

## BOOK STATS

Grade Level Equivalent: 3-5

Ages: 8+

Lexile Measure: IG880L

Pages: 32

Genre: Science Nonfiction, Illustrated Guide

Subject/Theme: Plants, Nature, Survival

Common Core Standards	Reading	Writing	Listening & Speaking	Language
Grade 3	RI.3.1, RI.3.2, RI.3.3, RI.3.4, RI.3.7, RI.3.8	W.3.2, W.3.4, W.3.6	SL.3.1, SL.3.2, SL.3.3	L.3.4, L.3.6
Grade 4	RI.4.1, RI.4.2, RI.4.3, RI.4.4, RI.4.7	W.4.2, W.4.4, W.4.6	SL.4.1, SL.4.3	L.4.4, L.4.6
Grade 5	RI.5.1, RI.5.2, RI.5.3, RI.5.4, RI.5.7, RI.5.8	W.5.2, W.5.4, W.5.6	SL.5.2, SL.5.4, SL.5.5	L.5.4, L.5.6

# OVERVIEW

## Book Summary

The book begins with a welcome by Professor Barry to the murderous, shocking, nightmarish world of monster plants. After an overview of plant basics, the author guides readers on a plant safari. Readers first encounter carnivorous plants that eat meat for nourishment. They get an up-close look at ravenous Venus flytraps, hundred-mouthed bladderworts, and bug-eating pitcher plants.

The guided tour continues with plant vampires that live off other plants. Readers also face plants that use horrific odors to draw attention, plants that can overtake neighborhoods, and more.

*Monster Plants* uses lively language to engage—and horrify—young readers. The text includes attention-getting headings, descriptions of “strange but true” plant adaptations, and call-outs of bizarre facts.

Close-up photographs capture carnivorous plants at work while diagrams and a timeline help bring sequential information alive. Throughout the book, Professor Barry appears in sidebars to share special insight or recount his adventures in the field.

The book ends with suggestions for a field expedition. Rice guides readers on how to survey plants like a real botanist. It also includes a glossary, highlighting key science curriculum vocabulary.

## Teaching the Book

*Monster Plants* is written by Barry Rice, a botanist with a special interest in plants that take extreme measures to survive. In this book, he shares his knowledge and enthusiasm about unusual plants with young readers. The book provides an opportunity to teach cause-and-effect relationships in nature, the story structure of an illustrated guide, and content area vocabulary. Activities will engage students in the scientific process and writing informational text.

**Genre Focus:** Science Nonfiction, Illustrated Guide

**Comprehension Focus:** Cause & Effect

**Language Focus:** Content Area Vocabulary

## ABOUT THE AUTHOR

Barry Rice admits to being obsessed with monster plants. He is the senior editor of the *Carnivorous Plant Newsletter*, published by The International Carnivorous Plant Society. He has also worked with the Nature Conservancy on invasive plant species. In addition to being a botanist, Rice has a PhD in astronomy. His hobbies including martial arts (black belt in karate) and photography. Read more about Rice at <http://www.sarracenia.com/>.

# Get Ready to Read

## Pre-Reading Activities

**True or False?** Many students will not have background knowledge about carnivorous or invasive plant species. Engage their interest and probe their prior knowledge with the following true or false questions.

Some plants can eat animals. True or False? (*True*)

A plant in South America can capture a human and suck all its blood. True or False? (*False*)

One plant called a sticky trap hunter captures its prey with sticky glue. True or False? (*True*)

A murderous tree in a tropical forest strangles other plants to death. True or False? (*True*)

A plant called kudzu can creep into houses and steal away children. True or False? (*False*)

You may want to tally and record students' answers on chart paper or the whiteboard to return to after reading the book.

**Preview and Predict** Have students study the cover of *Monster Plants*. Ask them to describe what they think is happening in the photo. Then have them infer what the book is about based on the image and the title on the cover.



## BIG QUESTION

**Critical Thinking** Ask students to think about the following question as they read and to be ready to answer it when they've finished the book. Write the question on chart paper or have students write it in their reading journals.

**How do monster plants compete in nature's survival of the fittest?**

## Vocabulary

**Content Area Words** The book contains key science vocabulary words that are aligned with **state and national science standards**. Have students turn to the last page of the book, which has an extensive glossary of scientific terms used in the book. Remind them to check the glossary for the meanings of unfamiliar words they encounter in the text.

Use **Resource #1: Vocabulary Cards** on p. 7 and distribute copies to students.

carnivorous	chlorophyll
enzyme	host
invasive species	parasite
photosynthesis	symbiosis

## As You Read

### Reading the Book

**Modeled Reading** Read the Table of Contents with students for an overview of the book. Ask them which chapters intrigue them the most. Then model a fluent reading of pages 4-5. Point out the features of an illustrated guide: text chunks with heads, sidebars, and photos that illustrate the text.

**Independent Reading** Chunk the book into three to six reading sessions, depending on the amount of time students have to read during each session. At the end of a section, prompt students to ask questions to clarify parts of the text. At the beginning of a new section, lead students in a preview and predict routine.

### Comprehension Focus

**Cause and Effect Relationships** Explain to students that science books like *Monster Plants* are full of cause-and-effect relationships. A cause is the reason that something happens. An effect is the result of the cause. Recognizing cause-and-effect relationships helps readers understand the meaning of a text.

Use the graphic organizer on **Resource #2: Cause and Effect** to model for students how to identify cause and effect. Project the page on a whiteboard or pass out copies to students. Then model how to identify the cause and effect in the passage about Venus Flytraps on p. 11 of the book.

**Model:** The text reads: “But if the bug touches two separate trigger hairs—or one trigger hair twice—the trap snaps shut and cages the prey.” First, I’ll look for the cause. A cause is the reason something happens. So I’ll write in the Cause box: “The bug touches two separate trigger hairs—or one trigger hair twice” An effect is the result of the cause. So I’ll write in the Effect box: “The trap snaps shut and cages the prey.”

Have students volunteer the rest of the cause-and-effect relationships listed on the organizer. (Answers: See answers on page 6.)

## After You Read

### Questions to Discuss

Lead students in a discussion of these focus story elements.

**1. Illustrated Guide** How does the author use illustrations to help explain the monster plants? Find an example that you especially liked. (*Sample answer: The photos of the strangler fig on p. 21 show each step of how the plant takes over a tree.*)

**2. Cause and Effect** Find a cause-and-effect relationship on page 27, “Dead Meat.” How does a carrion flower fool insects? (*They smell like dead meat.*) What is the result? (*The insects follow the smell of dead meat to a carrion flower and lay their maggots on it.*)

## WORDS TO KNOW

### Content Area Vocabulary

Give students the following meanings for the vocabulary words, one at a time. Have them hold up the vocabulary card that matches each meaning. Then ask them for an example from the book that helps them understand each word. Have them write their own sentence using the word or create a graphic that represents the word.

1. meat eating (*carnivorous*)
2. a special green pigment that plants use in photosynthesis (*chlorophyll*)
3. a kind of molecule that can dissolve tissues in a process called digestion (*enzyme*)
4. an organism that feeds parasites (*host*)
5. an organism introduced from a foreign territory that outcompetes native plants and animals for survival (*invasive species*)
6. a kind of organism that feeds on other organisms without killing them first (*parasite*)
7. the process that plants use to turn sunlight, nutrients, water, and carbon dioxide into food (*photosynthesis*)
8. a mutually beneficial relationship between two organisms (*symbiosis*)



**3. Content Area Vocabulary** The author describes the relationship between Bullhorn acacia trees and ants (on p. 22). This relationship is an example of **symbiosis**. Ask students to define the word symbiosis (a mutually beneficial relationship between two organisms) and provide examples of how each organism in this example benefits from the relationship.

### Questions to Share

Encourage students to share their responses with a partner or small group.

**1. Text to Self** Which do you think is the most disgusting monster plant in the book? Explain what you think is gross about it.

**2. Text to World** List ten plants that you have seen in your environment. Which do you think is most strange? Are there any monster plants?

**3. Text to Text** The book uses type in an interesting way. Find an example of words that are designed to look different than the rest of the type in the book. How does the way they look influence how you react to these words? How does the type make a point about a plant?

## Extension Activities

### Reading/Writing Connection

**Illustrated Guide to Monster Plants** Challenge students to choose one monster plant and create on the computer their own illustrated guide to it. Guide them to use photos, call-outs, special typefaces, and engaging heads to make their guide fun and easy to read. Post everyone's end product in the classroom.

Don't forget the



### BIG QUESTION

**Critical Thinking** Give each student an opportunity to answer the big question. Encourage students to support their answers with details and evidence from the text. Tell them there is no one right answer.

**How do monster plants compete in nature's survival of the fittest?**

## Content Area Connections

**Math Record Breakers** On p. 14, Professor Barry describes record-breaking pitcher plants that have pitchers up to 3 feet tall. Challenge students to research other record-breaking plants, such as the Giant Redwood tree—the tallest tree species on Earth.

**Science The Scientific Method** List the steps of the scientific method.

1. Ask a question.
2. Do background research.
3. Construct a hypothesis.
4. Test the hypothesis by doing an experiment.
5. Analyze the data and draw a conclusion.

Ask students to describe an example of how Professor Barry Rice uses the scientific method to study plants.

**Social Studies Invasive Species** Ask students if they have ever seen signs at an airport warning people not to bring in plants from other countries. Using what they know about invasive plant species, have them explain the reasons for this rule.

**Arts Nature Photography** Encourage students to investigate the world of nature photography, especially photographs of plants. A good site that provides a search tool for finding different varieties of plants in different locations is <http://plants.usda.gov/gallery.html>. Have students share photographs that they especially like.

### BIG ACTIVITY

**The Field Guide to Monster Plants** On page 30, Professor Barry Rice describes how botanists work in the field. He explains how scientists keep track of specimens they collect. Direct students to create a "monster plant record." Make copies of the printable, "Big Activity: A Field Guide to Monster Plants," on p.5 and distribute to students. Read the directions and answer questions to clarify the activity.

Name \_\_\_\_\_

Date \_\_\_\_\_

## **BIG ACTIVITY: A Field Guide to Monster Plants**

Botanists observe and record the plants they find in the field. A botanist like Professor Barry looks for plants with physical features that help them survive in unique ways. Suppose you went on a field expedition and stumbled across five different specimens with special adaptations (for example: the suction cups on the bladderworth). Describe the following about them:

**Physical Features:** A plant's shape, color, size, and any other features you see. Be sure to mark down anything that looks out of the ordinary.

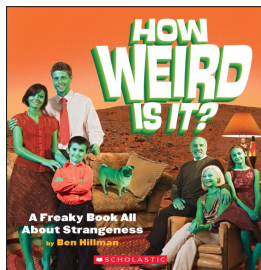
**Survival Tactics:** Describe how the plant uses its physical features to protect itself from predators and/or secure nutrients.

MONSTER PLANT	PHYSICAL FEATURES	SURVIVAL TACTICS
1. Venus Flytrap		
2. Tropical Pitcher Plant		
3. Bullhorm Acacia Tree		
4. Sensitive Plant		
5. Giant Corpse Flower		

# READ MORE AND LEARN MORE

Use these books and other resources to expand your students' study of the book or theme.

## Topic Connections



### How Weird Is It?

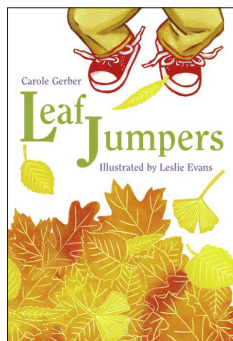
Ben Hillman

**Ages:** 8+ **Grades:** 3+

**Lexile Level:** 870L

Did you know that some bacteria can sleep for 250 million years, or that mushrooms are more closely related to animals than to plants?

This book explores these and many more crazy and extremely weird science facts. **Available as a Stora e-book**

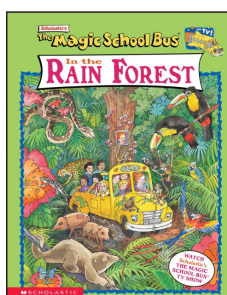


### Leaf Jumpers

Carole Gerber

This delightful autumn rhyme invites the youngest children to identify falling leaves by shape and color. The bright, bold illustrations make it easy for children to learn to recognize the different leaves, and an endnote explains why leaves change colors.

**Available as a Stora e-book**



### Magic School Bus: In the Rainforest

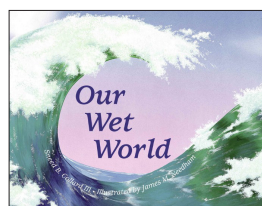
Joanna Cole

**Ages:** 7-10 **Grades:** 2-5

**Lexile Level:** 550L

Amazing plants and animals await Ms. Frizzle and her class in one of the most ecologically diverse spots on

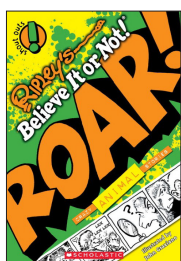
the planet! Readers will learn all about life in the rain forest. **Available as a Stora e-book**



### Our Wet World

Collard III, Sneed B.

This book reveals the diversity of the Earth's wet world during an underwater journey to thirteen aquatic ecosystems.



### Ripley's Shout Outs #1: Roar! (Animals)

**Ages:** 7-10 **Grades:** 2-5

**Lexile Level:** 1060L

This new and series is filled with strange and hilarious facts and stories. Readers learn about animals through Rip-

ley's unusual stories enhanced with fun comic strips, factoids, and cartoons. **Available as a Stora e-book**

## Other Resources

### Weird Plants *National Geographic*

Go to <http://news.nationalgeographic.com/news/2003/08/photogalleries/weirdplants/index.html> for a slideshow of some of the world's weirdest plants.

**Carnivorous Plants** Barry Rice answers questions for the International Carnivorous Plant Society. See <http://www.sarracenia.com/faq.html>.

Go to [www.Scholastic.com/storia-corner](http://www.Scholastic.com/storia-corner) to find PDF versions of the Stora teacher guides and links to purchase the related books.

## ANSWER KEY

*Answers will vary. Some sample answers are as follows:*

### Big Activity: A Field Guide to Monster Plants, p.5

**1. Venus Flytrap** Physical features: Each plant has about a dozen leaves that pop out from one spot in the ground. On the edge of each trap are eyelash-like hairs. Survival Tactics: If a little animal like a bug crawls into the trap and touches two separate trigger hairs—or one trigger hair twice—the trap snaps shut and cages the prey. If the prey escapes, the trap will reopen in one day, ready to hunt for food again.

**2. Tropical Pitcher Plant** Physical features: There are many different species of pitcher plants. But they all share some similarities. For instance, they are all brightly colored. Survival Tactics: Their bright color and flavorful nectar attract prey. The pitcher's opening is loaded with nectar. This sweet liquid is slippery—a step can send an animal sliding into the pitcher. The walls are also covered with glands that ooze digestive fluids that break down the prey.

**3. Bullhorn Acacia Tree** Physical features: This tree can grow to about 30 feet tall. It has soft leaves and huge, hollow spines on its stems. Survival Tactics: This type of tree has a symbiotic relationship with ants. Each tree swarms with a colony of stinging, aggressive ants. Any animal that tries to nibble on the tree is attacked by the resident ants.

**4. Sensitive Plant** Physical features: The sensitive plant is green and has many delicate small leaves. It can grow to the size of a small shrub. Survival Tactics: When animals chomp on the shrubs, they usually yank and tear clumsily. This causes the plant to shake. When sensitive plants are shaken, their leaves fold and droop. They transform from an attractive plant into something that looks like a mess of unappealing stems.

**5. Giant Corpse Flower** Physical features: This plant is nearly 10 feet tall. It has the deep red color of rotting meat. Survival Tactics: The plant uses its odor and colors to attract insects. The plant releases heat that helps steam its smelly chemicals into the warm jungle air. When insects follow the smell, they arrive to find a plant instead of meat.

### Resource #2: Cause and Effect, p.8

1. Cause: The bug touches two separate trigger hairs or one trigger hair twice. Effect: The trap snaps shut and cages the prey.

2. Cause: A step on a pitcher plant's slippery nectar sends the frog sliding into the pitcher. The frog can't get out. Effect: Harsh digestive fluids break down the frog.

3. Cause: U.S. farmers planted Kudzu plants because they thought the plants could keep their land from wearing away. Effect: The plants grow uncontrollably because they have no natural predators.

4. Cause: The odor attracts flies to deposit maggots into one carrion flower after another. Effect: As the flies travel to deposit their maggots, they help pollinate the carrion flowers.

**carnivorous**

**chlorophyll**

**enzyme**

**host**

**invasive species**

**parasite**

**photosynthesis**

**symbiosis**

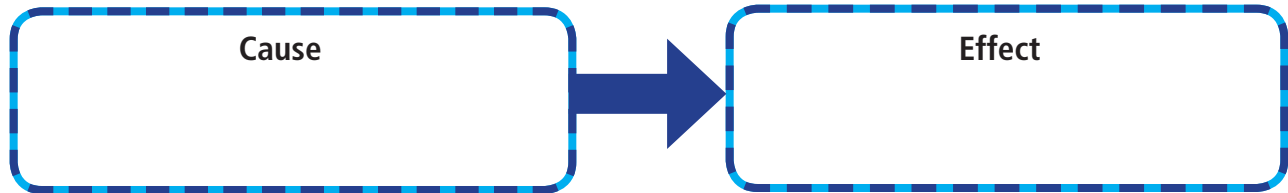
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Date \_\_\_\_\_

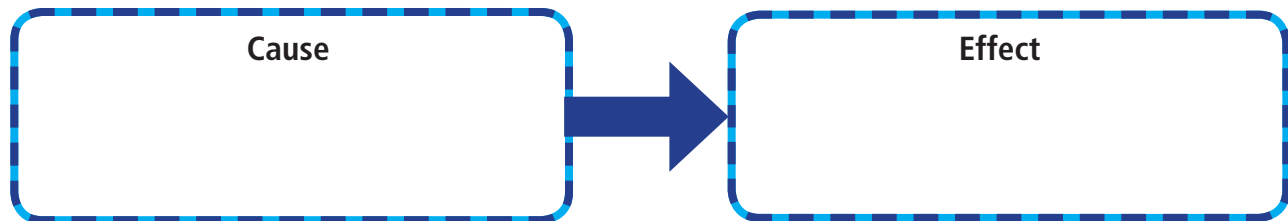
As you learned in the book, some monster plants use incredible ways to find food or to protect themselves. Many of their survival tactics do not spring into action automatically. They are triggered by a cause, which has a desired effect.

Below are four different types of monster plants. Read the passages in the book to identify some causes and effects.

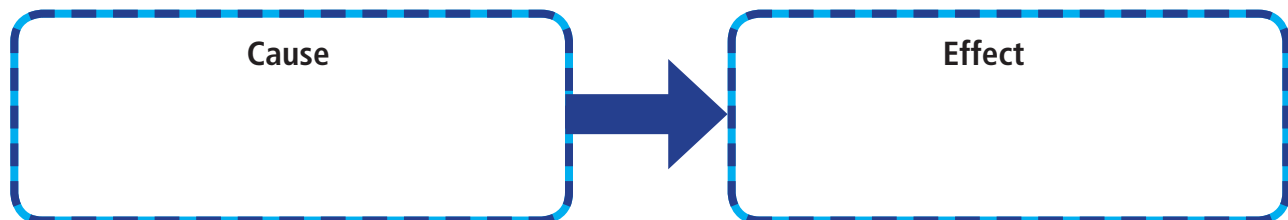
1. **Venus Flytraps (p. 10-11)** Suppose a housefly lands on a leaf. What triggers the leaf to trap the insect? What is the effect—or what happens to the fly as a result?



2. **Pitcher Plant (p.15)** Suppose a frog steps on the nectar of a pitcher plant. What causes it to fall into the plant? What is the effect, or what happens to the frog?



3. **Kudzu (p. 28)** This plant from Japan is nicknamed “the vine that ate the South.” What caused it to show up in the South? What is its harmful effect?



4. **Carrion Flowers (p. 27)** Carrion flowers give off the scent of dead meat. What does the odor cause flies to do? How does the effect benefit the carrion flowers?

