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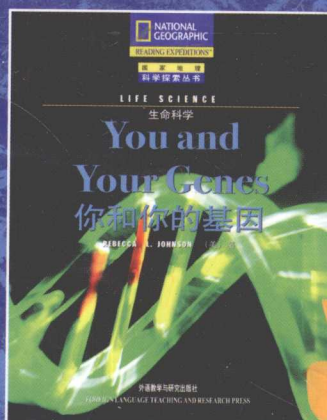
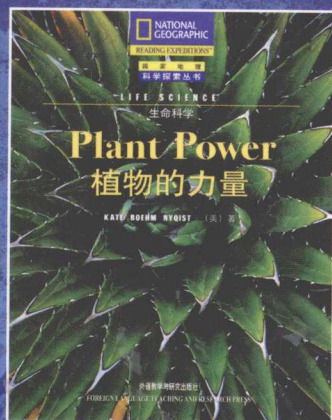
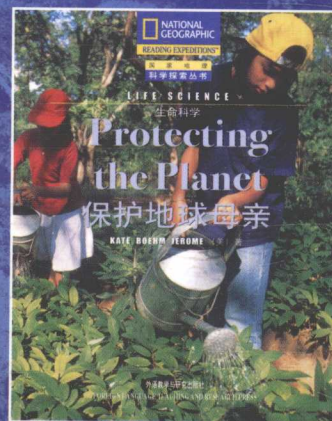
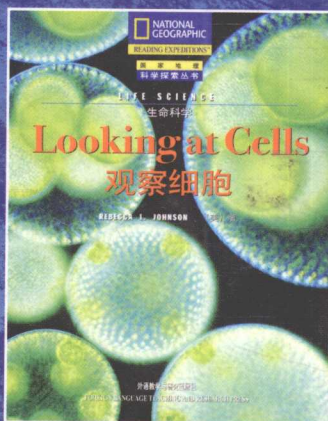
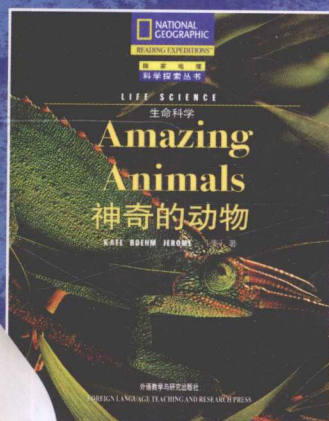
SCIENCE

自然科学

Life Science 生命科学

TEACHER'S GUIDE & ASSESSMENTS

教师指导与评估手册



外语教学与研究出版社

FOREIGN LANGUAGE TEACHING AND RESEARCH PRESS

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美国国家地理学会 编著

Lesson Notes

课程教案

Activity Masters

课堂活动

Teacher Resources

教学资源

外语教学与研究出版社

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生命科学

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简介 (Introduction)

“生命科学”系列包括植物、动物、细胞、基因以及环境等主题。系列中的每册书以培养学生对非小说类作品的阅读技巧为目的，通过严谨的叙述介绍了一系列与主题相关的核心科学概念。

本系列运用不同的体裁、组织形式以及风格各异的行文和图表，帮助学生掌握非小说类作品的格式。同时，本系列还使用了大量能够激发学生兴趣的形式来表现科学内容——并辅之以问题、科学研究方法和课堂活动，作为教师课堂教学的辅助。

本系列中每一本书的结构都力图帮助学生建立一个知识框架或加深他们对某个领域的理解：

引言 (Introduction) 用实际生活中的科学现象作为例子，吸引学生的注意力。

第一章 (Chapter 1) 为学生提供相关的基础知识，为进一步加深对主题的理解做好准备。

第二章 (Chapter 2) 对主题进行深入分析。

第三章 (Chapter 3) 介绍科学家目前如何探索此主题涉及的领域，以及未来科学家们面临的问题和挑战。

“生命科学”系列还有一些特色项目可以激发学生的学习兴趣：

“读图地带” (Picture This) 用插图或照片帮助学生获得对问题的“感性认识”。

“像科学家一样思考” (Thinking Like a Scientist) 介绍各种科学研究方法，同时为学生提供动手实践的机会。

“亲身实践” (Hands-on Science) 为学生提供生物实验模式。

“科学备忘录” (Science Notebook) 鼓励学生在课下通过观察有趣的现象和探索更多的资源来进一步自学。

注重读写能力 (Focus on Literacy)

培养阅读理解技巧

每本书都为学生提供了培养、练习和扩展阅读技巧的机会，让他们把自己的阅读技巧应用到具有不同结构、格式和图表元素的非小说类作品中去。

本系列介绍了以下阅读技巧：

识别主题和细节 (Identify main ideas and details)

运用上下文线索 (Use context clues)

预测 (Predict)

概括总结 (Summarize)

得出结论 (Draw conclusions)

自我提问 (Self-question)

比较和对比 (Compare and contrast)

归纳一般规律 (Make generalizations)

运用专业词汇 (Use specialized words)

用自己的话解释 (Paraphrase)

理解非小说类作品的体裁、文本特征和图表

善于从非小说类作品中获得信息的读者对这类作品的各种体裁和格式都很熟悉。要有效地利用非小说类作品的各种特点，就要首先了解这类作品提供的材料。“生命科学”系列中涉及到许多非小说类作品的特征：

体裁 (Genres)

说明文 (Expository) 程序 (Procedural)

图表信息 (Graphic Information)

照片 (Photographs) 列表 (Bulleted lists)

地图 (Maps) 历史插图 (Historical illustrations)

图解 (Diagrams) 图表 (Charts)

书的组成部分 (Parts of a Book)

目录 (Contents) 索引 (Index)

文本特征 (Text Features)

章节标题，副标题 (Chapter titles, subheads)

边栏补充信息和特别说明 (Sidebars and features)

插图说明，标签 (Captions, labels)

文章对比阅读

最近关于学生阅读行为和水平的调查结果显示, 让学生有机会阅读和对比多篇文章有助于提高他们的阅读技巧。本系列围绕同一个主题——生命科学——组织了不同的文章, 为学生提供对比阅读的绝好机会。学生可以就下列问题展开讨论。

对比 (Compare) ——这几本书各自的结构是怎样的? 它们之间有哪些相同点和不同点?

评价 (Evaluate) ——这些信息表述得是否清楚? 哪些辅助手段有助于对主题的理解?

总结 (Generalize) ——这个系列中每本书的主题有哪些相同点和不同点? 这些主题对理解生命科学概念有什么帮助?

注重科学知识 (Focus on Science)

核心概念

本系列鼓励学生就生物的各种特点进行探索。本系列没有涵盖大量彼此不相关的事实和主题, 而是引导学生深入探索一些相关的概念。

《植物的力量》(Plant Power)

- 植物生存需要空气、水、养分和光照。
- 植物的构造有助于植物生长、存活和繁衍。
- 植物有生命循环。
- 所有的动物都要依靠植物生存。
- 植物自己制造食物。

《神奇的动物》(Amazing Animals)

- 动物分为脊椎动物和无脊椎动物。
- 动物生活的地方被称为栖息地。
- 适应环境的能力使动物得以存活下来。
- 人们需要保护动物栖息地。

《保护地球母亲》(Protecting the Planet)

- 环境、生态系统、生物群系和生物圈之间是彼此相关的。
- 人们利用周围的环境, 也依靠周围的环境生存。
- 地球上有7大主要生物圈。
- 人们既能改善环境, 也能破坏环境。
- 人们可以借助科技保护地球上的资源。

《你和你的基因》(You and Your Genes)

- 许多植物和动物都与它们的上一代很相似。
- 生物的某些特征可以遗传。
- 细胞是生命的基本单位。
- 遗传可以使生物的某些特征代代相传。
- 染色体、基因、细胞和生物特征都与遗传过程有关。

《观察细胞》(Looking at Cells)

- 一切有机体都是由细胞构成的。
- 有机体分为单细胞有机体和多细胞有机体两种。
- 细胞能够生长和分裂。
- 细胞中有的部分具有特殊功能。
- 特定的细胞构成组织, 这些组织再构成器官。
- 科学家可以借助科技和工具进一步了解细胞。

培养科学研究能力

“生命科学”系列的每一本书都介绍了一种科学研究的方法。学生可以在阅读中了解这些方法, 并在“像科学家一样思考”(Thinking Like a Scientist) 中进行练习。

- 观察 (Observing) ——《植物的力量》
- 归类 (Classifying) ——《神奇的动物》
- 推理 (Inferring) ——《保护地球母亲》
- 解释数据 (Interpreting Data) ——《你和你的基因》
- 测量 (Measuring) ——《观察细胞》

亲身实践 (Hands-on Science)

这个系列的每本书都提供受控实验以引导学生进行深入学习:

植物如何对光做出反应 (《植物的力量》)

动物怎样生存 (《神奇的动物》)

模拟清除污染 (《保护地球母亲》)

活生生的DNA! (《你和你的基因》)

水滴放大镜 (《观察细胞》)

Lesson Overview

课程概述

课程概述 (Overview) —— 帮助教师快速选书备课

概要 (Summary)

此处简要说明书中的主要观点和重要细节。

科学背景

(Science Background)

此处就书中涉及的科学概念提供补充信息，为学生阅读提供背景知识。

学习目标

(Learning Objectives)

此处列出了在非小说类作品的特点、体裁，以及阅读、写作和科学研究技能等方面的学习目标，方便教师备课。

Overview

Summary

Plant Power

植物的力量



By Kate Boehm Nyquist

Throughout history, humans have depended on plants to survive. Plants are used for many different purposes—for food, clothing, medicine—and they even produce the oxygen we breathe. There are many different types of plants, but all plants need air, water, nutrients, and light to live. Certain structures help plants get what they need. Roots, for example, anchor plants and absorb nutrients from soil. Many plants reproduce using seeds. Plants also have amazing ways of defending themselves. Some plants, for example, have thorns or chemicals that protect them.

Plants are an important resource for humans. Many scientists believe new medicines may be developed from plants growing in rain forests. Scientists are also working hard to develop easier,

more efficient ways to grow and use plants.

Science Background

Plants are classified according to how they reproduce: plants that make seeds and those that do not make seeds. Seed plants are divided into two categories: plants that produce flowers (angiosperms) and plants that do not produce flowers (gymnosperms). The majority of trees, bushes, and plants that we are familiar with are flowering plants (angiosperms). In fact, there are more than 250,000 species of angiosperms, compared with 50,000 of all other plant species. Flowering plants develop a fruit that surrounds the seeds. When we think of fruits, we often think of apples, oranges, or bananas. However, some vegetables, such as tomatoes, beans, peas, and squash, are also considered to be fruits.

Learning Objectives

Science

- Explain how plants need air, water, nutrients, and light to survive
- Identify plant structures and their functions in growth, survival, and reproduction
- Understand a plant's life cycle
- Recognize that all animals depend on plants to live
- Explain how plants make their own food

Process Skills

- Skill Focus**
 - Observing
- Supporting Skills**
 - Communicating
 - Investigating

Reading Skills

- Genre: Expository**
- Skill Focus**
 - Make and check predictions
 - Relate words
- Supporting Skills**
 - Main idea, details
 - Summarize
 - Self-question
 - Draw conclusions

注重阅读 (Focus on Reading) ——关于帮助学生在阅读前后及阅读过程中培养技巧的建议

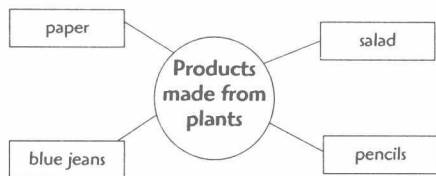
Focus on Reading

Before Reading

Activate Prior Knowledge

Ask students to think about a typical day's activities. Explain that during a typical day we use plants and items made from plants so often that we don't even think about them. For example, we use cotton for many different types of clothing. Ask students to suggest other products made from plants. Create a web on the board to organize their ideas.

Students can complete a similar web in their notebooks, focusing on other products made from plants or ways people use plants. Have students share their ideas with the class.



Preview

Give students time to flip through the book, paying attention to chapter titles, photos, captions, and diagrams. Ask:

After reading the chapter titles and reviewing the photos on each chapter opener, what topics do you think will be included in this book?

What kinds of information do the sidebars and features provide?

Look at the diagrams on pages 10, 14, and 16. What do these diagrams show? What should you do if diagrams include words you don't understand?

Set Purpose

Ask students whether this book reminds them of other books they have read. Help students set a purpose for reading. Ask:

What do you want to find out from reading this book?

Encourage students to give reasons for their answers, using past experiences or images from the book as examples.

Vocabulary Strategy: Relate Words

Activity Master, Page 14

Have students turn to page 5 in the student book. Read the page to students and ask:

Why is it important to learn more about plants? (humans need plants to survive; plants are all around us; we can learn new ways to use plants; and so on.)

Explain to students that the vocabulary words they will be working with today all relate to plants in some way. Have students use *Plant Power* and a dictionary to write how each word relates to plants. Students will be using these words:

chlorophyll	stamen
conifer	taproot
photosynthesis	canopy

知识热身 (Activate Prior Knowledge)

这些用来热身的知识常常可以用图表进行组织。

预习 (Preview)

预习非小说类作品可以帮助学生理解作品的结构，预测作品将提供哪类信息。

词汇 (Vocabulary Strategy)

学生在阅读前可以使用“课堂活动”(Activity Master)学习课文中的关键词汇。

My Notes

Writing Skills

Writing Focus

- Write a letter to the editor (persuasive)

Supporting Skills

- Use the writing process
- Conduct research

注重阅读 (Focus on Reading)——关于帮助学生在阅读前后及阅读过程中培养技巧的建议

阅读技巧

(Read Strategically)

每一种重要的阅读理解技巧都配有相应的“课堂活动”(Activity Master)。“技巧点拨”(Strategy Tip)提供具体的建议,帮助学生检测自己的阅读效果。

课堂互动

(Responding)

此处的讨论问题可以帮助学生考查书中的主要观点。

写作和研究

(Writing and Research)

学生可以就书中的主题进行调查研究,然后用各种体裁和形式进行写作。

课堂交流

(Communicating)

课堂活动可以帮助学生培养听、说等交流技巧和观察能力。

Focus on Reading (continued)

During Reading

Read Strategically: Make and Check Predictions Activity Master, Page 15

Assign each chapter of the book as independent reading. As students read, they can use the Activity Master on page 15 to help them focus on how plants grow and survive and the purposes they serve. Explain that students should make a prediction for each chapter based on the chapter title and subheads and a quick preview of the text, photographs, and diagrams. Then they should verify or check their prediction as they read the chapter. To model the process, make a prediction as a class and check it together after you have read the first chapter.

Strategy Tip: Self-question
Suggest that students ask themselves questions about the topic they are reading if they are having a difficult time understanding. For example, they might ask:

Do I understand what this book is mostly about?

Can I explain the process of photosynthesis?

Can I explain how flowering plants reproduce?

Do I understand how some plants have natural defenses?

How is technology changing the way we use plants?

Then students should reread with those questions in mind. If they are still having difficulty, students can ask for clarification during the follow-up discussion.

After Reading

Responding

Initiate a class discussion to assess reading comprehension. Ask:

Why are plants so important to people? (See pages 5 and 22 in the student book.) (main idea and details)

What parts help plants reproduce? What role do bees play? (See pages 12-17.) (summarize)

How do plants make their own food? (See pages 10-11.) (cause and effect)

Why are rain forests important to our future? (See pages 20-21.) (summarize)

How might plants be used in the future? (See pages 22-23.) (draw conclusions)

Why is observation an important skill for scientists? (See pages 11 and 26-27.) (draw conclusions)

Writing and Research: Write a Letter to the Editor Activity Master, Page 16

A local newspaper has reported that a large portion of rain forest in South America will be used for logging. Students will write a letter to the editor either supporting or opposing the news. A writing prompt is provided on the Activity Master, which students can also use to organize their ideas for their letters.

Encourage students to use *Plant Power*, the Internet, and other resources to find out more about the issues.

Communicating: Speaking/Listening
In small groups, students can read their letters.

Students reading should

- ✓ speak clearly
- ✓ make eye contact with listeners
- ✓ adapt speech as appropriate

Listeners should

- ✓ listen politely
- ✓ determine the main points of the letter
- ✓ ask questions to clarify ideas they didn't understand

拓展和测试 (Extend and Assess)——科学活动、测试和拓展活动为教学提供了丰富的内容

Extend and Assess

Focus on Science

Thinking Like a Scientist

Process Skill: Observing

Answers for page 11: Answers will vary, but students might suggest that the leaves are alike in that they are all green, come to a point, and are all attached to a stem. They are different in that they have different shapes, edges, and numbers of leaves on each stem.

Answers for page 27: 1. Flower 1 has several stamens and pistils; Flower 2 has only one. 2. Flower 1 has tepals; Flower 2 has sepals.

Observing

Activity Master, Page 17

Students use the activity master to compare and contrast the flowers of two plants. Ask students to draw a conclusion about the flowers based on their observations.

Hands-on Science

Summary Students observe how new plants respond to light.

Tips Remind students that holes in box lids should be 5 centimeters in diameter. Size variations can affect results.

Safety Notes Students should wear safety glasses when using safety scissors. Students should immediately clean up any spilled water to avoid slipping.

Answers to Think *Students should suggest that because the plants need light to make food,*

they were responding to the available light by growing toward the hole in the lid.

Assessment Options

Use the following assessment options to assess students' understanding of *Plant Power*.

Questions

Use the following questions during individual conferencing or ask students to write the answers in their notebooks:

- 1 What are three reasons plants are important to people?
- 2 What are four things plants need to live?
- 3 Identify two plant parts that help plants do each of the following: grow, reproduce, survive.
- 4 Why are rain forests important to people?
- 5 Why is observing an important skill for scientists?

Assessment Activity

Explain to students that a field guide to plants is a book of important information about a variety of plants. Ask students to create an entry for a plant field guide. Students can focus on a plant included in *Plant Power* or a plant of their choosing.

Field guides should

- label reproductive parts, defensive parts, stems, leaves, type of roots and other important parts
- diagram how the plant makes food
- describe the plant and plant parts
- tell why the plant is important

Entries should

- ✓ clearly address the topics
- ✓ be well organized and carefully prepared
- ✓ include a title
- ✓ use correct grammar and mechanics

Multiple-choice Test

Use the multiple-choice test on page 56.

Cross-curricular Connection

Mathematics

Have students choose a topic from the "Amazing Plant Facts" in the Science Notebook on page 30 of the student book. Ask them to create a comparison to help illustrate the size or number of the amazing fact. Have students find examples to illustrate the fact. You might want students to sketch their comparisons and share them with classmates.

Home-school Connection

Students can find a newspaper or magazine article that discusses issues related to plants. Topics can vary widely, from articles in science magazines related to plants and medicinal uses, to issues related to the rain forest in South America. Students can then discuss the main ideas from the article with parents and explain how the topics in the article are similar to or different from topics in *Plant Power*.

注重科学知识

(Focus on Science)

通过与科学概念和研究技能相关的实践活动来帮助学生用新的方法理解书的内容。这部分也配有相关的“课堂活动”(Activity Master)。

测试 (Assessment)

用讨论问题、评估活动或多项选择题对学生进行评估,考查他们对书中重要概念的理解。

跨学科链接

(Cross-curricular Connection)

此处提供一些活动建议,帮助学生将科学知识与其他学科联系起来。“家庭—学校链接”(Home-school Connection)给学生一些建议,让他们与家人一起讨论学到的内容。

Summary

Plant Power

植物的力量



By Kate Boehm Nyquist

Throughout history, humans have depended on plants to survive. Plants are used for many different purposes—for food, clothing, medicine—and they even produce the oxygen we breathe. There are many different types of plants, but all plants need air, water, nutrients, and light to live. Certain structures help plants get what they need. Roots, for example, anchor plants and absorb nutrients from soil. Many plants reproduce using seeds. Plants also have amazing ways of defending themselves. Some plants, for example, have thorns or chemicals that protect them.

Plants are an important resource for humans. Many scientists believe new medicines may be developed from plants growing in rain forests. Scientists are also working hard to develop easier,

more efficient ways to grow and use plants.

Science Background

Plants are classified according to how they reproduce: plants that make seeds and those that do not make seeds. Seed plants are divided into two categories: plants that produce flowers (angiosperms) and plants that do not produce flowers (gymnosperms). The majority of trees, bushes, and plants that we are familiar with are flowering plants (angiosperms). In fact, there are more than 250,000 species of angiosperms, compared with 50,000 of all other plant species. Flowering plants develop a fruit that surrounds the seeds. When we think of fruits, we often think of apples, oranges, or bananas. However, some vegetables, such as tomatoes, beans, peas, and squash, are also considered to be fruits.

Learning Objectives

Science

- Explain how plants need air, water, nutrients, and light to survive
- Identify plant structures and their functions in growth, survival, and reproduction
- Understand a plant's life cycle
- Recognize that all animals depend on plants to live
- Explain how plants make their own food

Process Skills

- Skill Focus**
 - Observing
- Supporting Skills**
 - Communicating
 - Investigating

Reading Skills

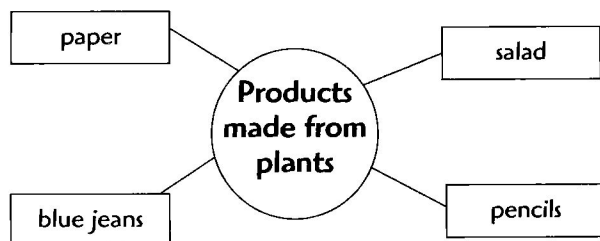
- Genre: Expository**
- Skill Focus**
 - Make and check predictions
 - Relate words
- Supporting Skills**
 - Main idea, details
 - Summarize
 - Self-question
 - Draw conclusions

Before Reading

Activate Prior Knowledge

Ask students to think about a typical day's activities. Explain that during a typical day we use plants and items made from plants so often that we don't even think about them. For example, we use cotton for many different types of clothing. Ask students to suggest other products made from plants. Create a web on the board to organize their ideas.

Students can complete a similar web in their notebooks, focusing on other products made from plants or ways people use plants. Have students share their ideas with the class.



Preview

Give students time to flip through the book, paying attention to chapter titles, photos, captions, and diagrams. Ask:

After reading the chapter titles and reviewing the photos on each chapter opener, what topics do you think will be included in this book?

What kinds of information do the sidebars and features provide?

Look at the diagrams on pages 10, 14, and 16. What do these diagrams show? What should you do if diagrams include words you don't understand?

Set Purpose

Ask students whether this book reminds them of other books they have read. Help students set a purpose for reading. Ask:

What do you want to find out from reading this book?

Encourage students to give reasons for their answers, using past experiences or images from the book as examples.

Vocabulary Strategy: Relate Words

Activity Master, Page 14

Have students turn to page 5 in the student book. Read the page to students and ask:

Why is it important to learn more about plants? (humans need plants to survive; plants are all around us; we can learn new ways to use plants; and so on.)

Explain to students that the vocabulary words they will be working with today all relate to plants in some way. Have students use *Plant Power* and a dictionary to write how each word relates to plants. Students will be using these words:

chlorophyll	stamen
conifer	taproot
photosynthesis	canopy

My Notes

Writing Skills

Writing Focus

- Write a letter to the editor (persuasive)

Supporting Skills

- Use the writing process
- Conduct research

During Reading

Read Strategically: Make and Check Predictions

Activity Master, Page 15

Assign each chapter of the book as independent reading. As students read, they can use the Activity Master on page 15 to help them focus on how plants grow and survive and the purposes they serve. Explain that students should make a prediction for each chapter based on the chapter title and subheads and a quick preview of the text, photographs, and diagrams. Then they should verify or check their prediction as they read the chapter. To model the process, make a prediction as a class and check it together after you have read the first chapter.

Strategy Tip: Self-question

Suggest that students ask themselves questions about the topic they are reading if they are having a difficult time understanding. For example, they might ask:

Do I understand what this book is mostly about?

Can I explain the process of photosynthesis?

Can I explain how flowering plants reproduce?

Do I understand how some plants have natural defenses?

How is technology changing the way we use plants?

Then students should reread with those questions in mind. If they are still having difficulty, students can ask for clarification during the follow-up discussion.

After Reading

Responding

Initiate a class discussion to assess reading comprehension. Ask:

Why are plants so important to people? (See pages 5 and 22 in the student book.) (main idea and details)

What parts help plants reproduce? What role do bees play? (See pages 12-17.) (summarize)

How do plants make their own food? (See pages 10-11.) (cause and effect)

Why are rain forests important to our future? (See pages 20-21.) (summarize)

How might plants be used in the future? (See pages 22-23.) (draw conclusions)

Why is observation an important skill for scientists? (See pages 11 and 26-27.) (draw conclusions)

Writing and Research: Write a Letter to the Editor

Activity Master, Page 16

A local newspaper has reported that a large portion of rain forest in South America will be used for logging. Students will write a letter to the editor either supporting or opposing the news. A writing prompt is provided on the Activity Master, which students can also use to organize their ideas for their letters.

Encourage students to use *Plant Power*, the Internet, and other resources to find out more about the issues.

Communicating: Speaking/Listening

In small groups, students can read their letters.

Students reading should

- ✓ speak clearly
- ✓ make eye contact with listeners
- ✓ adapt speech as appropriate

Listeners should

- ✓ listen politely
- ✓ determine the main points of the letter
- ✓ ask questions to clarify ideas they didn't understand

Focus on Science

Thinking Like a Scientist

Process Skill: Observing

Answers for page 11: Answers will vary, but students might suggest that the leaves are alike in that they are all green, come to a point, and are all attached to a stem. They are different in that they have different shapes, edges, and numbers of leaves on each stem.

Answers for page 27: 1. Flower 1 has several stamens and pistils; Flower 2 has only one. 2. Flower 1 has tepals; Flower 2 has sepals.

Observing

Activity Master, Page 17

Students use the activity master to compare and contrast the flowers of two plants. Ask students to draw a conclusion about the flowers based on their observations.

Hands-on Science

Summary Students observe how new plants respond to light.

Tips Remind students that holes in box lids should be 5 centimeters in diameter. Size variations can affect results.

Safety Notes Students should wear safety glasses when using safety scissors. Students should immediately clean up any spilled water to avoid slipping.

Answers to Think *Students should suggest that because the plants need light to make food,*

they were responding to the available light by growing toward the hole in the lid.

Assessment Options

Use the following assessment options to assess students' understanding of *Plant Power*.

Questions

Use the following questions during individual conferencing or ask students to write the answers in their notebooks:

- 1 What are three reasons plants are important to people?
- 2 What are four things plants need to live?
- 3 Identify two plant parts that help plants do each of the following: grow, reproduce, survive.
- 4 Why are rain forests important to people?
- 5 Why is observing an important skill for scientists?

Assessment Activity

Explain to students that a field guide to plants is a book of important information about a variety of plants. Ask students to create an entry for a plant field guide. Students can focus on a plant included in *Plant Power* or a plant of their choosing.

Field guides should

- label reproductive parts, defensive parts, stems, leaves, type of roots and other important parts
- diagram how the plant makes food
- describe the plant and plant parts
- tell why the plant is important

Entries should

- ✓ clearly address the topics
- ✓ be well organized and carefully prepared
- ✓ include a title
- ✓ use correct grammar and mechanics

Multiple-choice Test

Use the multiple-choice test on page 56.

Cross-curricular Connection

Mathematics

Have students choose a topic from the "Amazing Plant Facts" in the Science Notebook on page 30 of the student book. Ask them to create a comparison to help illustrate the size or number of the amazing fact. Have students find examples to illustrate the fact. You might want students to sketch their comparisons and share them with classmates.

Home-school Connection

Students can find a newspaper or magazine article that discusses issues related to plants. Topics can vary widely, from articles in science magazines related to plants and medicinal uses, to issues related to the rain forest in South America. Students can then discuss the main ideas from the article with parents and explain how the topics in the article are similar to or different from topics in *Plant Power*.

Vocabulary: Relate Words

The words below are from *Plant Power*. Each word has something to do with plants. In the boxes, write a meaning for each word. Include a sketch for each word. Use *Plant Power*, a dictionary, and any other resources you might need to help you.

chlorophyll**stamen****conifer****taproot****photosynthesis****canopy**

Reading: Make and Check Predictions

As you read *Plant Power*, predict what each chapter will be about. Keep in mind what you already know about plants.

Write your prediction for each chapter in the chart. Then continue reading to see how close your prediction is. In the “Check” column of the chart, write “yes,” if your prediction was close. Write information you learned that was different from what you predicted.

Chapter	Predict	Check
Chapter 1		
Chapter 2		
Chapter 3		
Hands-on Science: How Plants Respond to Light (predict results)		

Writing: Use the Writing Process

Write a Letter to the Editor

You are a scientist who specializes in plants. You have just read the article below in your newspaper. You will write a letter to the editor either supporting or opposing the plans described. To write your letter, you might want to use other resources in addition to *Plant Power* to gather information about your topic. Organize your ideas for writing below.

NewsFlash: The Amazon Basin, South America — An Amazon Basin government is opening up land in the rain forest for sale to an international logging company. Many jobs will be created if a logging company does indeed move in and harvest lumber. All other plants in the area, in addition to trees, will likely be destroyed when lumbering occurs. But some believe areas cleared for lumber can be replanted.

1. In your letter, tell who you are and why you are writing to the editor.

2. Explain why you support or oppose the plans for the rain forest.

3. Give specific examples that support your views.

4. Explain why printing the letter will help your cause.

5. Thank the editor and the newspaper for thinking about your point of view.
