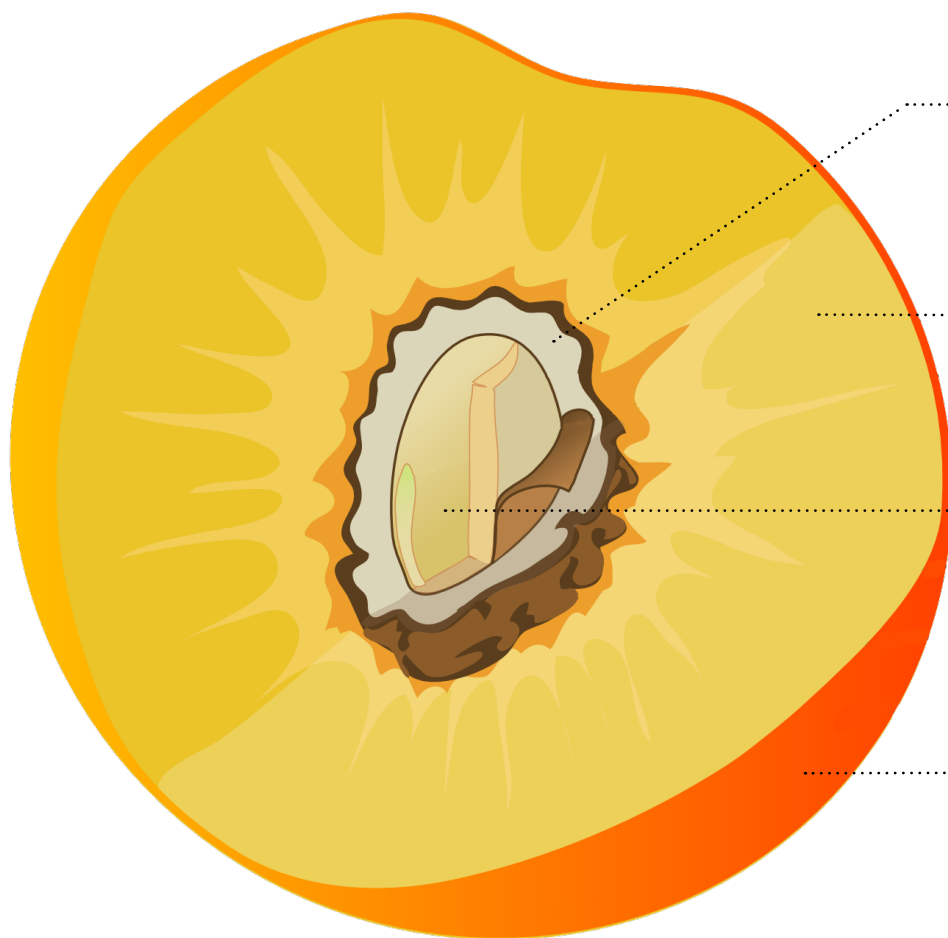
Peach Parts

Light brown apple moth larvae can eat many different plants, but fruit trees are some of their favorites. Using the picture of a peach below, match the parts of the fruit with the correct description.



WORD BANK:

FLESH, CORE, SEED, SKIN



CORE

The hard part of a fruit that protects the seed.

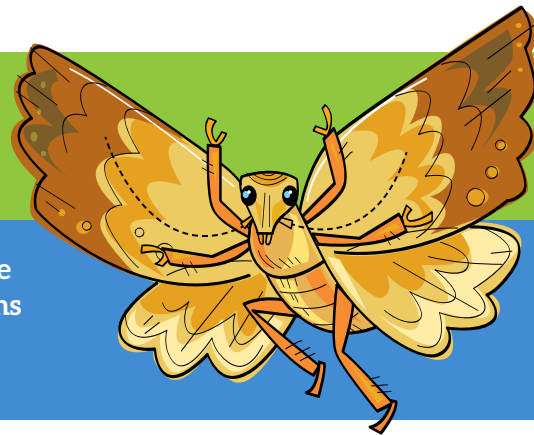
The juicy, sweet part of the fruit that you eat.

The part of the fruit that a new plant grows from.

The outside of the fruit. You might peel this before eating.

Trees in Trouble

What does the light brown apple moth do to fruit? Check out some of the clues from a tree that was visited by light brown apple moths in the diagram below. Draw arrows connecting each clue to the correct part on the drawing of the grapevine.



FRUITS:

damaged or have a fungus



LEAVES:

rolled up



BUDS AND LEAVES:

damaged or holes chewed in them



Follow along on
page 5 of your
field guide!

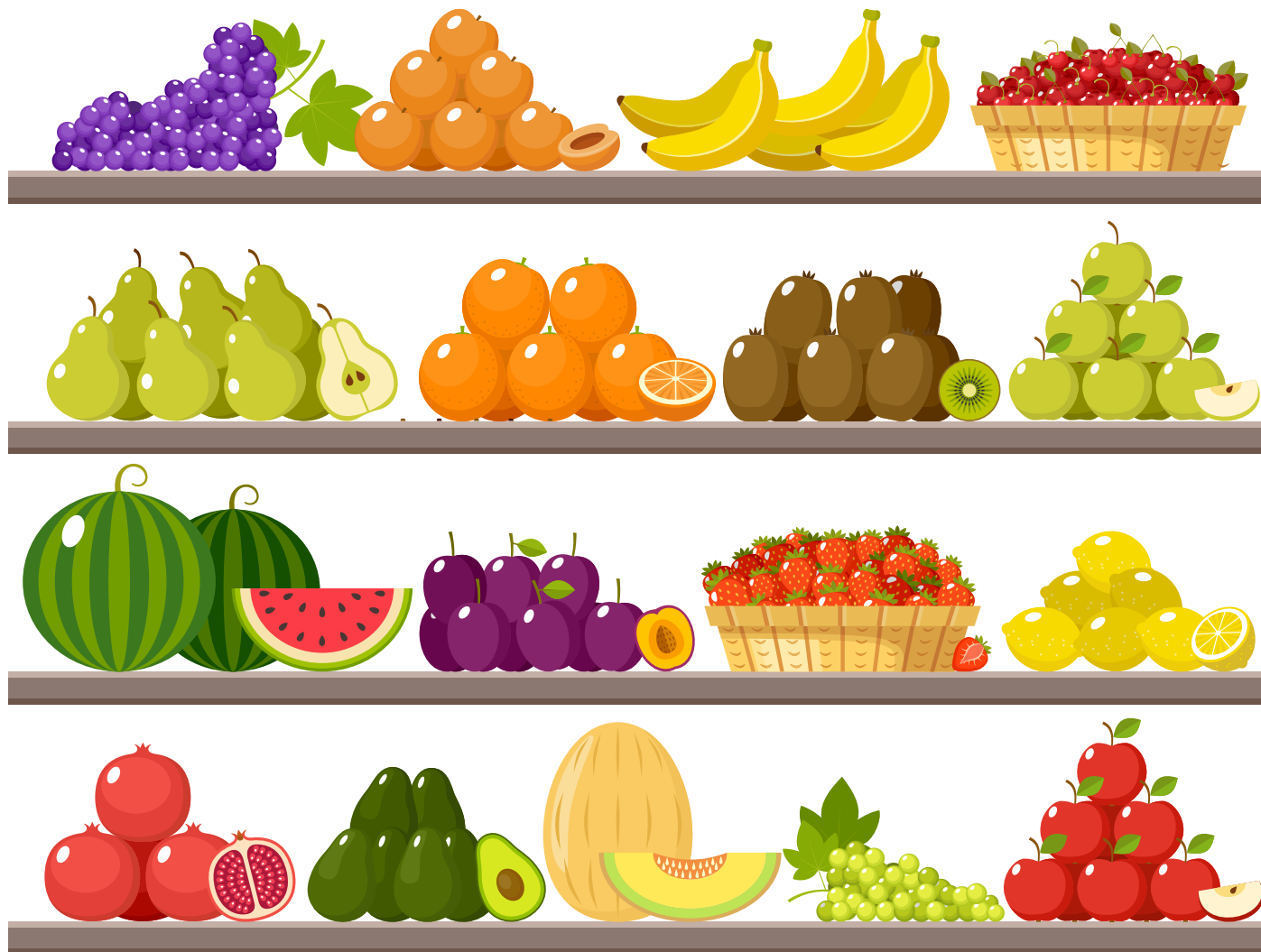
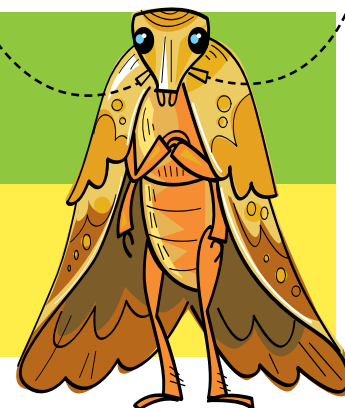
A cartoon illustration of a man with black hair, wearing a green long-sleeved shirt and blue trousers. He is sitting on a large, brown tree trunk, leaning back against it. He is holding a red notebook in his left hand and a pen in his right hand, writing in the notebook. He has a yellow belt with two brown pouches. The background is a bright yellow sky with a large, green, stylized tree canopy above him. The ground is brown and rocky.

[illegible]



At the Grocery Store

Light brown apple moths can damage growing fruit, which can impact how much fruit is available in the grocery store. Use page 4 of your field guide to circle the items in the grocery store that the light brown apple moth likes to eat.



ANSWER KEY

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

Peach Parts (from top): Core, Flesh, Seed, Skin

At the Grocery Store: (any of these can be circled) Purple Grapes, Peaches, Cherries, Green Pears, Oranges, Kiwifruit, Green Apples, Plums, Strawberries, Lemons, Avocados, Green Grapes, Red Apples



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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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