



Protecting an Ecosystem **The Rain Forest**

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Masters**

**Student
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**Content
Slides**

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ACKNOWLEDGMENTS

Class Test Sites

I am grateful to Suzanna W. Walker, who piloted *The Rain Forest* unit in her classroom. My thanks to her for her ideas and suggestions in the development of this unit. Thanks, also, to Shannon Sweeny for allowing Dr. Bronwyn Cole, University of Western Sydney, and me to conduct a research study on *The Rain Forest* Storypath in her classroom.

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STP580

1-978-56004-606-6

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Published by Storypath
10200 Jefferson Boulevard
P.O. Box 802
Culver City, California 90232-0802
1-800-421-4246
www.teachstorypath.com

Cover Photos:

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Protecting an Ecosystem

The Rain Forest

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ABOUT STORYPATH

THE STORYPATH STRATEGY

Storypath offers both a structure for organizing the social studies curriculum and an instructional strategy for teaching. The structure is a familiar one: the story. The strategy is grounded in a belief that children learn best when they are active participants in their own learning, and places students' own efforts to understand at the center of the educational enterprise. Together, the structure and the teaching strategy ensure that students feel strongly motivated and have meaningful and memorable learning experiences.

Originally developed in Scotland during the 1960s, Storypath draws support from decades of experience with teachers and students. The approach has its roots in these beliefs about children and learning:

- The world is complex and presents many layers of information. Children know a good deal about how the world works and have a reservoir of knowledge that is often untapped in the classroom.
- When children build on that knowledge through activities such as questioning and researching, new understandings are acquired. Because children construct their own knowledge and understanding of their world, their learning is more meaningful and memorable.
- Problem solving is a natural and powerful human endeavor. When children are engaged in problem-solving, they take ownership for their learning.
- The story form integrates content and skills from many disciplines and provides a context for children to gain a deeper, more complex understanding of major concepts.

AN INQUIRY APPROACH

Questioning, by both teacher and students, is a key component of Storypath. Through the story structure and the discourse it creates, the teacher guides students in their search for meaning and understanding as they acquire new knowledge and skills. Your questions, and the discussions they engender, cause students to:

- ask their own questions and think critically about what they know;
- use their prior knowledge to make sense of new information;
- connect personally to important social studies concepts.

The story structure and inquiry guided by unit goals provide the framework for students to integrate skills and complex content through problems they encounter. As they do so, their understanding of important concepts is extended and key connections are made.

THE STORY STRUCTURE

For thousands of years, stories have helped us create order and make connections between events. Storypath's narrative structure helps students understand concepts that they often find difficult to comprehend in the traditional social studies curriculum.

Each Storypath unit centers on a unique and engaging story that provides a concrete context for understanding the social science content. This story may be based on actual historical events, as developed in *Struggle for Independence*. Or the story might instead be based on typical community or business structures, as developed in *Families in Their Neighborhoods* or in *Understanding the Marketplace*. From all of these structures, students develop a meaningful context for developing understanding of the topic.

Typical structure of a Storypath unit

CREATING THE SETTING

Students create the setting by completing a frieze or mural of the place.

CREATING THE CHARACTERS

Students create characters for the story whose roles they will play during subsequent episodes.

BUILDING CONTEXT

Students are involved in activities such as reading, writing, and research to stimulate them to think more deeply about the people and the place they have created.

CRITICAL INCIDENTS

Characters confront problems typical of those faced by people of that time and place.

CONCLUDING EVENT

Students plan and participate in an activity that brings closure to the story.

USING THE COMPONENTS

TEACHER'S HANDBOOK

Each Storypath unit includes a Teacher's Handbook, which is designed to be flexible and easy to use.

Episode Planning Guides

Each episode opens with an overview of the instructional plan and materials needed.

Teaching Notes

Each Handbook contains detailed support for instruction.

1

EPISODE

CREATING THE SETTING THE TOY COMPANY

INTRODUCING THE TOY COMPANY page 15

Students brainstorm about the various departments within a toy company.

Materials None

Grouping Whole class

Schedule Approximately 10 minutes

CREATING THE COMPANY FLOOR PLAN page 16

Students create a floor plan of their company, including all the various departments.

Materials Portfolio 1, *Floor Plan Guide*, p. 4
Portfolio 2, *Floor Plan Sketch*, p. 3

For the floor plan:

- bulletin board or wall space, about 6' wide x 4' high, covered with paper
- various colors of construction and tissue paper
- colored markers, crayons, glue or paste, masking tape, scissors, rulers
- optional graph paper
- other materials to add texture and interest, such as fabric, aluminum foil, yarn, wallpaper scraps, and so on

Grouping Small groups that will stay together throughout the unit

Schedule 1–2 hours divided over several days or in one session

CONCLUDING EPISODE 1 page 17

Students reflect on their experiences, create word banks, and decide on a name and a slogan for their toy company.

Materials Portfolio 3, *Word Bank*, p. 6
Portfolio 4, *Creating a Company Name and Slogan*, p. 7
Content Slide Sets 1 and 2
Markers and 1" x 3" index cards for class word bank
Pocket folders or sturdy paper to make folders (one per student)

Grouping Whole class and individually or in pairs

Schedule 1 hour

EPISODE OBJECTIVES

- **Knowledge** For concepts of labor, specialization, and capital resources to explain how businesses function.
- **Skills** **Visual Skills** Organize, plan, and make decisions while working in their jobs with group members.
- **Social Skills** Generate an appropriate sense of action to complete the floor plan.
- **Critical Thinking** Apply ideas in determining a name and a slogan for the company.
- **Critical Thinking** Explain their ideas and discuss in one way applying their ideas to the floor plan.
- **Literacy** Use spoken, written, and visual language to develop understanding of companies in the marketplace.
- **Literacy** Use a specialized vocabulary to understand and communicate concepts about the marketplace.

from the *Understanding the Marketplace* unit

INTRODUCING THE TOY COMPANY

Launch the unit

Explain to students that they will be creating a story about a toy company that will be designing new and very special toys for children. Discuss with students the elements of a story: setting (where and when the story takes place), characters (the people in the story), and plot (events that happen during the story). To give students a time frame for the story, estimate six to eight weeks and announce the date of the toy fair (Episode 6). Then explain there is much work to be done to prepare for the event. In this episode, students will create a floor plan of the company; this will be the place for their story. Explain that all companies need labor, people who do the jobs in the companies. Ask students what types of jobs might be found in a toy company. List their responses on the board. Some of their ideas might include:

- CEO (Chief Executive Officer) or boss
- secretary
- accountant
- inventor
- packager
- designer
- shipper
- advertising specialist
- salesperson
- materials purchaser

Using their suggestions for jobs, help students organize the jobs into departments, such as design, production, advertising, sales, business/accounting, and shipping. Ask students where those departments might be located in the company. Lead them to list locations such as offices, a laboratory, a manufacturing plant, a design studio, and so on. As students discuss the various departments, lead them to understand that the company has specific departments because the many different jobs must be organized to make the company successful. This differentiation is called *specialization*.

Describe the setting

After students determine what departments will be included in their company, prompt them to think about where the departments will be located and what they will be like. You might use questions such as the following to start the discussion. Alter the questions to apply to your class's particular departments.

1. What employees would work in the lab? In the office? In manufacturing? (Guide students to separate the jobs into departments. For example, designers might work in the lab, while accountants and customer service representatives would most likely work in the office.)
2. Would the company need capital resources? (Use will probably need to explain to students that capital resources are tools, equipment, machines, and other goods used to create products.)
3. Business uses money to invest in equipment. What kinds of equipment would be found in each department in the company? (Encourage

EPISODE OBJECTIVES

- **Knowledge** For concepts of labor, specialization, and capital resources to explain how businesses function.
- **Skills** **Visual Skills** Organize, plan, and make decisions while working in their jobs with group members.
- **Social Skills** Generate an appropriate sense of action to complete the floor plan.
- **Critical Thinking** Apply ideas in determining a name and a slogan for the company.
- **Critical Thinking** Explain their ideas and discuss in one way applying their ideas to the floor plan.
- **Literacy** Use spoken, written, and visual language to develop understanding of companies in the marketplace.
- **Literacy** Use a specialized vocabulary to understand and communicate concepts about the marketplace.

from the *Understanding the Marketplace* unit

Teaching Masters

Masters provide nonfiction content, writing models, or other information specific to the unit's content. These Masters can be copied for students, displayed in the classroom, or made into transparencies, depending on your teaching needs.

EPISODE 1

PORTFOLIO

1

DATE

FLOOR PLAN GUIDE

Work in your group to make your department for the floor plan.

1. What department will your group create?
2. List your ideas. In the first column, list each feature your department will include. In the second column, write why this feature is important to the department.

Department Features	Importance to Department

3. On the next page, make a sketch of where each feature will be located on your floor plan. After you make your sketch, discuss with your group why features are located in certain places on the floor plan.
4. Decide on the best ideas and make your department's floor plan. Make sure everyone has the opportunity to share. Decide who will do each task on the floor plan.
5. Assess your work. Put a checkmark next to the things you did.

- ☐ I offered ideas about the floor plan.
- ☐ I listened to other people's ideas.
- ☐ I asked questions when I didn't understand something.
- ☐ I disagreed in a polite way.
- ☐ I made positive comments to my group members.
- ☐ I was willing to change my ideas to help the group.

from the *Understanding the Marketplace* unit

Assessment

Each Handbook contains strategies for assessing learning throughout the unit, as well as unit questions for review and synthesis activities.

EPISODE 1

PORTFOLIO

1

DATE

SYNTHESIS ACTIVITIES

The following synthesis activities offer your students the opportunity to demonstrate what they've learned in this unit. These activities are also powerful assessment tools for you because they're multidisciplinary. They allow for the various abilities of students as learners. These activities allow you to assess students on a variety of subjects and at a number of different levels. Each synthesis activity is followed by Criteria for Assessment. Unit Objectives addressed by each activity are on pages 52–54 of this Handbook.

1. **PORTFOLIO RESPONSE**

Activity

Have students review their Portfolios and identify at least four items that represent important ideas or skills learned. After students have selected the items, they should write at least one paragraph in response to the following questions:

 - List three important ideas from your Portfolio. Why are these ideas important?
 - What problems were encountered by or in the toy company? How did the company respond to these problems?
 - What have you learned about running a business?
 - What have you learned about designing new products?
 - What skills do you believe improved as a result of this unit?

Explain why.

Criteria for Assessment

Learning objectives were met if:

 - the portfolio demonstrates three important ideas about the economics of producing and marketing a toy and running a business;
 - reflections are thoughtful, well organized, and clearly communicated;
 - appropriate writing conventions are used.
2. **INTERVIEW AN EMPLOYEE IN THE TOY INDUSTRY**

Activity

Have students conduct an interview with an employee of a toy company, manufacturer, or retailer through a field trip or a telephone conversation. In advance, students should write at least five questions that show their understanding of how a toy company works. After the interview, have students write a one-page report about the interview and what they learned from the person interviewed.

from the *Understanding the Marketplace* unit

STUDENT PORTFOLIO

Students use the Portfolio to read, write, conduct research, and complete other activities crucial to the specific Storypath unit. The Portfolio helps students manage their work throughout the unit. And when completed, the Portfolio becomes an authentic assessment tool.

EPISODE 1
PORTFOLIO
4 DATE _____

CREATING A COMPANY NAME AND SLOGAN
Company Name

1. Brainstorm at least three names for the company.

2. Circle the name you like best.

Company Slogan

1. Look at the criteria the class discussed for a company slogan.
2. Look at the word bank for ideas for descriptive words.
3. Draft a slogan. Say it quietly to yourself. How does it sound? Will it catch people's attention? Will the slogan be remembered?
4. Edit the slogan.

Assessment: The company name is sensible and based on class discussion. The slogan uses striking adjectives that catch the reader's attention and provides information about the company. Clearly written and easy to remember. The modification of the research creates "logic." There is evidence that care was taken in choosing the slogan.

EPISODE 4
PORTFOLIO
13 DATE _____

PRESENTING THE MARKETING PLAN
As a group, prepare a presentation of your marketing plan using the guidelines below.

1. Make a list of three important ideas from your marketing plan.

2. Share your ideas with the group and select the best ideas.

3. Decide what each group member will share. Everyone should share something.

4. Write down what you will share. Give reasons for your marketing ideas.

5. Practice your presentation with your group. Give feedback to one of your group members on the practice introduction.

Presentation Skills	Great	Needs some work	Needs lots of work
You shared important information.			
You gave reasons for your marketing choices.			
The presentation was short and to the point.			
You were enthusiastic about your ideas.			
You spoke clearly and confidently.			
You made eye contact with your audience.			

©2005 Storypath **PORTFOLIO**
Understanding the Marketplace **17**

from the *Understanding the Marketplace* unit

CONTENT SLIDE SETS

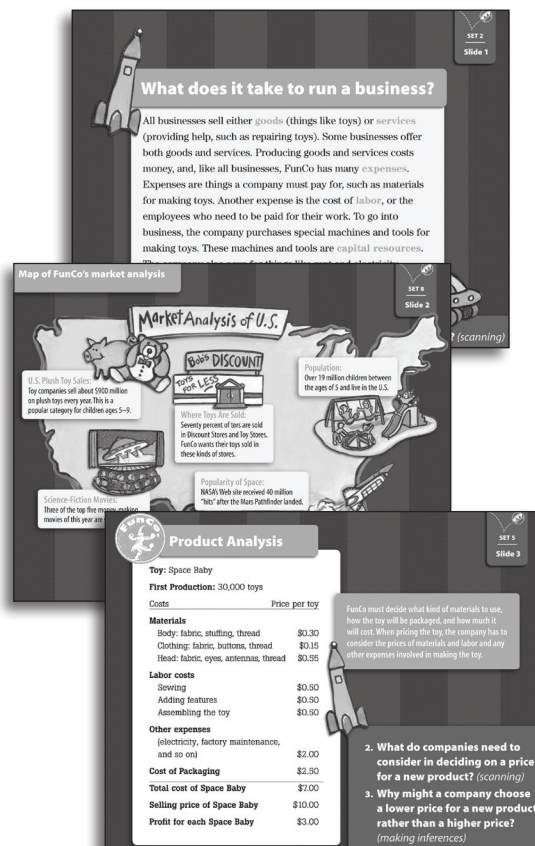
Each unit includes sets of Content Slides that offer flexibility in how they are used to support student learning. The number of sets varies from unit to unit. The slides in each set provide focused non-fiction content and can be used for independent, paired, or small group reading.

Students use the slides to build context and deepen their understanding of the unit's content. You can use the slides as most appropriate to your situation. For those with laptops, display the appropriate slides for student reading and discussion or reproduce the slides as needed for each episode for individuals, pairs or small groups.

In the overview of each episode, slide sets needed are listed and specific suggestions are provided for how to use the slides as you proceed through the episode. Best practice is for the slide to be available to the students either on a laptop in front of them or in hard copy. Then the teacher can use a large screen to display and support discussion related to the slide.

A "reading tips" chart in PDF format (located on the CD) provides quick reminders of key reading strategies. Reproduce "reading tips" for each student or group.

Note that the slides are conveniently available in a printable format on the CD.



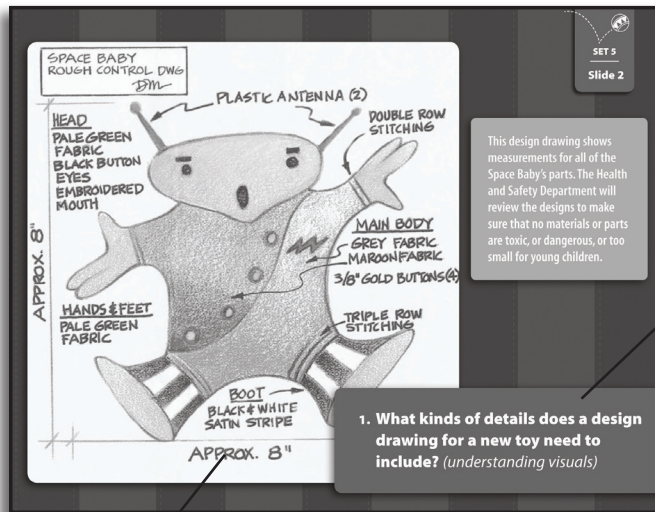
from the *Understanding the Marketplace* unit

LITERACY AND STORYPATH

With the Storypath strategy, students deepen their understanding of major social studies concepts. Storypath provides literacy support to help students access and make sense of the social studies content. Students apply literacy skills such as reading comprehension, prewriting and writing skills, speaking and listening skills, and vocabulary development.

Reading

Content Slide Sets present opportunities for students to engage in focused content reading. Students can read the slides independently or with a partner and listen as the partner reads.



from the *Understanding the Marketplace* unit

Comprehension


Questions on each Content Slide Set help students focus on important content. Questions are labeled with suggested reading strategies.

Visual Literacy

Each unit offers numerous opportunities to evaluate and respond to visuals such as photographs, maps, diagrams, and illustrations.

Reading Tips

For easy reference, Reading Tips for using the reading strategies are included on the CD.

 Understanding the Marketplace: The Toy Company		
Reading Tips		
Reading Strategy	When do I use the strategy?	How do I use it?
Main idea/ supporting details	Use it to find the big idea, and then identify the facts and details that support it.	<ol style="list-style-type: none"> 1. Think about what you want to know and what you already know. 2. Read the text and think: What is the "big idea" here? 3. Look for information that is important to the big idea. Some facts are interesting but not important. 4. The details you find may cause you to change your big idea.
Comparing and contrasting	Use it to find information that tells you how two or more ideas are alike and different.	<ol style="list-style-type: none"> 1. Think about what you want to know. 2. Choose two events or ideas to compare and contrast. 3. List important information about one event or idea. 4. For each item on the list, look for information about how the other idea is the same or different. 5. Look for clue words such as "similarly," "also," and "however."
Making inferences	Use it to understand information not stated directly in the text, or to "read between the lines."	<ol style="list-style-type: none"> 1. Think about what you want to know and what you already know. 2. Look for clues in the text that give you new information. 3. Compare this new information with what you already know to figure out what the author is saying.
Connecting	Use it to understand new information by connecting it with what you already know.	<ol style="list-style-type: none"> 1. Think about what new information you want to remember. 2. Think about what you already know. 3. Look for connections between the new information and what you already know from experience or reading. 4. These connections will help you remember the new information.
Scanning	Use it to quickly find the specific information you need.	<ol style="list-style-type: none"> 1. Think about what information you need to find. 2. Move your eyes over the page looking for subheadings, italicized or bold print words, and key ideas. 3. When you find what you're looking for, slow down and read carefully.
Understanding visuals	Use it to find information presented in visual forms such as maps, graphs, photographs, diagrams, and timelines.	<ol style="list-style-type: none"> 1. Think about what you want to know and what you already know. 2. Look for information that explains the visual. For example, look at labels, captions, arrows, or map keys. 3. Search for the specific information you want. 4. Put the information into words to help you understand the visual.

from the *Understanding the Marketplace* unit

Writing

Throughout each unit, students complete writing activities to prompt thinking as well as to demonstrate what they have learned.

EPISODE 3
PORTFOLIO
10

DATE _____

UNDERSTANDING OPPORTUNITY COST

In a toy company, inventors have to make choices about what toys to produce and how to make them. A company has limited resources. This means the toy inventors have to make choices. This happens every day in lots of ways. For example, if you have an allowance of \$5.00, you know that if you spend the money for a magazine, you can't spend it for a slice of pizza. You have to decide what is the most important way to spend the allowance. If you choose to buy the pizza, you give up the opportunity to buy the magazine. This is called **opportunity cost**.

In your group, you selected the best idea for the toy prototype. You know the company cannot produce every toy because this would cost the company too much money. Read Content Card 3. What choices did FunCo have to make?

1. What toy did FunCo choose to make?

2. Name one example of an opportunity cost FunCo might have had to consider.

3. What toy did you choose to make?

4. Name one example of an opportunity cost you had to consider.

This was your opportunity cost because you did not have the resources to do both. You had to make a choice.

13

from the *Understanding the Marketplace* unit

Vocabulary Development

In each unit, students are exposed to specialized vocabulary for speaking and writing. Students create word banks in their Portfolio by recording content words.

EPISODE 1
PORTFOLIO
3

DATE _____

WORD BANK

In the first column, list economic terms. In the second column, list jobs. In the third column, list interesting words that describe the toy company.

Economic Terms	Jobs	Describing Words

6

from the *Understanding the Marketplace* unit

Speaking and Listening

Students refine these skills by presenting ideas to the class and resolving issues through discussion and collaboration.

EPISODE 3
PORTFOLIO
11

DATE _____

PRESENTING THE PROTOTYPE

As a group, prepare an introduction for your toy using the guidelines below.

1. List three important ideas about your toy. Be sure to include why someone would want to buy the toy.

2. Share your ideas with the group and select the best ideas.
3. Decide what each group member will share. Everyone should share something.
4. Write down what you will share. Keep your presentation short and to the point.

5. Practice your introduction with your group. Give feedback to one of your group members on the practice introduction.

Introduction Skills	Great	Needs some work	Needs lots of work
Important information was shared.			
The presentation was short and to the point.			
You spoke clearly and confidently.			
You made eye contact with your audience.			

14

from the *Understanding the Marketplace* unit

Reading Mini-Lessons

Use the Reading Mini-Lesson Framework on p. 61 of this Teacher's Handbook to conduct reading mini-lessons.

HOW TO CONDUCT READING MINI-LESSONS

The Reading Tips chart on the CD provides a quick reminder for students to use as they work with the slides. These Reading Tips cover strategies that are especially effective for reading and understanding nonfiction text.

- Identifying main ideas and supporting details
- Comparing and contrasting
- Making connections
- Making inferences
- Scanning for specific information
- Understanding visuals

You can use the Reading Tips as the basis for mini-lessons.

The unit assumes that these strategies have been taught and practiced in other classroom contexts and that the purpose of the Storypath mini-lesson is to provide a quick review. You will decide which reading strategies are most applicable for each reading task within the unit. In addition, the discussion questions on the Content Slide Sets suggest applicable strategies that the students will need to use on their own.

READING MINI-LESSON FRAMEWORK

1. **Describe the strategy, explaining when and why readers use it.** Your students may need some help in understanding the reading strategy and knowing when it might be useful. Use the Reading Tips chart for information on explaining the strategy and helping students understand when and why readers use it.
2. **Model the steps as you "think aloud" with a sample text.** Demonstrate how you would use each strategy, using text from or similar to text in the Storypath unit. First, read some of the text aloud and then talk about what happens in your head as you use the strategy. This modeling makes the hidden reading processes become more visible and concrete for developing readers. Language that will help you includes the following:
 - "I think about what I already know..."
 - "When I look for the main idea, I..."
 - "Here is a clue that will help me..."
 - "That makes me think..."
3. **Guide students to apply these steps as they read during the unit.** Support students as they apply the various reading strategies in the Storypath unit and begin to use the strategies independently. For example, after you model your own thinking, ask students to try out the strategy with your guidance before asking them to apply it on their own. This will help you determine which students understand the strategy and which students need more help.
4. **Assess students' progress.** Students' independent use of the various reading strategies will give you valuable opportunities to assess their growing proficiency with the strategy, as well as their understanding of social studies content.

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from the *Understanding the Marketplace* unit

ENGLISH LANGUAGE LEARNERS AND STORYPATH

English Language Learners, or ELL, is a term that applies to students whose primary language is not English. These students are in the process of acquiring English as a way to communicate ideas and gain content knowledge. They don't yet have the tools at their fingertips that native English speakers have that allow them to easily navigate classroom activities and contribute to classroom experiences. ELL students don't lack ability; they just don't know the language.

As ELL students gain experience in an English-speaking classroom, their abilities and comfort level increase. But remember that regardless of the progress made by ELL students, new material will revert them back to beginner status simply because they do not have the same background knowledge that a student who was born here does.

There are some very basic things the teacher can do to make the classroom a place of learning for ELL students. For example, text-rich activities, without visuals, should be avoided. Visually rich activities should be commonly used, and the senses should be engaged whenever possible. Music and kinesthetic activities, such as role-playing, are excellent tools for ELL students.

Activate prior knowledge. English language learners are similar to native English speakers in the most fundamental ways: they possess a great deal of prior knowledge, and are excited about sharing that knowledge. To provide scaffolding, preteach new vocabulary and introduce concepts with visuals that relate to the subject matter. When studying another time period, it is important to connect concepts to both the present and the past.

Allow extra time for small group work. ELL students will benefit from working with partners and small groups. These situations allow students more opportunities to contribute to conversations and complete tasks. In small groups, assign ELL students a specific task to complete, and allow them extra time to complete this task if needed. When you do have whole class discussions, you might have ELL students follow this discussion by working with a partner to recap the important ideas or the assignment.

Model tasks and thought processes. Modeling makes tasks and thinking processes more concrete. For example, if students are expected to write a short poem, model the process of writing a poem. Then have them refer to the model poem as they write their own.

Develop vocabulary. Vocabulary development is key to comprehension, so preteach vocabulary whenever possible. Use illustrated word banks and vocabulary exercises that encourage interaction with words. For example, students can write the word and draw an illustration of each word in the word bank and then verbally explain how the word relates to the big ideas in the unit.

Allow use of the native language. For students who possess few English words, allow them to complete writing activities in their native language. As they learn more English, they will begin to incorporate English into their written and oral language. This validates the students' native language and their prior knowledge, and also helps bridge the gap on their way to learning—and using—their new language.

Encourage involvement in class discussions. English language learners will likely be reluctant to contribute to whole group discussions, so encourage them to contribute in a way that is comfortable for them—words, phrases, simple sentences. Make sure the classroom is a safe and supportive environment.

Modify assignments and assessments. Students can use many different modes to communicate their understanding of unit concepts. Illustrating, cutting and pasting vocabulary activities, using graphic organizers such as timelines, and completing sentence stems are all excellent and valid methods for responding to content. ELL students should also work on and present material with a partner or in small groups whenever possible. In these situations, you will gain a more valid assessment of what ELL students have learned.

Additionally, at the beginning of the school year and anytime new material is introduced, limit the number and complexity of the activities you assign. Allow students to use methods other than writing to respond to information.



Look for this icon throughout this Teacher's Handbook. This icon indicates that an activity is particularly appropriate for English Language Learners.

ASSESSMENT

Each Storypath unit offers a range of options for assessing student learning.

Portfolio Assessment

The Student Portfolio provides ongoing assessment of student understanding of unit objectives through writing and other response activities.

During Each Episode

Assessment suggestions are included throughout the Teacher's Handbook and align with the Student Portfolio. Complex thinking and problem-solving abilities are assessed as students role-play and respond to critical events throughout the unit.

EPISODE 3
PORTFOLIO
7

DATE _____

ORGANIZATION CHART
Use the chart below to keep track of the tasks your group completes while you design and create your toy.

Task	Group Member(s) Responsible	Scheduled Date	Date Completed
Brainstorm toy ideas.			
Choose the best idea.			
Create a sketch of the idea.			
Meet with other group(s) for feedback.			
Construct prototype.			
Prepare and practice presentation.			
Give presentation.			
Redesign, if necessary.			

Assessment: The chart is completed including the scheduled date.

10 **PORTFOLIO**
Understanding the Marketplace

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from the *Understanding the Marketplace* unit

DESIGNING AND CREATING TOYS

ELL Sketch the designs
Before students create prototypes of toys, they will need to carefully plan them in advance. Structure the designing activity based on the needs of your students. The following is one way you might organize their work. Portfolio page 10, "Organization Chart," can help students keep track of the various steps in the process.

Step 1 Have students assemble in their work groups.

Step 2 Before starting work, students could discuss skills for working in groups. Use the Social Skills Teaching Master on TH page 45. Discuss the skills and provide specific examples from the classroom setting.

- Be a good listener.
- Encourage others to participate.
- Do your fair share of the work.
- Work to resolve conflicts in the group.

Step 3 Students can work in their groups to brainstorm ideas for toys. Each group should compile a list, sketch ideas on Portfolio page 11, and then come to an agreement as to the idea the members like best. Remind them to use the criteria they outlined to help them select their best idea.

Step 4 After each group has selected its best idea, group members should make a detailed sketch of the toy on a large sheet of graph paper.

Step 5 Once the sketches have been finished, groups should conduct market research to receive feedback on their designs. You might model some questions, such as "What materials will be used to make this toy? How expensive will they be? These parts look like they could come off—how will you make this safer for young children?" On Portfolio page 12, have each group list questions to ask about the prototypes to help guide their inquiry.

ELL Make the toys
Once groups have completed their designs and received feedback from classmates, each group should make a prototype of its toy. Refer students to Content Slide Sets 4 and 5 to help them understand the process of designing a toy and creating a prototype. The more variety in art and craft materials you provide, the more interesting the prototypes will be. Students may find that they will need to modify their toys once the construction process begins. As much as possible, let students solve their own construction problems. This will help them feel more ownership over their prototypes while also teaching them elements of design and construction.

TEACHING MASTER
TS

CONNECT
Technology
If your classroom has the computer technology, encourage students to use design programs to plan their prototypes.

CONNECT
Science and Visual Arts
The prototypes will give students the chance to practice an important skill: the construction of models.
Suggest that students create charts showing each step in the construction process of their prototypes.

PORTFOLIO
7

PORTFOLIO
8

PORTFOLIO
9

CONTENT SLIDE SETS
4
5

26 **EPISODE 3**
Understanding the Marketplace

from the *Understanding the Marketplace* unit

Self-Assessment

Students have opportunities to assess their own work, such as writing and oral presentations. There are also opportunities for student reflection at the end of each episode.

EPISODE 6
PORTFOLIO
16 CONT.

SKETCH YOUR DISPLAY.
On a sheet of paper, sketch where you will place the information on the display. Check off each of the following as you add it to your display:

- ☐ a title
- ☐ the name of the toy
- ☐ written information about the toy
- ☐ visuals with titles and captions

ASSESS YOUR ROUGH SKETCH.
Answer these questions, making changes to your display sketch if necessary.

- Does the display attract attention?
- Is the layout simple and uncluttered?
- What is the message conveyed about the toy? Is the message clear?
- How will your display persuade people to buy your toy?

MAKE THE DISPLAY.
Follow your sketch and your answers to the above assessment questions to make your display. Pencil in where you will place your information and your visuals before you glue them onto your display.

Assessment: The display attracts attention and is well organized. It provides clear and important information about the toy and uses persuasive techniques to encourage buyers to purchase the toy.

©2005 Storypath **PORTFOLIO**
Understanding the Marketplace 21

from the *Understanding the Marketplace* unit

Social Skills

A social skills master is provided to support student self-assessment and can be used at the teacher's discretion whenever students need to reflect and build on such skills.

TEACHING MASTER
T5

Name _____ Date _____

SELF-ASSESSMENT: SOCIAL SKILLS
Social skills are an important part of working for a company. Use the chart below to rate your group skills.

EPISODE: _____
Describe the group situation or event: _____

Group Skills	I need to work on this.	I did this some of the time.	I did this most of the time.
I was positive and respectful.			
I was a good listener.			
I encouraged others to participate.			
I did my fair share of the work.			
I worked to solve conflicts in the group.			

One thing our group did well together: _____

One thing our group needs work on: _____

One thing I really did well: _____

One thing I could do better: _____

©2005 Storypath **TEACHING MASTER**
Understanding the Marketplace 45

from the *Understanding the Marketplace* unit

End of the Unit

At the conclusion of the unit, synthesizing questions reinforce unit objectives. Optional synthesis activities are included to guide students to apply what they've learned. Each synthesis activity includes criteria for assessment—you decide how best to use these options.

UNIT QUESTIONS FOR REVIEW

DISCUSSING THE TOY COMPANY
Lead a discussion that reinforces the concepts and generalizations taught throughout the unit. The following questions encourage a discussion of major concepts. Include questions about any problem-solving situations you've added to the unit.

- ❶ What human resources (labor) were needed in the toy company? Capital resources? Natural resources?
- ❷ What qualifications and personality traits do people need in order to work in a toy company?
- ❸ How do workers in a business depend upon one another?
- ❹ What considerations have to be made when new products are being developed?
- ❺ What opportunity costs are considered when creating new toys?
- ❻ What responsibilities do businesses have to their customers, for example in terms of product safety? What responsibilities do businesses have to the environment or to the common good?
- ❼ What types of decisions go into making marketing plans?
- ❽ What methods can citizens in a democratic society use to respond to controversial topics in the workplace?

46 **Understanding the Marketplace**

from the *Understanding the Marketplace* unit

SYNTHESIS ACTIVITIES
The following synthesis activities offer your students the opportunity to demonstrate what they've learned in this unit. These activities are also powerful assessment tools for you because they're multimodal. They allow for the variances in students' abilities as learners. These activities allow you to assess students on a variety of subjects and at a number of different levels. Each synthesis activity is followed by Criteria for Assessment. Unit Objectives addressed by each activity are on pages 52–54 of this Handbook.

1. PORTFOLIO RESPONSE
Activity
Have students review their Portfolios and identify at least four items that represent important ideas or skills learned. After students have selected the items, they should write at least one paragraph in response to the following questions.

- List three important ideas from your Portfolio. Why are these ideas important?
- What problems were encountered by or in the toy company? How did the company respond to these problems?
- What have you learned about running a business?
- What have you learned about designing new products?
- What skills do you believe improved as a result of this unit? Explain why.

Criteria for Assessment
Learning objectives were met if

- the portfolio demonstrates three important ideas about the economics of producing and marketing a toy and running a business;
- reflections are thoughtful, well organized, and clearly communicated;
- appropriate writing conventions are used.

2. INTERVIEW AN EMPLOYEE IN THE TOY INDUSTRY
Activity
Have students conduct an interview with an employee of a toy company, manufacturer, or retailer through a field trip or a telephone conversation. In advance, students should write at least five questions that show their understanding of how a toy company works. After the interview, have students write a one-page report about the interview and what they learned from the person interviewed.

Understanding the Marketplace 47

from the *Understanding the Marketplace* unit

PLANNING THE UNIT

PROTECTING AN ECOSYSTEM: THE RAIN FOREST

MAKE KEY DECISIONS

Make Space for the Storypath. You will need enough wall space for students to make the rain forest frieze and to display their characters and the various projects they complete during the unit. Sometimes teachers are tempted to put the frieze and characters in the hallway outside of the classroom. It is important, however, to display these items inside the classroom where students can easily refer to them throughout the Storypath.

Organize Students. In Episode 1, organize students into three groups—the canopy, the understory, and the forest floor—to construct the frieze. In Episode 2, students individually create characters who apply for jobs to work in the rain forest reserve. Then in Episode 3, students will work in pairs or small groups to make visual displays of rain forest habitats.

Arrange for the Debate. In Episode 4, you might invite two adults to participate in the debate as the moderator and the lumber company representative. Background information is provided on Teaching Master 11 and on TH pages 56–57 to assist the volunteers in preparing for the debate. If possible, arrange to hold the debate in a special room, such as the school district's board room or the school library.

CUSTOMIZE THE UNIT

Adapt the Unit. There will likely be many times in this unit when you will want to modify the curriculum to suit your own needs and follow the logical progression of the story. Alternative activities or special arrangements are suggested at various points during the unit to assist in adapting the unit to meet your unique needs.

Frequently, students will provide an unanticipated twist to the Storypath, or important learning opportunities will arise. The Storypath allows for the accommodation of those special circumstances.

Gather Resources. Throughout the unit you will want to have available a variety of resources about the rain forest. The Content Slide Sets serve as a good starting point but you will want students to read a range of texts both in books and on the Internet about the rain forest. See page 62 for suggested resources.

Use Current Events. Students role-play the scientists and discuss the rain forest from their own perspective. These are opportune times to help students connect their experiences to current events. International stories related to the rain forest are frequently in the news, and students can also apply what they've learned to local issues, such as the establishment of a wildlife sanctuary or a green belt in their own community. In fact, making these connections can serve as powerful learning experiences because students understand firsthand the transferability of their classroom experiences to the real world.

Don't be surprised if students make current event connections on their own. Teachers report that once students become immersed in this Storypath, they begin to pay more attention to nature programs on television and news reports about rain forests. Students with Internet access often use computers to discover valuable information, which they're eager to include in their rain forest projects.

Connect to Other Storypaths. Complementary Storypath units that integrate science and social studies include *Safari to Kenya*, *Protecting an Ecosystem: The Great Barrier Reef*, and *Creating a Constitution: The Space Colony*. For other Storypath topics go to www.teachstorypath.com.

INVOLVE OTHERS

Involve Families. Family members and other adults can serve as excellent resources for you and your students. Some family members may have special knowledge about the rain forest or may have visited rain forests—invite them to your classroom.

In Episode 5, students celebrate the preservation of the rain forest reserve. This is an ideal time to invite families. Students can write invitations to their celebration, and then provide family members with “guided tours” through their rain forest.

Involve the Community. Guest speakers invited to your classroom or field trips to nature conservatories, arboretums, and zoos with rain forest exhibits are all suitable activities for this Storypath. Those activities should be carefully timed, however, and should only happen when students are truly interested in observing natural environments or hearing what a speaker has to say. For example, it would be unwise to visit a rain forest exhibit at a zoo before students create their own rain forest frieze because students would simply replicate what they saw. A visit at the end of the unit allows students to knowledgeably compare and contrast the two settings, making the visit a more powerful learning experience.

Create a Learning Community. An open and supportive atmosphere is essential for students to engage in the discourse that is basic to the learning process of the Storypath approach. Students should understand the value of reflective discussions and the importance of collaborative work to deepen their understanding of complex ideas. Consequently, students should be expected to listen carefully and respond thoughtfully and respectfully to one another's ideas.

CREATING THE SETTING

THE RAIN FOREST RESERVE

INTRODUCING THE RAIN FOREST

page 15

Students listen to and discuss a description of a rain forest environment.

Materials Teaching Master 1, *Description of a Rain Forest*, TH* p. 38
Content Slide Sets 1 and 2

Grouping Whole class

Schedule Approximately 20 minutes

CREATING THE RAIN FOREST RESERVE

page 16

Students create a rain forest frieze.

Materials Portfolio 1, *Frieze Guide*, p. 4
A selection of books and Internet sites if students want more information
For the frieze:

- one bulletin board or wall space, approximately 6' wide and 4' high, covered with white butcher paper
- various colors of construction and tissue paper—many shades of green
- old newspapers (the want ads), colored markers, crayons, glue, scissors
- fabric, foil, cotton balls, yarn, raffia
- optional: rain forest sounds recording and player (There are many commercial recordings of rain forest sounds. Check your school or local library for these recordings.)

Grouping Three groups—one for each section of the rain forest

Schedule 1–2 hours

CONCLUDING EPISODE 1

page 17

Students make word banks and write sense poems to share with their families.

Materials Portfolio 2, *Word Bank: The Rain Forest*, p. 6
Portfolio 3, *Writing: Sense Poem*, p. 7
For the word banks: thick black markers and index cards or strips of paper
For the optional activity:

- rain forest sounds recording and player
- musical instruments and other items that can be used to create sounds of the rain forest

Pocket folders or sturdy paper to make folders (one per student)

Grouping Three groups for the word banks; individuals for the poetry activity

Schedule Approximately 1 1/2 hours, including time for writing the poems

EPISODE OBJECTIVES



- **Social Skills** *Organize, plan, and make decisions while creating a frieze with group members.*
- **Social Skills** *Determine an appropriate course of action to complete the frieze within a group.*
- **Critical Thinking** *Organize ideas from class discussion in new ways and apply those ideas to the frieze.*
- **Literacy** *Use specialized vocabulary to understand and communicate concepts about the rain forest.*
- **Literacy** *Write a sense poem about the rain forest.*

INTRODUCING THE RAIN FOREST

Launch the unit

Tell students they will create a story about a rain forest reserve in the Amazon River Basin in South America. Discuss with students the elements of a story: setting (when and where the story takes place), characters (the people in the story), and plot (critical incidents). In this episode, students will create the setting for the story—a tropical rain forest.

Describe the setting

Students will create a frieze using a description of a rain forest that you are going to read to them. Divide the class into three groups and tell them that you are going to read information about a rain forest. Each group will need to focus on the part of the rain forest for which it will be responsible during construction of the frieze. One group will focus on the canopy (top layer of the forest), one on the understory (between the upper reaches of the forest and the forest floor), and the third group will focus on the forest floor. See Content Slide Sets 1 and 2 for an introduction to the rain forest and rain forest terms.

Read to students Teaching Master 1, “Description of a Rain Forest,” TH page 38, which contains a detailed description of the rain forest.

Students probably know something about rain forests from television, books, or previous learning experiences. Encourage them to compare what they already know to the description you read. This comparison will show you the extent of their prior knowledge and will help you develop the Storypath.

Generate ideas about rain forests

After you have read the rain forest description to the class, lead a discussion using the key questions below. Make a list of the students’ responses on the board or a large sheet of paper.

- ❓ What are the three main layers of the rain forest? (*Canopy, understory, forest floor; Students might also mention emergents, the giant trees that tower above the canopy.*)
- ❓ What is found in each of the layers? (*: sunlight, tops of trees and vines, plants that cling to tree branches, flowers; : less light, smaller trees, ferns and palms, fruits and nuts; : darkness, dead leaves, rotting trees, flowering plants, herbs, mosses, fungi, tree and vine roots*)
- ❓ What else might be found in this rain forest? (*If students suggest animals or people, record their suggestions on a separate list. These components will come later in the Storypath.*)
- ❓ What colors will you find in the rain forest? (*Lead students to suggest different flower colors as well as the greens, grays, and browns of leaves, trunks, and branches.*)
- ❓ How will the colors change from layer to layer? (*Guide students to suggest that colors would appear darker farther down toward the forest floor because of the lack of light.*)

CUSTOMIZE

Developing the Setting

Even though this unit relates to the Amazon Basin rain forest, the setting for the reserve could be any tropical rain forest, such as one in Africa or Indonesia. This Storypath could also be adapted to other types of ecosystems, such as the wetlands, the prairie, or the temperate rain forest along the Pacific Coast in Washington State. Adapt or create a description to meet your needs.

CONNECT

Map

Use the map in Content Slide Set 10 to locate the Amazon rain forest as well as other tropical rain forest locations.

LITERACY

Active Listening

As you read the rain forest description, students can

- listen to the description of the rain forest;
- imagine what the rain forest looks like;
- use context to define unfamiliar words.



CONTENT
SLIDE SETS

1
2

TEACHING
MASTER

T1

AUTHOR NOTE

Learning Process

The frieze students make of the rain forest is a starting point. It gives them a common, concrete point of reference. As students learn more during the unit, encourage them to make changes to the frieze that reflect their new understandings.

LITERACY

Vocabulary

- canopy
- emergents
- epiphytes
- forest floor
- fungi
- herbs
- mosses
- nutrients
- understory

- ❓ What is the climate like around the equator? *(Students should understand that the climate around the equator is warm.)*
- ❓ What type of climate do flowers need to grow? *(A warm climate. If necessary, lead students by asking them what time of year flowers grow where they live.)*
- ❓ What might the climate be in the rain forest? *(As well as being warm, the rain forest climate is very wet and humid. Refer students to Content Slide Set 1 for more information.)*



CREATING THE RAIN FOREST RESERVE

CONNECT

Creative Arts

Before students start on the frieze, discuss

- how the trees at the front of the frieze will be larger and more detailed than those at a distance;
- how to use shades of colors to create depth;
- how to add texture to the frieze. Torn paper techniques work well for making leaves. Twisted paper can be used for making tree trunks. Yarn or raffia works well for vines and exposed roots.

Start the frieze

Have students reassemble into their three groups—canopy, understory, and forest floor. Remind them that each group will be responsible for creating a part of the rain forest frieze. Explain to students that they can base their designs on the ideas from the brainstorming session, as well as add other features they may think of as they create the frieze.

Point out the general areas where the canopy, understory, and forest floor will be created on a large bulletin board. Explain that since some trees and vines overlap all three sections of the rain forest, the groups will have to coordinate these features on the frieze. A good way to accomplish this is to have representatives from each group work together to sketch the major trees, canopy, understory, and forest floor on the background paper. To reinforce the concepts of canopy, understory, and forest floor have students read Content Slide Set 2.

Refer students to Portfolio p. 4, “Frieze Guide,” to help them organize their part of the frieze. This guide also contains tips for working together constructively.

Organize the work

After students decide on how to organize the responsibilities of their group, have students do much of the work at their desks. A few students can then place the items on the frieze. Here’s one method for organizing students’ work:

Step 1 Have each group meet to form an overall plan.

Step 2 Students use pencil to outline major features on their part of the frieze so it will be easier to talk about them as they plan.

Step 3 When the overall plan is done, some students can work on the background while others work at their desks on more detailed features in the foreground.

Step 4 Students can change places to add their detailed foreground elements to the frieze.

CUSTOMIZE

Creating Mood

You might play a tape of rain forest sounds while students are constructing their frieze. If you plan to have your students create their own sounds of a rain forest (see the optional activity on page 19), then don’t play the sounds until then.



AUTHOR NOTE

Learning Process

As some students work on the frieze, they may want to look through books or magazines that provide specific information about the rain forest. It’s fine if students choose this path, because they will be investigating rain forests on a need-to-know basis. To prepare for this opportunity, arrange books on the topic in a designated place in the classroom, identify Internet sites and/or refer students to Content Slide Sets 4–9.



Guide student work

Once students begin working, try to restrict your role to asking questions about the various tasks students are engaged in. Students need to develop ownership of their setting and make decisions themselves about the features. To help students monitor their own work, have them discuss what went well and what they would do differently using the section of Portfolio p. 5, “Frieze Guide,” that is titled “Assess your work.”

PORTFOLIO

1



AUTHOR NOTE

Pacing

Set a time limit for creating the frieze. Otherwise, students will most likely want to continue working for a long time. They can add to their settings when extra time permits.

CONCLUDING EPISODE 1

Discuss students' experiences

Once the frieze is completed, initiate a discussion about it. Encourage students to record their opinions and observations. Writing will give them a chance to reflect on their knowledge of the rain forest. The discussion is a good opportunity for you to assess students' progress. Here are possible questions for discussion:

- How might it feel to walk through this rain forest?
- What sounds might you hear if you walked through this place?
- What smells would there be in a place such as this?
- What words could you use to describe this place?
- What did you do that helped the group work efficiently?
- What can you do differently to help your group work better together?

AUTHOR NOTE

Vocabulary

Students should do language activities that foster ownership and develop a rich vocabulary for talking about the setting. The word bank develops vocabulary that students can use in their writing as the unit progresses.

Create a Word Bank

Assign one student from each group to be the recorder, and have the groups brainstorm a list of words that describe the entire frieze. (Students shouldn't feel confined to describing only the section their group made.) Have students look at the categories shown on Portfolio page 6, “Word Bank: The Rain Forest,” to develop and reinforce sensory images. Guide the discussion to include words previously introduced in the rain forest description. Using a thick black marker, the recorder can write words on index cards—one word on each card—while others record words in the Portfolio word bank. Post the words on cards next to the frieze. Encourage students to write as many words as they can; all the words should be posted even if there are duplications. In this way, each student will have contributed to the word bank.

As students record words in their Portfolio word banks, encourage them to write definitions and examples of the word or to sketch images that help them understand and remember the words. As the Storypath progresses, any word that relates to the unit or is interesting or unknown to the students can be added to the word bank. This unit will introduce a wide range of vocabulary throughout for students to record.

PORTFOLIO

2



CUSTOMIZE

ELL Encourage students to illustrate the words in the word bank and/or add words in their native language.

CUSTOMIZE

ELL Model the process of writing a sense poem, and then refer students to the model in the Portfolio. Students can also draw a picture that illustrates an aspect of their sense poem.

Write a sense poem

Students will write a sense poem that describes the place they have created, further developing a sense of connection to the rain forest environment. Students can also introduce the Storypath unit to their families by sharing the sense poem at home. Students can use words from the word bank—and any other words they can think of related to the rain forest—to write the poems. Encourage them to focus on the writing trait of “word choice” to create a vivid picture of the rain forest. Portfolio page 7, “Writing: Sense Poem” will guide students’ work. Before students begin writing, brainstorm possible words that might be used to complete each line. Once the lines are completed, students should delete the stem of each sentence and a very descriptive poem will emerge. Let students read and discuss their poems before they take them home to share with their families or, alternatively, display the poems around the frieze.

<i>I see brightly colored macaws</i>	<i>Brightly colored macaws</i>
<i>I hear gurgling rushing water</i>	<i>Gurgling rushing water</i>
<i>I touch velvety delicate orchids</i>	<i>Velvety delicate orchids</i>
<i>I smell damp rotting leaves</i>	<i>Damp rotting leaves</i>
<i>I feel wonder in this vibrant forest</i>	<i>Wonder in this vibrant forest</i>



ASSESSMENT

ASSESS: The sense poem

- follows the given format and creates an accurate picture of the place;
- includes adjectives and nouns to create a logical sequence for each sense;
- includes vivid and interesting adjectives to add depth of understanding and to create “color”;
- demonstrates care in choosing words and in construction;
- uses correct spelling.

PORTFOLIO

3



CUSTOMIZE

Writing Options

You can use the following guidelines for selecting your own writing activity. The activity should

- use the frieze as a focus;
- reinforce concepts and/or skills important to the goals and objectives of the unit;
- promote student interaction.



ASSESSMENT

Optional Activity: Investigate sounds

This activity gives students the opportunity to imagine what a rain forest sounds like.

Step 1 Ask students to brainstorm sounds they might hear in a rain forest and write their suggestions on the board. Have them consider how they could either reproduce these sounds for the class or make a rain forest audiotape.

Step 2 Arrange students in groups of four or five. Have them first experiment with various sounds and then either make a recording or give a 30-second presentation to the class.

Step 3 Have students discuss why their presentations or sound recordings make them think of a rain forest.

Step 4 If possible, share a sound recording of actual rain forest sounds with students. Have them compare and contrast what they created with their own recording.

ASSESS: The recordings

- use a variety of sounds, such as falling rain and different animal calls;
- demonstrate successful methods for approximating the sounds.

Create Portfolio folders

When students complete their work, have each of them make a folder with a pocket or distribute ready-made folders with pockets to each student. At the end of the Storypath, the folder pockets can be used to hold students' figures and other important items.

CREATING THE CHARACTERS

THE RAIN FOREST RESERVE EMPLOYEES

INTRODUCING RAIN FOREST RESERVE JOB OPPORTUNITIES page 21

Students brainstorm a list of jobs for the reserve.

Materials	Teaching Master 2, <i>Job Opportunities in the Amazon Basin Rain Forest</i> , TH p. 39 Portfolio 4, <i>Job Titles for a Rain Forest Reserve</i> , p. 8 Content Slide Sets 3 and 4
Grouping	Whole class
Schedule	Approximately 30 minutes

IMAGINING THEMSELVES AS RESERVE WORKERS page 22

Students create figures of themselves as employees of the reserve.

Materials	Teaching Master 3, <i>Rain Forest Reserve Job Application</i> , TH p. 40 Portfolio 5, <i>Making Figures</i> , p. 10 Content Slide Set 3 For the characters: <ul style="list-style-type: none"> ■ various skin colors of construction paper ■ wallpaper or fabric scraps, paper doilies, ribbon, lace, buttons ■ colored markers, crayons, colored chalk, glue, tape, scissors ■ wool fiber or yarn for hair ■ wire hangers, old shirts, blouses, ties, scarves
Grouping	Students work independently
Schedule	2 hours

CONCLUDING EPISODE 2 page 24

Students introduce themselves as rain forest employees and reflect on their experiences.

Materials	Portfolio 6, <i>Introductions</i> , p. 12
Grouping	Independently (to practice the introductions); whole class (during the presentations)
Schedule	Approximately 1 1/2 hours

EPISODE OBJECTIVES



- **Social Skills** *Organize, plan, and make decisions while creating characters.*
- **Critical Thinking** *Organize ideas from class discussion in new ways to create unique characters.*
- **Civic Competence** *Recognize how citizens can take action to strengthen the “common good” of environmental preservation.*
- **Literacy** *Read and discuss a fictional job announcement.*
- **Literacy** *Organize information to write a job application.*
- **Literacy** *Present oral introductions to share information.*

INTRODUCING RAIN FOREST RESERVE JOB OPPORTUNITIES

Offer job opportunities

Explain to students that now that they have their rain forests, their story needs characters to work at the rain forest reserve. Then either display or distribute Teaching Master 2, “Job Opportunities in the Amazon Basin Rain Forest,” TH page 39. This Teaching Master contains a job advertisement inviting prospective employees to work on and help maintain a wildlife reserve in the Amazon River Basin. Ask students to imagine themselves responding to this advertisement.

TEACHING
MASTER

T2

CONNECT

Map Skills

The map of South America on Content Slide Set 1 will show students the location of the Amazon Basin rain forest. As optional activities for using the map, students can

- draw their own Amazon Basin rain forest map, to which they can add details throughout the unit;
- use a globe to find a country the same size as the rain forest.

AUTHOR NOTE

Learning Process

Midway into the brainstorming, you might introduce the more technical names for the jobs. It is important, however, that the brainstorming process occurs first so that students begin to construct their own understanding of the jobs needed on a rain forest reserve. Some students might know the technical names already and can share this knowledge with the class.

Discuss the advertisement

Use questions such as the following to get students thinking about the advertisement. During the brainstorming, create a list of students’ ideas.

- ❓ Where in the world is the Amazon Basin rain forest? (*Help students locate the Amazon Basin on a world map in relation to the equator and where they live.*)
- ❓ What is a rain forest reserve? (*a natural habitat set aside from development, where plants and animals can live free from harmful human interference*)
- ❓ Why do we have rain forest reserves? (*because human population growth and industries such as farming and logging alter an ecosystem so much that many plants and animals will become extinct unless some natural areas are set aside*)
- ❓ What kinds of activities do you think people do on a rain forest reserve? (*scientific research, education, tourism*)

Brainstorm jobs

Have students brainstorm a list of jobs that people might have at a rain forest reserve. Write their responses in a column on the left side of a board or large sheet of paper. The list might look like the one that follows:

Jobs

scientist
manager
veterinarian

CUSTOMIZE

ELL In whole class discussions such as this one, encourage ELL students to

- share ideas first with partners;
- contribute words, phrases, or simple sentences;
- use visuals to make concepts more concrete;
- share their prior knowledge related to the topic;
- draw or write their ideas.

As students brainstorm, ask what different things scientists might study on the reserve. If students suggest *plants* and *insects*, add *plant scientist* and *insect scientist* to the list.

Now ask students what knowledge and skills might be needed for the various jobs. For example, a plant scientist would need to know the technical names of all the parts of a plant and be skilled at observing and classifying. Add this information to the right of the job titles on the board.

Jobs	Knowledge	Skills
plant scientist (botanist)	names of plant parts	good at observing and classifying

LITERACY

Vocabulary

Reinforce the technical names of jobs to develop students' vocabulary.

- biologist
- botanist
- entomologist
- ornithologist



CONTENT
SLIDE SETS

3

4

After the brainstorming session, refer students to Portfolio p. 8, “Job Titles for a Rain Forest Reserve,” which contains a list of job titles and brief job descriptions. Students can use this list as an additional resource during this episode. If students are interested in learning more about rain forest scientists and how they conduct their research, refer them to Content Slide Sets 3 and 4.

PORTFOLIO

4



IMAGINING THEMSELVES AS RESERVE WORKERS

Create the figures

Explain to students that they will imagine themselves as adults applying for jobs in the rain forest reserve. They can blend real and imagined information in their job application as long as it is realistic. They will need to think about their educational background, job experience, people skills, and personality traits. They will be adults working in the rain forest so they will need to think about how old they want to be and make their age realistic to their educational background and job experience.

When students have listed general traits for themselves, have them use Portfolio page 10, “Making Figures,” to make their figures—or provide instructions for making another type of figure.

When the figures are completed, students can use them to complete their job applications. Later, when students decide what roles they will have on the reserve, they can introduce themselves in role.

PORTFOLIO

5



Complete rain forest reserve job applications

Once students have created their figures, distribute Teaching Master 3, “Rain Forest Reserve Job Application,” TH page 40, to each student. After the introductions, you will display these forms next to the figures.

To generate ideas for the job applications, brainstorm possibilities for the categories of information on the form. Students can complete the applications after they’ve listed ideas from the following discussion. Here are some questions to get the discussion under way:

- ❓ What kind of educational experiences might people need in order to work on a rain forest reserve? (*Reserve workers could have almost any kind or amount of educational experience, such as a college degree in science or hands-on experience working in forests or with animals.*)
- ❓ What jobs might a person have prior to coming to a rain forest reserve? (*Reserve workers could have almost any kind of job previously, though some jobs—such as park ranger, teacher, and zookeeper—relate to rain forest reserve tasks more directly than others.*)
- ❓ What people skills would be important for working on a rain forest reserve? (*ability to work well with other employees, being dependable, listening carefully*)
- ❓ What kinds of statements can applicants make about their qualifications? (*Applicants try to highlight their strengths and provide examples of experiences they’ve had that relate to the job. For example, a person applying for photographer might write about his or her experience photographing wildlife for a nature magazine.*)
- ❓ What job might you apply for on the rain forest reserve? (*Students should refer back to Portfolio page 8, “Job Titles for a Rain Forest Reserve,” and the list of ideas they brainstormed earlier.*)

Guide student work

At this point in the Storypath, there is a great deal of activity, as students must decide on their role on the rain forest reserve and complete their job application. You’ll have to facilitate students’ work and clarify directions as needed. Monitor the job applications so that there is a range of job choices. For example, if everyone wants the role of rain forest reserve manager, the class should discuss what other jobs might be considered. Since the application asks for a first and second choice, you can assign jobs to cover the range of jobs needed for this unit. Make sure that the rain forest reserve has a manager whom you can depend on to help organize group activities throughout this Storypath.

AUTHOR NOTE

Learning Strategies

It works best to have students make their figures first—so they start with the concrete—and then move to the less familiar job application, rather than do the application and then the figure. Students can always change their figures to reflect new thoughts they have about themselves as a result of doing the applications.

CUSTOMIZE

Creating the Reserve

If students show an interest in designing facilities such as living quarters, laboratories, and canopy walkways for their rain forest reserve, refer them to Content Slide Set 3 to get ideas. Of course, these activities will take extra time.

AUTHOR NOTE

Learning Process

Throughout this Storypath, students will practice and develop social skills in groups. Students may need help as they negotiate and make compromises with each other. If necessary, teach these skills directly.

PORTFOLIO

4



CUSTOMIZE

Assigning Roles

You can assign two students to be co-managers of the rain forest reserve. The students can either work together to make decisions or divide the management responsibilities between themselves.

CONCLUDING EPISODE 2

CUSTOMIZE

Managing the Introductions

Spread the introductions over a number of days. This will allow enough time for all students to introduce themselves to the whole class. In addition to letting students get to know job roles as the story unfolds, this time frame will maintain students' interest.

PORTFOLIO

6



ASSESSMENT

Meet the workers in small groups and as a class

Encourage students to use their job applications to help them prepare their introductions. Have students take on their job roles as they practice presenting their introductions to a small group.

Refer students to Portfolio page 12, "Introductions," to prepare to introduce themselves. You can use the checklist on this Portfolio page to assess students' introductions to the class.

After students have introduced themselves to their small groups—and incorporated any improvements they've thought of—have each small group introduce themselves to the whole class. After each group's introductions, allow time for students' questions. Ask questions yourself to stimulate students' thinking. For example, "How might Shane (a botanist) and Chase (an arachnologist) cooperate to get their jobs done?"

ASSESS: Character introductions

- are given in role;
- provide important information and interesting details;
- are clear and spoken with confidence;
- demonstrate eye contact with audience.

AUTHOR NOTE

Developing Ownership

As students give their introductions, listen for information that you can weave into the unit as the story develops. For example, one student might have a background in computers. Therefore, you might later incorporate a discussion on using a computer to make a catalog of species on the reserve. Using information that students have contributed reinforces their ownership of the story and their motivation for learning.

LITERACY

Speaking and Listening

Oral introductions can be used to reinforce oral communication skills, such as speaking clearly, asking appropriate questions, and active listening. Introductions also build self-confidence, especially when students have an opportunity to practice beforehand and speak to a receptive group.

BUILDING CONTEXT

RAIN FOREST HABITATS

3

EPISODE

INTRODUCING THE RAIN FOREST ECOSYSTEM

page 26

Students discuss rain forest plants and animals and determine methods for investigating the rain forest ecosystem.

Materials	Content Slide Set 5
Grouping	Whole class
Schedule	Approximately 30 minutes

CREATING DIORAMAS OF THE RAIN FOREST ECOSYSTEM

page 26

Students create dioramas of the rain forest habitats and write a description of their work.

Materials	Teaching Master 4, <i>Science Report Model: An Animal</i> , TH p. 41 Portfolio 7, <i>Assess the Diorama and Science Report</i> , p. 13 Portfolio 8, <i>Making a Diorama</i> , p. 14 Portfolio 9, <i>Science Report: A Plant</i> , p. 15 Portfolio 10, <i>Science Report: An Animal</i> , p. 16 Content Slide Sets 6–9 A variety of print and Internet resources (see page 62 for suggestions) For the visual displays: <ul style="list-style-type: none"> ■ cardboard boxes for dioramas ■ various colors of construction and tissue paper—especially greens and browns ■ colored markers, crayons, glue, masking tape, scissors ■ textured materials such as fabric, foil, yarn, and raffia ■ optional: assorted colors of paint
Grouping	Pairs
Schedule	1–2 hours

CONCLUDING EPISODE 3

page 28

Students plan and hold meetings to inform others about their dioramas.

Materials	Portfolio 11, <i>Making a Presentation</i> , p. 17 Portfolio 12, <i>Taking Notes: Rain Forest Presentations</i> , p. 18 Yarn or string (to connect dioramas to the rain forest frieze)
Grouping	Small groups or whole class (to be decided by students)
Schedule	Approximately 1 1/2 hours

EPISODE OBJECTIVES



- **Science and Society** *Identify and describe the interactions between plants and animals in the rain forest.*
- **Science and Society** *Demonstrate how plants and animals in the rain forest adapt to their environment.*
- **Social Skills** *Organize, plan, and make decisions while creating a rain forest visual display with a partner.*
- **Critical Thinking** *Identify criteria for successful visual displays of rain forest habitats.*
- **Literacy** *Create a diorama to convey information about the rain forest.*
- **Literacy** *Conduct research about a rain forest plant or animal.*
- **Literacy** *Write and present a report about a rain forest plant or animal.*

INTRODUCING THE RAIN FOREST ECOSYSTEM

Begin the episode

In this episode, students will research the rain forest ecosystem to make a “snapshot,” a visual display that depicts specific plants and animals in the rain forest reserve. Then students will write a science report of the project—based on their job roles. Students will use their job to choose a topic for the diorama. For example, a botanist might make a diorama showing how a particular plant uses poisonous leaves to protect itself from herbivores.

LITERACY

Vocabulary

As students identify new words related to the rain forest, have them add the words to Portfolio page 6, “Word Bank: The Rain Forest,” and to the class word bank.

Call the students to a staff meeting and explain that work needs to begin on the reserve. Introduce the term *ecosystem* and have students read Content Slide Set 5 to gain a deeper understanding of the concept.

ecosystem the complex system created by the interactions of a community of living organisms and the relationships between those organisms and their physical environment

Activate prior knowledge about habitats

Explain that the reserve workers must now begin the task of studying the specific plants and animals in the rain forest reserve. Also explain that the workers will need to make an illustrated “snapshot” of the area that they study. Use the questions below to initiate discussion.

- ❓ How can you learn about rain forest plants and animals? (*Students can ask the librarian where to find information, look in encyclopedias and reference books, and access information electronically using a CD-ROM or an Internet site.*)
- ❓ What animals might live in the Amazon Basin rain forest? (*Accept all answers. Students may suggest monkeys, snakes, butterflies, ants, and beetles.*)
- ❓ How can you find out what animals actually live in this rain forest? (*Students can conduct more research.*)
- ❓ How can we work together to create “snapshots” of the rain forest ecosystem? (*This question can be used to establish cooperative learning skills for working on the dioramas.*)



CONTENT
SLIDE SET

5

CREATING DIORAMAS OF THE RAIN FOREST ECOSYSTEM

Establish criteria for rain forest “snapshots”

Before students begin their visual displays, have them decide what constitutes quality work. Ask, “What will a quality diorama look like?” Brainstorm with students a list of criteria. Guide them to include general criteria, such as the following:

AUTHOR NOTE

Learning Process

When students establish their own criteria, they know the expectations for their work. This guides their research and gives them a sense of ownership for the dioramas.

Diorama

- well organized
- carefully prepared
- plants and animals are accurately created and displayed

Next refer students to Portfolio page 13, “Assess the Diorama and Science Report,” to discuss features of their diorama in more detail. Have students reference the rubric as they create their diorama so that they can work towards high quality work.

Portfolio page 14, “Making a Diorama,” will help students plan and research the diorama.

Organize the work

There are many ways to organize students as they work on their dioramas. Here’s one method for organizing students’ work:

Step 1 Have students team up to form pairs. Make a list of topics about the rain forest for pairs to choose from. The topics could be fairly general; it will be up to the students to choose the specifics based on their job roles. For example, two pairs might choose to make forest floor scenes. A pair with an entomologist and botanist might make a diorama showing and describing an insect on a flower. An educator and a scientist might team up to make a diorama showing a nature path for visitors to the reserve.

Step 2 Determine a strategy for students to access the resources they need for their research. For example, students can begin with Content Slide Sets 6–9 and then expand their research to reference books, the school library, and the Internet. Be sure to emphasize that their rain forest reserve is in the Amazon Basin. (Plants and animals differ from one rain forest region to another, so students will need to limit their research to the Amazon Basin.)

Step 3 Have students use Portfolio page 14, “Making a Diorama,” to guide their research process. Often students want to begin the construction of the diorama before they have done the research. This guide helps them to gather information about their topic before they begin constructing the diorama. Portfolio page 13, “Assess the Diorama and Science Report,” also adds more structure to the process.

Guide student work

As students make their dioramas, your role is to assist groups as needed and, when necessary, teach mini-lessons to clarify content, develop skills, or introduce or clarify new vocabulary. Page 23 of the Portfolio contains a glossary of words that you can use as the basis for a mini-lesson.

PORTFOLIO

7

8



CUSTOMIZE

Grouping Options

Taking into consideration the skills that students bring to this project, you may want to let them work more independently or have the class work through each of the steps together. If students are assigned in pairs or groups based on job relatedness, they will better understand the interdependent roles of various workers in the reserve.

CONNECT

Science

The diorama will give students the chance to practice an important skill for scientists: the construction of models.

CUSTOMIZE

Poster

Students could create a poster instead of a diorama. Essentially, students follow the same steps.

CUSTOMIZE



Art activities, such as making a diorama, provide an opportunity for students to express what they know without using words.



CONTENT
SLIDE SETS

6–9

CUSTOMIZE



The Content Slide Sets provide visuals that put concepts about plants and animals in context.

PORTFOLIO

7

8



LITERACY

Vocabulary

- ecosystem
- life span
- predator

Optional Activity: Note taking strategies

Additionally, you may want the students to create a method for organizing their note taking. One strategy that works well is to take a manila folder and glue small envelopes to hold note cards on the inside of the folder—four envelopes on each side. As students write notes, they can begin to organize the information into categories and then label the envelope for each category. Then as they read information and take notes, they can place the note cards in the appropriate envelope. When students are ready to construct their diorama and write their science reports, the note cards are organized into categories helping them to think about how to organize their dioramas and science reports.

Write science reports

Students can write a science report about the diorama they made. Writing this entry will give them a chance to demonstrate what they know about the scene.

Display Teaching Master 4, “Science Report Model: An Animal,” TH page 41. Discuss the report’s features to provide a model for students. If you also want to model how the information in the iguana report was located, you can access that information from the following Web site: www.thewildones.org/Animals/iguana.html#canopy.

carnivore an animal that eats mainly flesh of other animals

herbivore an animal that eats mainly grass or other plants

omnivore an animal that eats many different kinds of foods including plants and animals

Have students write their reports on Portfolio pages 15 and 16. The process of completing the science reports may cause students to add more details to their dioramas.

ASSESS: Diorama and science report

- Use the rubric in the Portfolio to assess students’ work products.

CUSTOMIZE

Report Topics

You will need to decide if students will write both an animal and a plant report or do just one or the other.

LITERACY

Vocabulary

- carnivore
- herbivore
- omnivore

TEACHING
MASTER

T4

PORTFOLIO

9

10



ASSESSMENT

CONCLUDING EPISODE 3

Plan staff information meetings

When the dioramas are completed, explain that all the workers should know about the various aspects of the rain forest reserve. Plan a series of presentations for the workers to share their dioramas. You might have the manager decide how to organize the presentations and then let that student run them. Discuss with the manager ways to run a meeting and establish time frames.

Share the dioramas

Explain to students that they should make their presentations in their job role. If students worked with a partner, they should also give the presentation together. Each worker should discuss the diorama and science report related to his or her specialty.

Refer students to Portfolio page 17, “Making a Presentation,” to organize their presentations.



ASSESSMENT

ASSESS: The presentation

- reflects job role;
- includes three important facts;
- is well organized;
- is accurate and demonstrates careful research;
- is delivered clearly and confidently;
- shows enthusiasm for the topic.

AUTHOR NOTE

Note Taking

I have students listen to the presentation and then after the presentation is completed, record the most important ideas. I model for them how to write key words or sketch an animal or plant that is the focus of the presentation in the note-taking box.

CUSTOMIZE

Grouping Options

To increase participation, you may want to have cooperative groups discuss these questions first and then present their answers to the whole class.



CONTENT SLIDE SET

5

As students make their presentations, have students take notes on important ideas using Portfolio pages 18–19, “Taking Notes: Rain Forest Presentations.”

Give students a chance to ask questions after each presentation. The presenters may need to conduct further research in order to answer some questions at a later time. This practice will encourage students to learn from a “need to know.”

As students conclude their presentations, you may want to have them arrange their dioramas around the frieze. Then students can attach yarn or string to the place in the frieze where the scene in the diorama might be found—in the canopy, understory, forest floor, or emergents.

Reflect on the rain forest ecosystem

To reinforce concepts about the rain forest ecosystem that students discovered as they researched their dioramas, discuss the following questions with them:

- ❓ How does a habitat influence the animals that live there? (*Lead students to understand how animals are adapted to the particular conditions in a habitat. If a habitat is dimly lit, for example, the animals there tend to be good at seeing in dim light.*)
- ❓ Why do some animals live in the canopy, others in the understory, and some on the forest floor? (*Different animals have adapted to the conditions in these different habitats.*)
- ❓ What animals might share the same habitat? (*Students might mention animals that have a predator/prey relationship, such as snakes and rodents.*)
- ❓ How are plants and animals interdependent? (*Discuss how many animals eat plants but return nutrients to the ground for the plants. Some flowering plants also depend on insects and birds for cross-pollination. Refer students to Content Slide Set 5 for more information about interdependent ecosys-*

PORTFOLIO

11



PORTFOLIO

12



AUTHOR NOTE

Learning Process

Students might have trouble relating their research on specific plants or animals to the “big ideas” of how ecosystems work. You can help them make these connections by using specific examples from students’ visual displays during the discussion. You might also refer students to Content Slide Set 5, where they’ll find information about the rain forest ecosystem that will help them formulate answers to these questions.

tems.)

- ❓ What would happen to an animal species if the plant it eats were to disappear? (*The animal would either adapt [by choosing another plant for food], leave the habitat, or die.*)
- ❓ What would happen to a predator that depended on that species for food? (*It would also have to adapt, move, or die. This question should get students thinking about how all the plants and animals in an ecosystem depend on one another and help keep the ecosystem in balance.*)

CRITICAL INCIDENT

THE SALE OF THE RAIN FOREST RESERVE

4

EPISODE

INTRODUCING THE CRITICAL INCIDENT

page 32

Students discuss a newspaper article about the possible sale of the rain forest reserve to a lumber company.

Materials Teaching Master 5, *Newspaper Article*, TH p. 42

Grouping Whole class

Schedule Approximately 30 minutes

REACTING TO THE CRITICAL INCIDENT

page 33

Students respond to the possible sale by taking part in a debate and writing persuasive letters, making posters, or creating radio or TV ads.

Materials Teaching Master 6, *Writing a Persuasive Letter*, TH p. 43
Teaching Master 7, *Creating Posters*, TH p. 44
Teaching Master 8, *Preparing Television and Radio Ads*, TH p. 45
Teaching Master 13, *Self-Assessment: Social Skills*, TH p. 50
Portfolio 13, *Taking a Position*, p. 20
Portfolio 14, *Using Words Effectively*, p. 21
Content Slide Sets 10–12

Optional: For the TV and radio ads:

- camcorder or digital camera, VCR or DVD player, monitor, tape recorder, and tapes

For the debate:

- Teaching Master 9, *Preparing for a Debate*, TH p. 46
- Teaching Master 10, *Invitation to a Debate*, TH p. 47
- Teaching Master 11, *The Lumber Company Position*, TH p. 48
- Teaching Master 12, *Debate Agenda*, TH p. 49

For the posters or signs:

- poster board, colored markers, crayons, glue, tape, construction paper

Grouping To be determined by students

Schedule 1–2 hours

CONCLUDING EPISODE 4

page 34

Students reflect on their successful attempt to save the rain forest reserve.

Materials None

Grouping Whole class

Schedule Approximately 30 minutes

EPISODE OBJECTIVES



- **Science and Society** *Suggest specific ways to protect the rain forest environment while respecting the individual rights of the people who live and work there.*
- **Global Studies** *Examine the relationships and tensions between the personal wants and needs of people living in the rain forest and global concerns.*
- **Civic Competence** *Identify and practice selected forms of civic discussion and participation in order to save the rain forest reserve.*
- **Literacy** *Discuss a critical incident and express a specific position.*

INTRODUCING THE CRITICAL INCIDENT

Set the stage

In this episode, students will need to respond to the possible sale of the rain forest reserve to a lumber company. By this time, students have built an attachment to the reserve, so the impending sale should motivate them to take action.

Distribute or display Teaching Master 5, “Newspaper Article,” TH page 42, which features a newspaper article about the possible sale of the reserve. You might also rewrite the article, adding details specific to your Storypath and the actual names of students and their job roles.

Discuss the critical incident

Suggest to the reserve manager that a meeting be called to discuss the newspaper article. Students should discuss the issues in their job roles. The manager can use the following questions to start the discussion and help students decide how they will respond to this news. As students discuss the problem, you or a student write on the board the issue identified and the advantages and disadvantages to the rain forest reserve being sold for lumber.

- ❓ What does the article tell us? (*The government wants to sell the reserve to a lumber company.*)
- ❓ Why does the government want to sell the land? (*to raise money to feed people*)
- ❓ What are the advantages and disadvantages of cutting down the rain forest for its lumber? (*The only advantage mentioned in the article is that hungry people will be fed. You might lead students to consider other advantages, such as the lumber jobs that will be created. Students will probably list a number of disadvantages, such as the loss of important animal habitats, the destruction of plants that could provide medicines, and the loss of an important scientific resource.*)
- ❓ What can we do to influence the government? The public? (*Lead students to identify appropriate ways they might influence the government and public on this issue. Students might suggest an advertising or education campaign telling why it's important to save the rain forest. They might decide to create signs, posters, or radio or television ads, and to write letters to government officials and the editors of the newspapers. Students should understand that they can influence the government and the public by making their voices heard.*)

TEACHING
MASTER

T5

CUSTOMIZE

Personalize the Article

Use the article in Teaching Master 5 to create a word processing document, adding students' names where appropriate. Paste it onto the front page of your local newspaper, make copies, and distribute to students.

CUSTOMIZE

Management Tip

Before you begin this episode,

- ask two adults to assist with the debate activity (one will play the role of the moderator, the other will play the role of the lumber company representative);
- arrange for the debate to be videotaped (if possible). You can use the video during the reflection process.

REACTING TO THE CRITICAL INCIDENT

Take action

The best way for students to learn about taking community action is to decide for themselves how to respond to this critical incident. You can suggest that they work individually, in pairs, or in groups to carry out one of the methods that the class discussed.

If appropriate, students can use one or more of the following Teaching Masters to help them carry out their plans: Teaching Master 6, “Writing a Persuasive Letter,” Teaching Master 7, “Creating Posters,” and Teaching Master 8, “Preparing Television and Radio Ads.”

Before they begin, have them organize their ideas by completing Portfolio page 20, “Taking a Position.” Then have students work with a partner to complete Portfolio page 21, “Using Words Effectively,” to focus on the writing traits of word choice and ideas and content. Whether students are writing persuasive letters, creating posters, or preparing television and radio ads, these Portfolio pages will help students prepare and complete their work. To assess students’ social skills as they work together, use Teaching Master 13, “Self-Assessment: Social Skills,” TH page 50.

ASSESS: The student’s position

- identifies the issue with a clear position statement;
- reflects an understanding of the issue and the impact on the reserve;
- realistically responds to the opposite point of view and reflects an understanding of the issue.

Students can hold informal meetings to share their projects with each other. Have the manager decide how to organize and run the meetings. Remind students to remain in the rain forest job roles.

Hold a debate

Students can learn about the economic forces at work when rain forests are being destroyed by holding a debate. Students can represent the reserve, and two adults can take the roles of debate moderator and lumber company representative. You might have a few students prepare the debate, while the others complete their letters, posters, or advertisements.

First, give a copy of Teaching Master 10, “Invitation to a Debate,” TH page 47, to the manager, who calls a meeting and reads the invitation to the class. Students can decide which job roles are best suited to participate in the debate. Three students can represent the rain forest reserve in their roles and work together to prepare for the debate. They can start their research by reading Content Slide Sets 10–12, which provide information about logging practices in tropical rain forests and the benefits of preserving the rain forest.

Teaching Master 9, “Preparing for a Debate,” TH page 46, will help students who are participating in the debate. All students can write questions they believe are important to both sides of the issue. They can then submit these questions to the reserve debaters to help them prepare for the debate.

AUTHOR NOTE

Learning Process

This incident provides an opportunity to reinforce students’ civic responsibilities and the strategies they can use to influence others. Stress the importance of using facts to support their stand on the issue. Encourage students to research and incorporate the necessary facts to strengthen their position.

TEACHING MASTER

T13

CONNECT

Creative Arts

- Students can carefully copy color photographs of rain forest scenes for their poster illustrations;
- Students with musical training can play background or introductory music for TV or radio advertisements.

TEACHING MASTER

T10



CONTENT SLIDE SETS

10–12

TEACHING MASTER

T9

TEACHING MASTERS

T6–8

PORTFOLIO

13

14



ASSESSMENT

CUSTOMIZE

ELL

The use of role-play here and throughout is an excellent learning tool for students.

LITERACY

Speaking and Listening

When students participate in and listen to a debate, they

- use details and facts to convey their message;
- use and understand rain forest terms;
- provide reasons why their position is correct;
- deliver their opinions to persuade others;
- respond to the opinions of others in the debate;
- formulate questions to ask the debate participants.



ASSESSMENT

Teaching Master 11, “The Lumber Company Position,” TH page 48, provides useful information for the adult playing the role of the lumber company representative. Teaching Master 12, “Debate Agenda,” TH page 49, features a possible debate format for the moderator to follow.

Prepare the room for the debate, then have the moderator introduce the event and moderate the debate. A question-and-answer period after the debate gives all students, not just the debaters, the opportunity to participate and demonstrate what they know.

ASSESS: The debate

- includes important facts about the rain forest to back up students’ position;
- anticipates the moderator’s and audience’s questions and provides answers;
- includes a rebuttal to the lumber company representative’s statements.

LITERACY

Letter Writing

Students can write letters thanking guest speakers for their time and participation.

CONCLUDING EPISODE 4

CUSTOMIZE

Current Events

Have students locate similar issues in the news and compare and contrast to the rain forest issue.

Reflect on the episode

Later in the day, tell students that their efforts to save the rain forest reserve reached a large number of concerned citizens. The citizens have been contacting their representatives, and you’ve heard rumors that the reserve might be given protected status by the government. The next day, tell students that the reserve will not be sold and the scientists and other reserve workers will be allowed to continue their work.

You can ask the class these questions to reflect on the episode:

- What were the issues surrounding the logging of the timber?
- Why is it important to save the rain forest?
- What is the lumber company’s perspective on the rain forest?
- How can citizens make their voices heard about issues that are important to them?
- Are there other examples that you know of in which people want to use land in different ways?
- How are those conflicts resolved?
- What have we learned from this experience?

AUTHOR NOTE

Student Confidence

Government protection is not always the outcome of these kinds of situations. The purpose of this episode, however, is to develop students’ belief that they can influence others when they know their facts and clearly communicate them and when they act on their civic responsibilities.

CONCLUDING EVENT

A CELEBRATION AT THE RAIN FOREST RESERVE

PLANNING THE CELEBRATION

page 36

Students plan a celebration and write invitations to the celebration.

Materials	Portfolio 15, <i>Writing: An Invitation</i> , p. 22
Grouping	Whole class for discussion; individuals for writing
Schedule	Approximately 1 hour

HAVING THE CELEBRATION

page 37

Students celebrate the preservation of the reserve.

Materials	Depending on students' specific plans, the following materials may be needed: <ul style="list-style-type: none"> ■ art supplies ■ food ■ music
Grouping	Small groups or individuals for the preparations; whole class for the celebration
Schedule	1 hour

CONCLUDING EPISODE 5

page 37

Students reflect on their celebration and discuss what they learned about rain forests during the Storypath.

Materials	None
Grouping	Whole class
Schedule	Approximately 30 minutes

EPISODE OBJECTIVES



- **Social Skills** *Work with others to plan and organize the rain forest reserve celebration.*
- **Global Studies** *Identify the conflict with the lumber company and the civic participation that saved the rain forest reserve.*
- **Literacy** *Write an invitation.*

PLANNING THE CELEBRATION

Discuss plans

Explain to students that they should celebrate that the rain forest reserve was not sold to the lumber company and that the scientists can continue their work. Ask students to think about the kind of celebration that would be appropriate. Guide the discussion so that students make plans that are appropriate to the Storypath. It is likely that students will decide on a speech or similar activity; if not, raise this as a possibility and have the class decide who would be the most appropriate person to give the speech. Encourage students to consider several activities for the celebration. For example, students might

- hold a ceremony honoring various animals or plants;
- write poetry about the rain forest;
- make snacks from rain forest products, such as brazil nuts.

CUSTOMIZE

ELL Students can write invitations to family members in their native language.



ASSESSMENT

Invite guests

Determine the date, time, and place for the event. Have each student write an invitation using Portfolio page 22, “Writing: An Invitation,” as a guide. Decide whom to invite, depending on your particular circumstances. You could invite students from other classrooms with each student getting an individual invitation, family members, or other people appropriate for your situation.

ASSESS: The invitation

- includes an appropriate greeting;
- includes important information regarding date, time, and place;
- includes information about the planned activities and why one would want to attend;
- makes effective use of word choice to create a vivid picture about the event and depth of understanding of why the event is important;
- makes effective use of ideas and content by including important and accurate details and organizing information in a logical sequence.

Assign tasks

If a dedication speech is planned, students should decide who will write and give the speech. Suggest that they assign the task to two or three students, including the student who will give the speech.

Guide students to choose other tasks that are part of the preparation for the celebration. In addition to the activities they planned during the discussion, students might

- make programs listing the celebration’s activities;
- prepare guided “tours” of the reserve using the frieze and dioramas.

PORTFOLIO

15



HAVING THE CELEBRATION

Conduct the celebration

Before students conduct the celebration, you may want to discuss appropriate behavior. Stress that this celebration is a very serious and important event. Students should play their job roles during the celebration.

CONCLUDING EPISODE 5

Discuss the events

After the celebration, have students reflect on the experience. Use the following questions to stimulate discussion:

- Why are celebrations important?
- Why is it important to celebrate events like the saving of the rain forest?

Prepare for the synthesis of students' learning

Students have investigated life in the rain forest. They have built an understanding of the rain forest ecosystem and the forces that threaten this system. Even though students' attempts to save the rain forest were simulated, they were genuinely invested in the results.

The next step in student learning is the synthesis of their experiences. Synthesis activities allow students the opportunity to demonstrate the level of their understanding and help you assess what they have learned from the unit.

You will find a selection of synthesis activities on pages 52–53 of this Handbook.

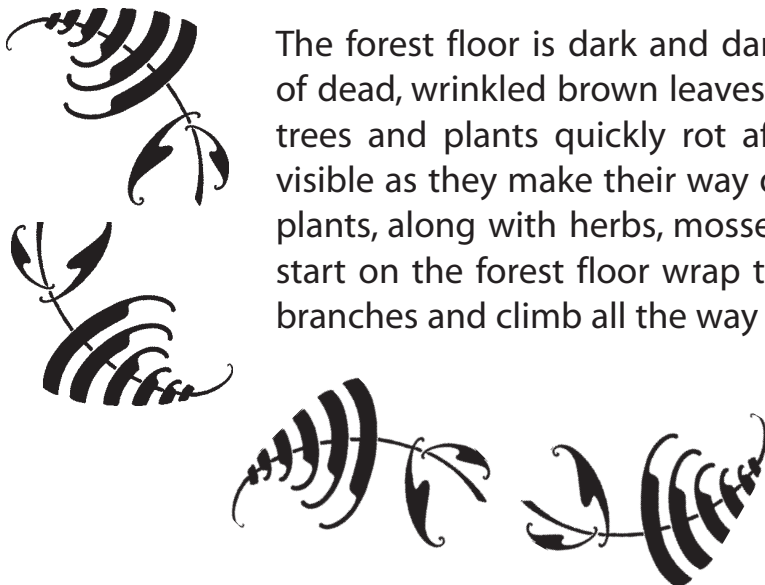
DESCRIPTION OF A RAIN FOREST

The rain forest has three layers: the canopy, the understory, and the forest floor.

The canopy is the top layer of the forest. Here, the upper leaves of the trees bask in the sunlight. The highest tree branches also hold plants called *epiphytes*. These plants grow on tree branches and soak up food and water with their leaves and roots. Thus, they do not need to put their roots into the soil of the forest floor. Other plants in the canopy, such as vines, have roots that drop all the way to the forest floor to pick up nutrients. Each type of plant and flower in the canopy has a specific color, scent, and shape. Most trees that reach the canopy are 60 to 120 feet (18 to 36 meters) tall, but some giant trees grow even higher. The trees that tower above the canopy are called *emergents*.

The understory is the layer of smaller trees and plants that grow below the canopy. It is darker in the understory because the canopy keeps sunlight from shining through. Woody vines creep up the trees toward the sunlight. Ferns and palms live in the understory, and they look as though they have been here forever. The trees provide fruits and nuts for animals to eat.

The forest floor is dark and damp and carpeted with a thin layer of dead, wrinkled brown leaves. Because the floor is dark and wet, trees and plants quickly rot after they die. Some tree roots are visible as they make their way down into the soil. A few flowering plants, along with herbs, mosses, and fungi, grow here. Vines that start on the forest floor wrap themselves around tree trunks and branches and climb all the way up to the canopy.



JOB OPPORTUNITIES IN THE AMAZON BASIN RAIN FOREST

A RAIN FOREST RESERVE IS BEING ESTABLISHED.



The reserve will provide

- a healthy environment for plants and animals;
- a place for scientists to study the plants and animals;
- a place for people to visit to learn more about the rain forest.

BECOME PART OF THE TEAM!

APPLY TODAY!

Date _____

RAIN FOREST RESERVE JOB APPLICATION

Name: _____

Address: _____

Jobs for which you are applying:

First choice: _____

Second choice: _____

Educational experience: _____

Job experience: _____

People skills: _____

Why do you feel you are qualified for this job? _____

(Applicant's signature)

SCIENCE REPORT MODEL: AN ANIMAL

Use this guide to help you organize your report.

Name of animal: iguana

Where does the animal live in the rain forest? Circle one.

forest floor

understory

canopy

emergent

Describe the animal. Include color(s), size (length/height and weight), and any other special information about the animal.

green with black stripes, grows to between 4 and 6 feet long, the tail
can make up half the body length, the skin is rough with pointy scales
along the back, they can weigh up to 20 pounds

What is the animal's life span? can live for 15-20 years

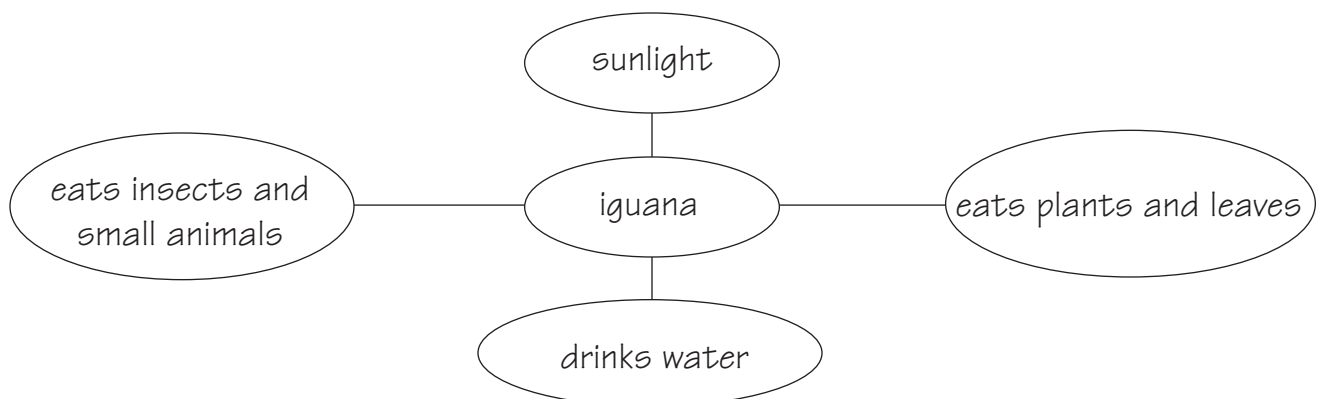
Is the animal an omnivore, carnivore, or herbivore? omnivore

What is the animal's diet? it eats plants and meat, it especially likes leaves
and fruit, sometimes it will eat eggs, insects, and small animals

How does the animal protect itself? its sharp tail can be used for
protection, it can snap in the air and it will break off if caught by a
predator, the skin is water resistant. The green skin is good camouflage
because it blends into the colors of the rain forest.

Who are the animal's predators? humans, large carnivores

Create a diagram showing at least three ways your animal depends on the ecosystem for survival.



NEWSPAPER ARTICLE**Rain Forest Reserve to Be Sold**

By Drew Milam

Worldwide Press

THE AMAZON BASIN — The government of the Amazon Basin region is negotiating with an international lumber company for the sale of land that is now used for a rain forest reserve. A spokesperson for the government of the region said, “We can no longer afford to support scientists and others who want to study the forest. While scientists are studying, our people go hungry.”

The manager of the rain forest reserve stated, “There is important work to be done in the reserve that will benefit all people. The government must not make a hasty decision, or those people will be in even worse circumstances.”

The situation is tense, because people have strong feelings about this issue. The government’s spokesperson noted that one of the scientists at the rain forest reserve has experience in reforestation and would be able to replant the areas cut down for lumber. The spokesperson said, “I don’t understand why this is such a big deal. These scientists can replant, and besides, there is still a lot of forest in the Amazon Basin for maintaining plants and animals, and for harvesting lumber.”

Name _____ Date _____

WRITING A PERSUASIVE LETTER

1. Organize your ideas.

Use Portfolio page 20, "Taking a Position," and Portfolio page 21, "Using Words Effectively," to help you write your persuasive letter.

- ☐ Make an outline or a list to help you organize your thoughts.
- ☐ Put your most important arguments first.
- ☐ Include a response to the opposite point of view.

2. Write the body of the letter.

- ☐ Opening sentence: State your position clearly.
- ☐ One paragraph with at least three reasons to support your position.
- ☐ One paragraph telling why someone might take the opposite point of view. Next write why that position should not be taken. Be specific.
- ☐ Conclusion: Restate your position and why it is the right one.

3. Draft your letter.

Write a draft of your letter on another sheet of paper. Use the letter format below. Look at your list of words on Portfolio page 21, "Using Words Effectively." Have you used words effectively to make your point? Then ask someone to read the letter and suggest how to make it better.

4. Revise your letter.

5. Assess your letter.

- ☐ Does it state your position?
- ☐ Does it have at least three facts that support your position?
- ☐ Does it include the other point of view and explain why that position is not a good one?
- ☐ Were **word choices** and **ideas and content** used effectively?

6. Make changes and finalize your letter.

Today's date

Amazon Basin Rain Forest Reserve
Brazil

Name and address of the
person you are writing to

Dear (name of the person you are writing to):

Body of letter

Sincerely,

Your signature

Your name

Name _____ Date _____

CREATING POSTERS

Use Portfolio page 20, "Taking a Position," and Portfolio page 21, "Using Words Effectively," to help you create your poster.

1. Organize the poster.

Decide what information you need to tell people to help save the reserve. What are the benefits of saving the reserve? Make a list.

2. Attract attention.

Create a statement—a few key words or a phrase—that attracts people's attention. Would a visual help attract attention? You could use a drawing, photo, chart, or graph.

3. Make the poster.

Use pencil to sketch where you are going to place information and visuals first before doing the final work.

4. Assess your poster.

- ☐ Does it attract attention?
- ☐ Is the message clear?
- ☐ Will it persuade people to support the rain forest reserve?
- ☐ Were **word choices** and **ideas and content** used effectively?

Name _____ Date _____

PREPARING TELEVISION AND RADIO ADS

Television and radio advertisements are good ways to influence many people at one time. Ads can include images, sound effects, and important facts. Use Portfolio page 20, "Taking a Position," and Portfolio page 21, "Using Words Effectively," to help you prepare your television and radio ads. Use this sheet to plan an advertisement that will help save the rain forest reserve.

1. Get started.

Decide what information you need to tell people to help save the reserve. What are the benefits of saving the reserve? Make a list.

2. Attract attention.

The first part of the ad needs to capture people's attention. Write a few key words or a phrase that will make people want to know more.

3. Write the script.

Write the script for your ad on another sheet of paper. Include stage directions for sound effects and music. For a television ad, what props will you use?

4. Practice the ad.

Have your actors read their parts. Make changes to refine your ad.

5. Prepare the final ad.

Use a video camera or audio recorder to make your advertisement. Use the checklist here to assess your work.

- ☐ The script for the ad includes sound effects, props, and stage directions.
- ☐ The ad is brief and interesting.
- ☐ The ad uses persuasive language and includes important information.
- ☐ **Word choices** and **ideas and content** were used effectively.

Name _____ Date _____

PREPARING FOR A DEBATE

By taking part in a debate, you can show people how important your rain forest reserve is. But before the debate starts, you need to be prepared. Use Portfolio page 20, "Taking a Position," and Portfolio page 21, "Using Words Effectively," to help you prepare for the debate.

1. Get the facts.

Find some interesting facts about the rain forest that will make people understand why it must be preserved. List them below. Transfer the facts to note cards. Be ready to share these facts at the debate.

2. Write questions for the debate.

What questions might be asked by the moderator or the audience? Make sure you know the answers to the questions.

3. Think ahead.

See whether you can figure out the lumber company's position on the sale. The more you know about the lumber company's position, the better prepared you will be. For example, the lumber company representative might say that logging the rain forest reserve will provide jobs. How could you respond to this statement?

4. Prepare for the debate.

Have a classmate ask the questions so that you can practice giving answers. Remember, you need to stay in role.

INVITATION TO A DEBATE

National News Network
São Paulo, Brazil

Dear _____:
(name of manager)

We are inviting experts from the rain forest reserve to appear on our network for a national debate about land use in the rain forest. A representative from the lumber company has also agreed to debate the issues. We believe that this debate will let the public know about the issues that surround the use of the rain forests. Please send three representatives who can speak about different aspects of the rain forest. We will need to work out the format with your representatives. We look forward to your response.

Sincerely,

Marie Cabral

Marie Cabral, Station Manager

THE LUMBER COMPANY POSITION

Background Information

Using a strategy called Storypath, students have been involved in creating a story based on an imaginary rain forest reserve located in the Amazon Basin. They began their study of the rain forest by creating a frieze (a large mural) of a rain forest, which set the scene for the Storypath. Next, students were given a flyer that described job opportunities on a rain forest reserve, and they applied to work in the various jobs. These students, in their job roles, have been involved in doing research to create the reserve. The plot of the story now centers on the threat of a lumber company buying the reserve's land for its timber. As the representative of the lumber company, you will be appearing in a television debate with representatives from the reserve to debate the issues.

Useful Facts for the Debate

- Lumber companies typically hire local people to cut the trees. People are also hired to drive the logging trucks. Many jobs for native people are provided by the lumber companies in the process of cutting and shipping the trees.
- Teak, rosewood, and mahogany trees of the tropical rain forest provide valuable wood for making furniture, paneling, and flooring.
- Once the land is cleared, cattle ranchers can use the land, or miners can more easily search for valuable minerals.
- It will be easier to build roads through the Amazon Basin once the trees are cut down.
- The United States is the largest importer of tropical hardwoods.
- About one-third of the wood from rain forests is used for making paper.
- Industrialized countries such as the United States, Canada, and European nations have cut down many of their forests. Why should countries in the Amazon Basin be prohibited from cutting down their rain forests?
- A strip of forest land leading from cleared to undisturbed areas can be left to increase the number of animals that survive. This is called a "wildlife corridor."

DEBATE AGENDA

I. Welcome and Introductions

- A.** Welcome the television-viewing audience and live studio audience.
- B.** Introduce self.
- C.** Introduce lumber company representative.
- D.** Introduce representatives from the reserve and tell a little about their background and areas of expertise.

II. Overview of Debate

- A.** Explain the procedure: a five-minute statement from each side and then a three-minute rebuttal from each side.
- B.** Have participants field questions from the audience.

Name _____ Date _____

SELF-ASSESSMENT: SOCIAL SKILLS

Social skills are important to working successfully in a rain forest reserve. Use this chart during this unit to keep track of how well you work with others.

EPISODE: _____

Describe the group situation or event: _____

Criteria	I need to work on this.	I did this some of the time.	I did this most or all of the time.
I respectfully listened to others.			
I contributed actively to the group.			
I encouraged others to participate.			
I suggested solutions to problems.			
I did my fair share of work.			

One thing our group did well together:

One thing our group needs to work on:

One thing I did well:

One thing I could do better:



UNIT QUESTIONS FOR REVIEW

DISCUSSING THE RAIN FOREST

Lead a discussion that reinforces the concepts and generalizations taught throughout the unit. The following questions encourage a discussion of major concepts. Include questions about any problem-solving situations you've added to the unit.

- ❓ What environmental features influence how animals adapt to their environment?
- ❓ What do animals and plants compete for in order to survive?
- ❓ How does nature maintain a balance so that different animals are able to live together in the same habitat?
- ❓ How are some organisms, such as a passionflower and a hummingbird, closely linked so that they depend on each other for survival?
- ❓ How do ecosystems change over time?
- ❓ How are people involved in the management and conservation of natural resources?
- ❓ What conflicts arise over the use of natural resources such as the rain forest?
- ❓ How do people make decisions and choices when faced with these conflicts?
- ❓ What rights and responsibilities do we have as citizens to protect the rain forests?

REFLECTING ON THE RAIN FOREST RESERVE

Students need time to reflect on their experiences and progress throughout this unit. Have them write answers to questions like these:

- What have I learned about rain forests?
- What is the best work I did? Why was it good?
- What work could I have done better? How could I have done it better?
- What did I like best about working with others? What did I like least?



SYNTHESIS ACTIVITIES

The following synthesis activities offer your students the opportunity to demonstrate what they've learned in this unit. These activities are also a powerful assessment tool for you because they're multimodal. They allow for the variances in students' abilities as learners.

1. PORTFOLIO RESPONSE

Activity

Have students review their Portfolios and identify at least four items that represent important ideas or skills learned. After students have selected the items, they should write at least one paragraph in response to the following questions:

- List four important ideas from your Portfolio. Why are these ideas important?
- Why are rain forests important to preserve?
- What challenges did you face? How did you respond to these challenges?
- What skills do you believe improved as a result of this unit? Explain why.

Criteria for Assessment

Learning objectives were demonstrated if

- an explanation is provided stating why each item was selected and its importance to learning;
- the Portfolio response demonstrates an understanding of rain forest's contributions;
- at least one challenge is identified in maintaining the rain forest with a clear description of how the challenge was met;
- at least one skill is identified with a clear explanation of how that skill was improved;
- reflections are thoughtful, well organized, and clearly communicated;
- the paragraphs demonstrate appropriate writing conventions.

2. WRITE A CHILDREN'S BOOK ABOUT THE RAIN FOREST

Activity

Write a children's book about the rain forest that is appropriate for a beginning reader. The book should be at least ten pages long, including the front and back covers.

- Think about three or four important ideas you want to communicate about the rain forest. Decide how you want to organize the information and what you want to write.
- Decide what kinds of pictures will best communicate these ideas. Draw or select pictures and write simple sentences for each of the pictures.
- Think about the cover for your book. What will be your title? How will you make your cover attractive to the reader?

Criteria for Assessment

Learning objectives are demonstrated if the book

- includes three or four important concepts about the rain forest;
- includes drawings/pictures and accompanying sentences that clearly and accurately communicate the important concepts;
- is well organized and carefully prepared;
- is appropriate for a young reader;
- includes an appropriate title and an attractively designed cover;
- demonstrates correct writing conventions.

3. RESPOND TO A NEWSPAPER ARTICLE

Activity

Read the article below and write a response to the article as though you were writing a letter to the newspaper.

New Fashion Design Draws Attention

The Trendy Fashion Clothing Company has a new clothing design that everyone is eager to buy. The clothing will have the feathers of the hyacinthine macaw as a clever design on its pockets. Both men and women will want to have this new design and will be eager to buy the Trendy Fashion Clothes. The beautiful blue feathers add color and interest to the

new shirts that are being shown in this season's designs. Some environmentalists have raised concerns about using the feathers of this rare bird from the tropical rain forests. Fashion experts say the environmentalists are over-reacting and there are a lot of birds in the rain forest. Will this new fashion trend be the hit of the season? Let's wait and see.

Criteria for Assessment

Learning objectives are demonstrated if the letter

- states a position regarding the use of the feathers;
- supports the position with at least two reasons that demonstrate an understanding of the rain forest ecosystem;
- is well organized and clearly written;
- demonstrates correct writing conventions.

EXTENDING STUDENTS' EXPERIENCES

PARTICIPATING IN A SERVICE LEARNING PROJECT

This unit sets the stage for service learning projects that give students opportunities to take action to save the rain forests. Projects might involve supporting businesses that engage in practices that sustain rain forests and making personal choices regarding their consumption of goods from the rain forest.

- **Write letters.** Students can write letters to their congressional representatives urging them not to support any foreign aid programs—such as new roads or hydroelectric dams—that lead to further exploitation of tropical rain forest ecosystems.
- **Join and support organizations.** There are international organizations that promote rain forest conservation. Some use their funds to buy land that is set aside from development.
- **Buy products that support nondestructive rain forest use.** Some foods and cosmetics have labels indicating that they are made from nuts collected without harming the rain forest.

For more information about rain forest conservation, students can write to any of these organizations:

- Conservation International, 1015 18th Street NW, Suite 1000, Washington, DC 20036, www.conservation.org
- Cultural Survival, Inc., 11 Divinity Avenue, Cambridge, MA 02138, www.cs.org
- Environmental Defense Fund, 257 Park Avenue South, New York, NY 10010, www.environmentaldefense.org
- Kids Saving the Rainforest, 3790 El Camino Real #206, Palo Alto, CA 94306, www.kidssavingtherainforest.org
- Rainforest Action Network, 301 Broadway, Suite A, San Francisco, CA 94133, www.ran.org
- Rainforest Alliance, 65 Bleeker Street, New York, NY 10012, www.rainforest-alliance.org

Service learning projects also occur in rain forests around the world and information about such opportunities can be accessed on the Internet. Sites to view include Global Field Expeditions for Educators and Students at www.holbrooktravel.com/pages/EducationExpeditions/StudentDetails.asp and Travel 2 Learn, Rain Forest Workshops for Educators and Naturalists at www.travel2learn.com/.

TAKING A FIELD TRIP

Students compare and contrast their rain forest experiences with parts of a real rain forest or another forest ecosystem.

Materials Paper and pencil
Permission slips

Grouping Whole class

Schedule Approximately 3–4 hours

Since it's unlikely your class would be able to visit a rain forest, you might consider taking students to a local site where they can apply their experience from the Storypath. Here are some ideas for sites:

- Birdhouse at a local zoo containing rain forest plants and birds
- Natural history museum with a rain forest exhibit
- Local wildlife forest reserve

To prepare for the field trip, have students write specific questions that they can ask a guide or forest ranger. Students should keep the field trip destination in mind when writing their questions. For example, if they'll be visiting the birdhouse at the zoo, they should ask questions about tropical birds and plants; if they'll be visiting a wildlife forest reserve, they might ask how the reserve was set up and what types of employees work there.

After the field trip, students can compare and contrast their experiences during the Storypath with what they saw and learned. If appropriate, students should write thank-you letters to the guide or forest ranger.

CONNECT

Venn Diagram

Use a Venn diagram to organize students' ideas during the discussion. Draw two interlocking circles. Write facts about the Storypath in one circle and facts about the field trip in the other. Items common to both should go in the area where the circles overlap.

VIEWING A RAIN FOREST VIDEO

Students view a rain forest video with the sound turned off.

Materials Rain forest video

Grouping Whole class

Schedule 1–2 hours

Another way to give students some exposure to a real rain forest is to show them a nature video. If possible, show the video with the volume turned down to help students make their own observations of the rain forest scenes. Ask students to pay special attention to what they see in the background during the video. Students might be able to identify footage of the canopy, understory, and forest floor and recognize certain species of plants and animals from their previous research.

Afterwards, students can discuss what they saw and compare and contrast the video with their own experiences during the Storypath.

BACKGROUND INFORMATION

THE RAIN FOREST ECOSYSTEM

Even though tropical rain forests cover only six percent of the planet's land surface, they are thought to harbor fifty to ninety percent of all the Earth's species. One reason for the rain forest's incredible diversity of life is the variety of habitats that are available throughout the typical rain forest. Sometimes one only needs to travel a few feet down through the canopy to find remarkably different light levels and atmospheric conditions—and therefore remarkably different flora and fauna. Scientists have identified at least 50 different types of tropical rain forests, each averaging seven distinct levels from the forest floor to the upper canopy and emergents. For the sake of clarity, however, this Handbook identifies only three distinct rain forest levels—the canopy, understory, and forest floor. As students conduct research, they may find different systems for understanding a rain forest's structure. For example, some resources consider emergents—the crowns of the tallest trees that protrude above the canopy—to be a fourth level. If such discoveries cause conflicts or uncertainty among students, you can have them negotiate their own system for identifying the levels of a rain forest.

BIOSPHERE RESERVES

In 1971 the United Nations Educational, Scientific and Cultural Organization (UNESCO) started a program to set up a worldwide system of Biosphere Reserves. So far, 482 reserves have been created in 102 nations. One-fifth of the reserves are located in tropical rain forests. The reserves are carefully planned to respect the rights of forest-dwelling communities. The goal of the program is to create protected and carefully zoned areas that combine strict preservation with sustainable production of foods and other goods. A reserve's core area is usually set aside as a pristine natural environment with little human access. At the other extreme, some areas are zoned for human activities such as towns and mines. In between, a patchwork of zones is designated for shifting cultivation, plantations, scientific research, tourism, and hunting and gathering.

RAIN FOREST DESTRUCTION

Much of the rain forests in Asia and Africa have already been deforested for timber harvesting and farming. The last large area of relatively intact rain forest covers about 2.3 million square miles and is in the Amazon Basin in South America. The major forces of deforestation are farming and ranching. Unlike the deforestation in Asia and Africa, logging has not yet become a significant factor in the Amazon Basin. The actual rate and extent of deforestation is not known for certain. According to some estimates, about ten percent of the Amazonian rain forest has been destroyed, at a rate of about one and one-half square miles every hour.

Small-scale farming has been the largest destroyer of the Amazonian rain forest since the mid-1970s. The Brazilian president at the time, Emilio Medici, built the Trans-Amazonian highway as part of a project—which at the time held the world’s approval—to make “a land without men” accessible to poor Brazilians. Because rain forest soil is unsuitable for conventional farming, the project has failed to provide lasting sustenance for the farmers, who need to move on every few years and carve a new farm out of another plot of virgin rain forest.

SAVING THE RAIN FOREST

According to some estimates, the world’s rain forests will be gone by the year 2050 at the current rate of deforestation. The destruction of this huge natural resource is not in the best interests of the rain forest nations. But for now, destructive shifting cultivation seems to be the only option for many thousands of poor, landless settlers. Agricultural scientists have been trying two basic approaches to solving the problem. One method is to reforest land already degraded by farming and ranching. The other method is to convert the degraded land into areas that can support agriculture. Hopefully this would remove the need to cut down the remaining areas of virgin rain forest.

OBJECTIVES OVERVIEW

Program Performance Standards	Unit Objectives	Episode 1	Episode 2	Episode 3	Episode 4	Episode 5	Synthesis 1	Synthesis 2	Synthesis 3
Science and Society									
Identify and describe examples in which science and technology have led to changes in the physical environment.	Identify and describe the interactions between plants and animals in the rain forest.			•			•	•	
	Demonstrate how plants and animals in the rain forest adapt to their environment.			•			•	•	
Suggest ways to protect the physical environment, individual rights, and the common good.	Suggest specific ways to protect the rain forest environment while respecting the individual rights of the people who live and work there.				•		•		
Global Studies									
Give examples of conflict, cooperation, and interdependence among individuals, groups, and nations.	Identify the conflict with the lumber company and the civic participation that saved the rain forest reserve.					•	•		
Examine the relationships and tensions between personal wants and needs and global concerns.	Examine the relationships and tensions between the personal wants and needs of people living in the rain forest and global concerns.				•		•	•	•
Social Skills									
Participate in organizing, planning, making decisions, and taking action in group settings.	Organize, plan, and make decisions while creating a frieze with group members.	•							
	Organize, plan, and make decisions while creating characters.		•						
	Organize, plan, and make decisions while creating a rain forest visual display with a partner.			•					
	Work with others to plan and organize the rain forest reserve celebration.					•			
Work with others to decide on an appropriate course of action.	Determine an appropriate course of action to complete the frieze within a group.	•							

Program Performance Standards	Unit Objectives	Episode 1	Episode 2	Episode 3	Episode 4	Episode 5	Synthesis 1	Synthesis 2	Synthesis 3
Critical Thinking									
Use criteria to make judgments through such processes as appraising ideas, considering points of view, and evaluating statements or positions on issues.	Identify criteria for successful visual displays of rain forest habitats.			•				•	
Organize ideas in new ways.	Organize ideas from class discussion in new ways and apply those ideas to the freize.	•					•		
	Organize ideas from class discussion in new ways to create unique characters.		•				•		
Civic Competence									
Identify and practice selected forms of civic discussion and participation.	Identify and practice selected forms of civic discussion and participation in order to save the rain forest reserve.					•	•		•
Recognize and interpret how the “common good” can be strengthened through various forms of citizen action.	Recognize how citizens can take action to strengthen the “common good” of environmental preservation.		•				•		•

OBJECTIVES OVERVIEW

Program Performance Standards	Unit Objectives	Episode 1	Episode 2	Episode 3	Episode 4	Episode 5	Synthesis 1	Synthesis 2	Synthesis 3
Literacy									
Read a wide range of print and non-print texts to build an understanding of the rain forest ecosystem.	Read and discuss a fictional job announcement.		●						
Use word identification strategies to comprehend, interpret, and evaluate content.	Use specialized vocabulary to understand and communicate concepts about the rain forest.	●							
Organize information to communicate.	Organize information to write a job application.		●						
	Conduct research about a rain forest plant or animal.			●					
Use spoken and written language for learning and to exchange information.	Write a sense poem about the rain forest.	●							
	Present oral introductions to share information.		●						
	Write and present a report about a rain forest plant or animal.			●					
	Discuss a critical incident and express a specific position.				●				
	Write an invitation.					●			
Use visual language for learning and to exchange information.	Create a diorama to convey information about the rainforest.			●					

HOW TO CONDUCT READING MINI-LESSONS

The Reading Tips chart on the CD provides a quick reminder for students to use as they work with the slides. These Reading Tips cover strategies that are especially effective for reading and understanding nonfiction text:

- Identifying main ideas and supporting details
- Comparing and contrasting
- Making connections
- Making inferences
- Scanning for specific information
- Understanding visuals

You can use the Reading Tips as the basis for mini-lessons.

The unit assumes that these strategies have been taught and practiced in other classroom contexts and that the purpose of the Storypath mini-lesson is to provide a quick review. You will decide which reading strategies are most applicable for each reading task within the unit. In addition, the discussion questions in the Content Slide Sets suggest applicable strategies that the students will need to use on their own.

READING MINI-LESSON FRAMEWORK

1. Describe the strategy, explaining when and why readers use it. Your students may need some help in understanding the reading strategy and knowing when it might be useful. Use the Reading Tips chart for information on explaining the strategy and helping students understand when and why readers use it.

2. Model the steps as you “think aloud” with a sample text. Demonstrate how you would use each strategy, using text from or similar to text in the Storypath unit. First, read some of the text aloud and then talk about what happens in your head as you use the strategy. This modeling makes the hidden reading processes become more visible and concrete for developing readers. Language that will help you includes the following:

- “I think about what I already know...”
- “When I look for the main idea, I ...”
- “Here is a clue that will help me ...”
- “That makes me think ...”

3. Guide students to apply these steps as they read during the unit. Support students as they apply the various reading strategies in the Storypath unit and begin to use the strategies independently. For example, after you model your own thinking, ask students to try out the strategy with your guidance before asking them to apply it on their own. This will help you determine which students understand the strategy and which students need more help.

4. Assess students’ progress. Students’ independent use of the various reading strategies will give you valuable opportunities to assess their growing proficiency with the strategy, as well as their understanding of social studies content.

ADDITIONAL RESOURCES

LITERATURE

Easy

Cherry, Lynne. *The Great Kapok Tree: A Tale of the Amazon Rain Forest*. New York: Harcourt/Voyager Books, 2000.

Cherry combines illustrations with a myth-like story that explains the ecological importance of saving the rain forests.

Taylor, Barbara. *Look Closer: Rain Forest*. New York: Dorling Kindersley Publishing, 1998.

Examines the variety of life found in a rain forest through detailed artwork, text, and stunning photographs.

Average

Baker, Lucy. *Life in the Rainforests*. New York: Scholastic Paperbacks, 1993.

A colorful book full of photographs and facts about rain forests around the world.

Osborne, Will. *Rain Forests: Magic Tree House Research Guide*. New York: Random House, 2001.

Jack and Annie, from the popular Magic Tree House book series, guide readers through information on rain forest bugs, birds, plants, and animals.

Advanced

George, Jean Craighead. *One Day in the Tropical Rain Forest*. New York: HarperTrophy, 1995.

Set on the banks of the Orinoco River, this fictionalized tale chronicles the efforts of the Tepui, an Indian boy, to help a group of scientists find a new species of butterfly, thereby saving the Venezuelan rain forest from being destroyed.

Lasky, Kathryn. *The Most Beautiful Roof in the World: Exploring the Rain Forest Canopy*. New York: Harcourt/Gulliver Books, 1997.

Lasky describes the work of Meg Lowman, a scientist who studies the rain forest canopy.

MULTIMEDIA

Video/DVD

National Geographic's Rain Forest. National Geographic, 2000.

Journey to the dense rain forests of Costa Rica.

Rainforest Biomes. Cambridge Educational, 2002. This presentation gives special attention to the threats to these rich ecosystems.

Rain Forest: Heroes of the High Frontier. National Geographic, 1999.

Explore the world of the rain forest canopy in the company of daring researchers.

The Tropical Rainforest Habitat. 100% Educational Videos, 2000.

Peek inside the wettest habitat on land to learn about the three layers of rain forest and the efforts to protect it.

CD-ROMs

Imagination Express: Destination Rain Forest. Edmark. Kids write and publish stories set in a South American rain forest.

Magic School Bus Rain Forest. Microsoft. Travel to the rain forest with Ms. Frizzle and the gang.

Rainforest Explorer. New Media Schoolhouse. Hundreds of plants and animal species are brought to life with full-motion video.

Internet

World Rainforest Information Portal
www.rainforestweb.org

STORYPATH®



Protecting an Ecosystem **The Rain Forest**

www.teachstorypath.com



Imagine for a moment that you're in the middle of a dark, misty forest.

You hear the sound of heavy rain in the trees above you, but not a single drop of water hits the ground. You look up and see a thick ceiling of green leaves. Unseen animals call to each other with strange shrieks and whistles. Stringy vines hang everywhere. Some vines grow from dead leaves and rotting branches on the ground, straight up into the leaves above. Others wrap themselves in coils around tree trunks.

Do you know where you are?



Welcome to the Amazon Basin rain forest.

It's Earth's treasury of living things. The Amazon Basin rain forest covers more than a billion acres of land. The rain forest grows in the wet soil that surrounds the Amazon River. No other place on Earth has such a wide variety of insects, plants, and animals.

▼ Inside the rain forest




What makes the Amazon Basin rain forest a “treasury of living things”? *(making inferences)*



SET 1

Slide 3



► The Amazon River is 4,080 miles (6,570 kilometers) long.



► The green you see on this map represents the Amazon Basin rain forest of South America. Parts of the forest are being destroyed daily.

Sixty percent of the Amazon Basin rain forest is in Brazil. In what other countries is the rain forest? (*understanding visuals*)





What is the structure of a rain forest?

Rain forests are made up of three layers. The top layer of tall trees is the canopy, which is bathed in sunlight and drenched by rain showers. The middle layer is called the understory. It extends from just below the canopy to just above the forest floor. It contains vines, small trees, and shrubs. The lowest layer is the forest floor, which is covered with dead leaves and rotting branches.

What are the three layers of the rain forest?
(main idea/supporting details)



SET 2

Slide 2

A **light gap** occurs when a large tree falls down, and sunlight reaches the forest floor through a gap in the canopy. Young trees grow quickly to reach the canopy before the light is blocked out again by another tree.

Buttress roots are wide winglike structures at the bottom of a tree.

Tree trunks hold up the weight of the canopy. The typical tree is about 30 meters (100 feet) tall and has a smooth, straight trunk with no lower branches.

Continue to the next slide for more on the three layers of the rain forest.



SET 2

Slide 3

Epiphytes are plants that do not grow in the soil on the ground. Instead, they grow directly on other plants, often high up in the canopy. Epiphytes get nutrients, or food, from rainwater, dust in the air, and dead leaves and animals that fall nearby.

Emergents are trees that rise up higher than the canopy. They are exposed to high wind and rain, as well as hot, dry sunlight.

Climbing plants are vines that grow from the dark forest floor up into the canopy. They use trees as ladders to reach the bright light, which most plants need in order to survive.

How do the unique characteristics of each layer affect the plants and animals that live in them? *(making inferences)*



Rain Forest Climate

In the rain forest, daily rainfall drenches the plants and animals, making the air under the canopy humid and misty. Some of the rainwater evaporates to form new rain clouds. This cycle repeats over and over again.

▲ Clouds of water vapor rise from the canopy.

Rain Forest Climate



SET 2

Slide 5

As water trickles through a rain forest's soil, it carries away the nutrients that plants need to grow. This makes the soil sandy. Most of the nutrients in the rain forest are found in the living plants and in a few inches of soil and dead leaves on the forest floor. Rain forest trees need to grow shallow roots that stay close to the nutrients.



▲ Buttress roots help keep trees with shallow roots from falling over.



What is a rain forest reserve?

Scientists sometimes study the rain forest in special areas that are set aside for research, such as the Amazon Biosphere Reserve in northeast Peru. There are camps in this reserve that scientists use as homes and laboratories. One of the camps is called the Amazon Center for Environmental Education and Research. The center has a lodge building with many rooms, including a central meeting and dining area. Behind the lodge is a walkway that is made of bridges and platforms. Visiting tourists pay to use the walkway and to stay overnight. The center also holds classes for teachers and students from around the world. The classroom is the rain forest itself.



SET 3

Slide 2

▼ A biologist studying the Amazon rain forest.



▲ A lodge in the Amazon Biosphere Reserve.



SET 3

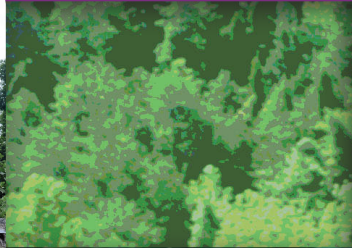
Slide 3



◀ At the Amazon Center for Environmental Education and Research, the walkway's bridges and platforms are suspended by ropes and cables. If you visit the center at night, you can follow night animals with flashlights or just experience the rain forest in moonlight.



- 1. What happens inside a rain forest reserve?** *(scanning, understanding visuals)*
- 2. Why are rain forest reserves important?** *(making inferences)*





What kinds of scientists work in a rain forest?

When scientists study environments, they often count the number of different species, or kinds, of plants and animals that live there. Then they figure out how the different species interact. For example, they might observe what type of plant a caterpillar eats and then observe what type of bird eats the caterpillar.

Rain forests are full of many different types of plants and animals. New species of plants and animals are being discovered all the time. Because of this, scientists are only beginning to understand how rain forests work.



SET 4

Slide 2

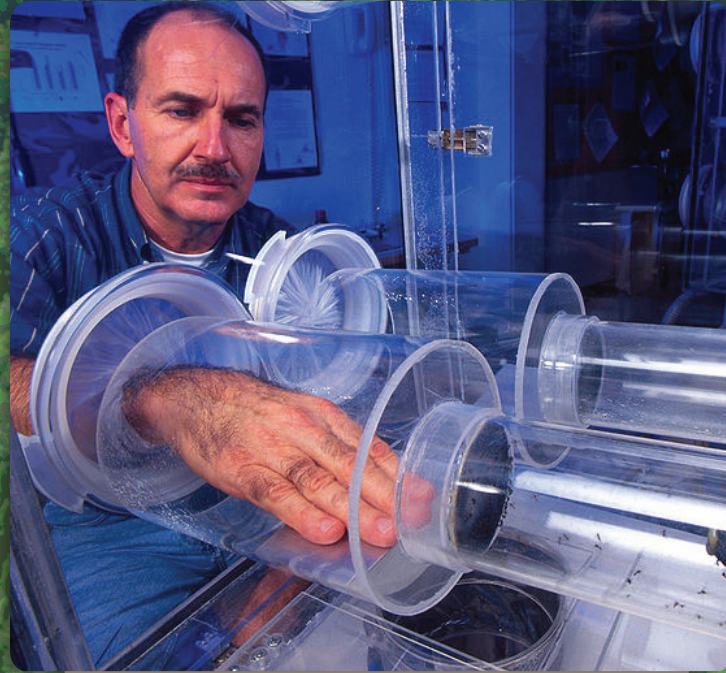


Biologist

Job Description:
studies living things

Methods:

- observes animal behavior
- studies plant specimens



Entomologist

Job Description:
studies insects

Methods:

- collects samples of insects
- observes insect behavior

How is the work of a biologist similar to the work of an entomologist? How is it different? *(comparing and contrasting)*



Botanist

Job Description:

studies plants

Methods:

- collects tree cuttings and flowers
- counts the number of plant species in an area of the rain forest



Ornithologist

Job Description:

studies birds

Methods:

- studies how birds use sound to communicate
- uses sophisticated equipment to record bird characteristics



SET 4

Slide 4



◀ Because most of the plants and animals live high up in the trees, scientists once needed to climb a single tree or chop it down to study what lived at the top. Now, thanks to inventions such as the investigation pod, the secrets of the rain forest are easier to discover.

How might the discoveries of rain forest scientists be useful to scientists working in other parts of the world? (*connecting*)



What is an ecosystem?

An ecosystem is a complex system created by the interactions of organisms, or living things. In an ecosystem, organisms interact with each other and with their physical environment to meet their needs for food and protection. The ecosystem is necessary for the survival of the organisms that live in it. The illustration on the following slide shows some of the relationships in the rain forest ecosystem.

What is an ecosystem? (*main idea/
supporting details*)



SET 5

Slide 2

A **tank bromeliad** is an epiphyte that clings to a tree up in the canopy. Its overlapping leaves hold rainwater in tiny pools. Many animals visit the pools to drink water or to eat tiny animals living there. The plant itself gets nutrients from dead animals that sink to the bottom of the pools.

A **poison dart frog** climbs all the way to the bromeliad from the forest floor to deposit her tadpoles, which eat mosquito larvae. In case the food runs out, the frog mother returns each day to feed her young with an unfertilized egg.

Mosquito larvae hatch from eggs in the still pools. They eat lifeforms in the water that are too small to be seen without a microscope. The larvae change into winged mosquitoes and fly away.

Continue to the next slide for more on the various relationships in the rain forest ecosystem.



SET 5

Slide 3

What might happen to the insects and animals, pictured in Slides 2 and 3, if the tank bromeliad became extinct? (*main idea/supporting details, inferences, connecting*)

Ants are found in all parts of the rain forest. These ants are looking for caterpillars or other insects to attack and carry off to their nest for food.

An **alligator lizard** stops at a pool to have a drink and possibly eat the creatures swimming in the water.

A **damselfly nymph** eats the mosquito larvae and tadpoles living in the pools. It will turn into a long, colorful insect that looks like a dragonfly.



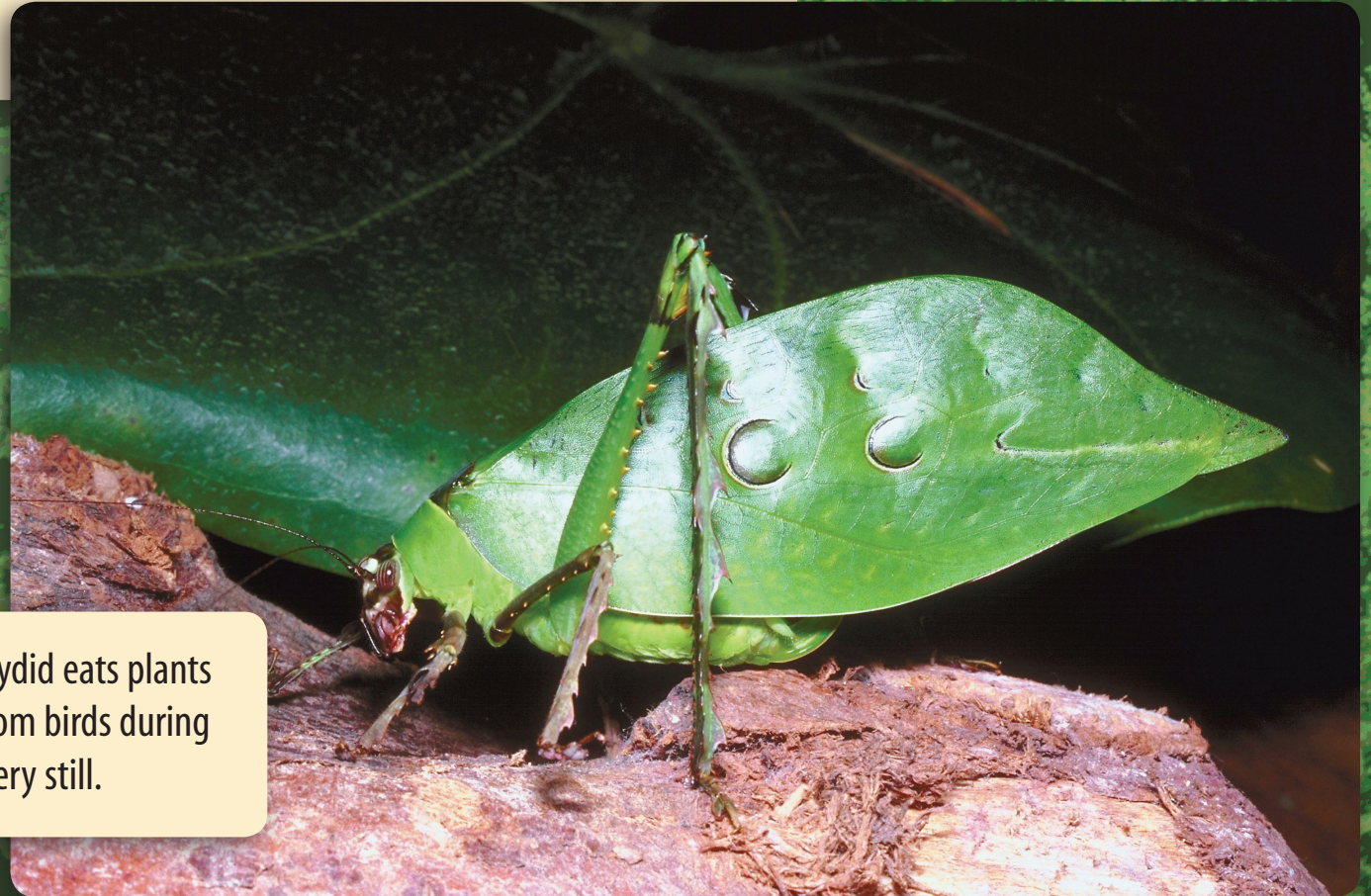
SET 5

Slide 4

The Struggle to Survive

All living things in the rain forest struggle to survive. Some plants have thorns or poisonous leaves that stop animals from eating them. Some animals may have camouflage, a shape or color that makes it easy for them to blend in with their surroundings.

► The live-leaf katydid eats plants at night and hides from birds during the day by holding very still.





What lives in the canopy?

From an airplane, the canopy looks like a grassy field. It holds two-thirds of the rain forest's plants and animals in its leaves and branches about 100 feet (30 meters) above the forest floor. Monkeys tear vines and flowering epiphytes off tree trunks and main branches to form paths through the treetops. Even birds need paths in the canopy. They memorize and fly through openings in the thick leaves and branches called flight tunnels. At night, bats use the flight tunnels when they hunt for moths and other insects.



How do birds manage to fly in the rain forest canopy? (*scanning*)



Orchid

Habitat: most Amazonian orchids are epiphytes, living on tree branches in the canopy without touching the soil

Life Cycle:

- seeds float in the wind like tiny balloons and come to rest on faraway tree trunks and branches



Blue and Gold Macaw

Diet: fruit, seeds, and nuts

Behavior:

- hooked bill breaks open tough nuts and is used like a third foot when climbing

Life Cycle:

- nests in tree hollows
- bright colors help attract a mate





SET 6

Slide 3

Postman Butterfly

Diet: flower nectar

Protection:

- bright coloring reminds birds and other predators that it is poisonous
- becomes poisonous by eating passionflower leaves as a caterpillar

Life Cycle:

- caterpillar hatches from egg and later changes into adult butterfly



Sloth

Diet: leaves, buds, and small twigs

Behavior:

- hangs upside down from branches
- moves very slowly
- eats at night and is very quiet

Protection:

- camouflaged, or hidden, by greenish algae growing in its hair
- protected from biting ants by thick hair

What is unusual about a sloth?
(understanding visuals)



What lives in the understory?

The understory is the layer of small trees and other plants that grow below the canopy. It is dark and humid in the understory. The canopy above blocks out most of the sunlight and keeps humid air from escaping. The farther down from the canopy you go, the darker and more humid the understory becomes.



Why is it so humid in the understory? (*scanning*)



SET 7

Slide 2



Shingle Plant

Life Cycle:

- seed sprouts a leafless stem on the forest floor
- stem creeps toward base of a tree, where it climbs upward, sprouting small leaves that press against the bark
- at the canopy, it grows large leaves that face up toward the sunlight



Marmoset

Diet: insects, fruit, leaves, and sap from trees

Behavior:

- lives in small family groups
- leaps between trees
- makes chirping sounds like birds

Look at the marmoset. Then find another organism shown in this set that the marmoset might like to eat. Explain.
(understanding visuals)



SET 7

Slide 3



Rainbow Boa Constrictor

Diet: small animals such as birds and rodents

Behavior:

- hunts in all levels of the rain forest
- winds around and squeezes prey until suffocated



Tiger Moth

Diet: flower nectar

Characteristics:

- nocturnal, or active at night
- during the day, its bright coloring warns birds that it is poisonous

Life Cycle:

- starts life as caterpillar and then changes into moth



What lives on the forest floor?

Many people think that the forest floor is a dense jungle of plants. On the edge of a river or where trees have fallen, this can be true. But in most places, the forest floor is too dark for a lot of plants to grow.

Only small ferns, patches of grass, and the saplings of future giant trees grow here and there.

Most of the creatures that live on the forest floor are fairly small. Worms, insects, and centipedes eat fungi and bacteria in the top 4 inches (10 centimeters) of soil and dead leaves. These small creatures become the food for larger forest-floor dwellers such as frogs, snakes, and lizards.





Poison Dart Frog

Diet: insects, worms, and centipedes

Protection:

- bright coloring reminds predators that it is very poisonous

Uses:

- native South Americans make poison darts and arrows by rubbing these weapons across the frog's back



Leaf-Cutter Ants

Diet: fungi

Behavior:

- live in an underground colony, where different ants fill roles, such as queen, leaf-gatherers, and warrior
- leaf-gatherers carry cut-up leaves back to the nest as food for a fungus, which the ants eat



SET 8

Slide 3



Fungus

Diet: dead or living plants and animals

Characteristics:

- some fungi eat dead plants and animals, making important **nutrients**, or food, for new plants to grow
- the mushroom is only the top, or “flower,” of the fungus



Forest Snail

Diet: leaves

Protection:

- pulls its soft body inside a shell

Characteristics:

- its eyes are on the tips of the longer tentacles

Looking at the Set 8 slides, are any of these insects and animals similar to those that live in your area? Explain. *(comparing and contrasting, connecting)*



Who lives in the rain forest?

People have been living in the Amazon Basin rain forest for thousands of years. They live in communities and find all of their food, clothing, and shelter in the rain forest. Most rain forest people hunt animals and cut down small patches of forest to grow crops. After a few years, they abandon their fields, letting the rain forest grow again.

Rain forest people have their own beliefs and customs. They know the plants of the rain forest and use many of them to make food and medicine.

But the way of life for many rain forest communities is in danger. Even though there are laws to protect the communities, outsiders have been stealing their land to set up mines and farms. If outsiders keep moving into the rain forest, the communities already living there might not survive.



SET 9

Slide 2



▲ A Matses Indian man carries plantains from the forest to his village.



▶ A Matses Indian woman weaves a basket using palm leaves.



SET 9

Slide 3

► A Yanomami Indian girl wears traditional jewelry and face paint.





SET 9

Slide 4

1. What items in these pictures do you think are made from materials found inside the rain forest? *(making inferences, understanding visuals)*

2. What items in these pictures do you think come from outside the rain forest? *(making inferences, understanding visuals)*





What dangers threaten the Amazon Rain Forest?

The huge Amazon Basin rain forest may not be around for much longer. Farmers have traveled from overcrowded cities on new roads to start farms in the rain forest. They use a system called slash-and-burn farming. First they clear a patch of land by cutting down the trees. They burn the fallen trees and other plants, releasing nutrients into the thin layer of soil. After only a few years, however, the crops they grow use up the nutrients, and the farms become full of weeds. The farmers then move on and destroy another patch of rain forest to start new farms.

Sometimes cattle ranchers buy the failed farms to raise cattle. But after a few years, the land can't even grow the grass eaten by the cattle. All that's left of the once-lush rain forest is bare land where only small bushes and weeds can grow. The rain forest never has a chance to grow back.

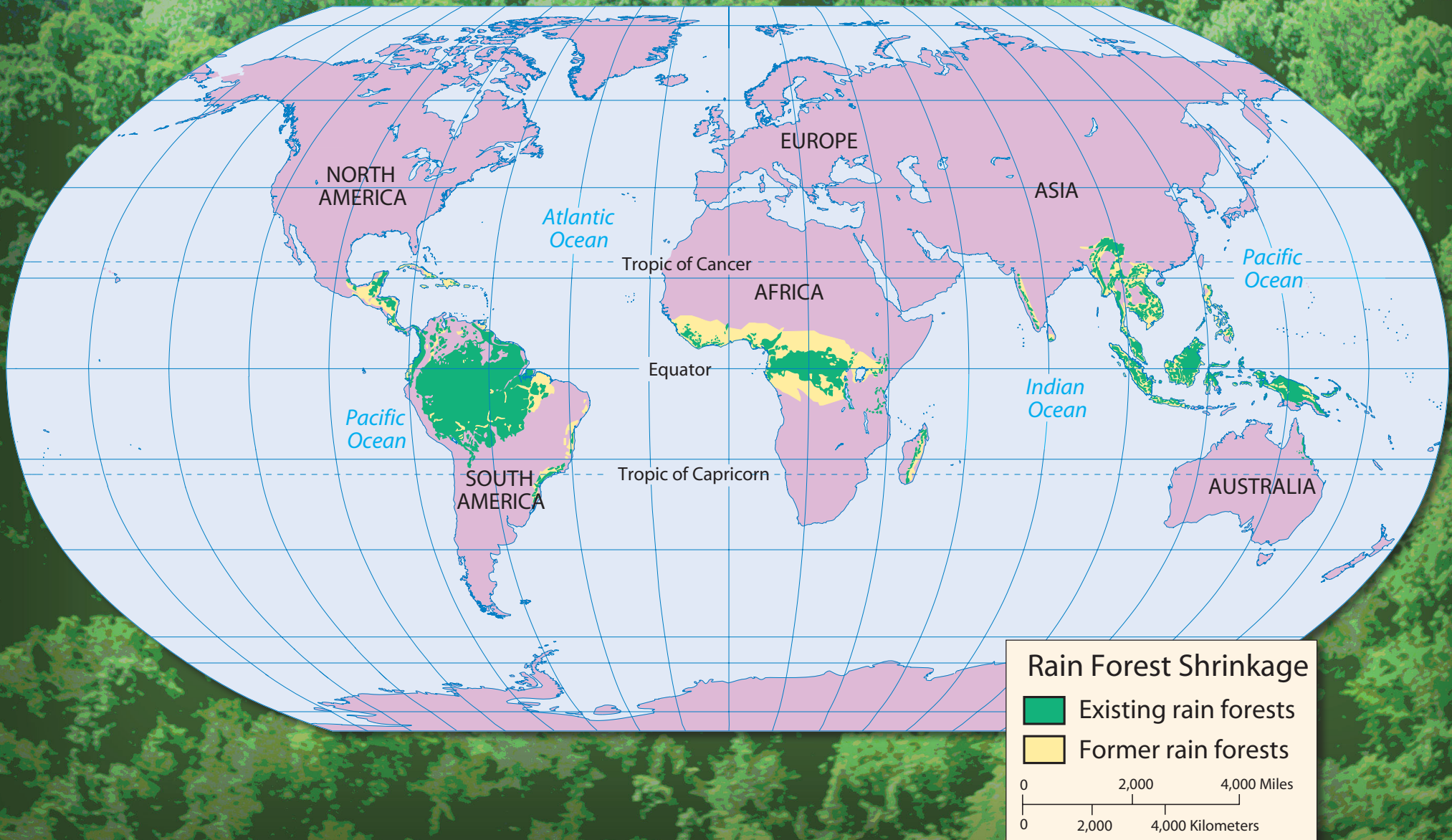
- 1. What are the threats to the rain forest?** *(main idea/supporting details)*
- 2. Why do farmers come to the rain forest?** *(scanning)*

Map of rain forest shrinkage throughout the world



SET 10

Slide 2





SET 10

Slide 3



▲ An area of rain forest the size of the state of Mississippi is burned each year to make farms. If this continues, the rain forest and all its animals will be gone by the year 2050.



SET 10

Slide 4



▲ Logging has also hurt the forests in the Amazon Basin. Loggers build roads through the forest, remove trees, and damage other plants.



▲ Iron, copper, and gold lie beneath the Amazon Basin rain forest. Mining companies often cut down large areas of forest to dig for these minerals.



How do we benefit from the rain forests?

Many of the products we use every day come from the rain forests of the world. We may enjoy eating rain forest fruits, such as bananas, coconuts, and mangos. We may also eat chocolate made from rain forest cocoa beans. Unlike the lumber made from rain forest trees, these products are renewable. Renewable products can be grown and harvested without harming the rain forest.

Why is it important to choose renewable rain forest resources rather than nonrenewable resources? *(making inferences)*



SET 11

Slide 2



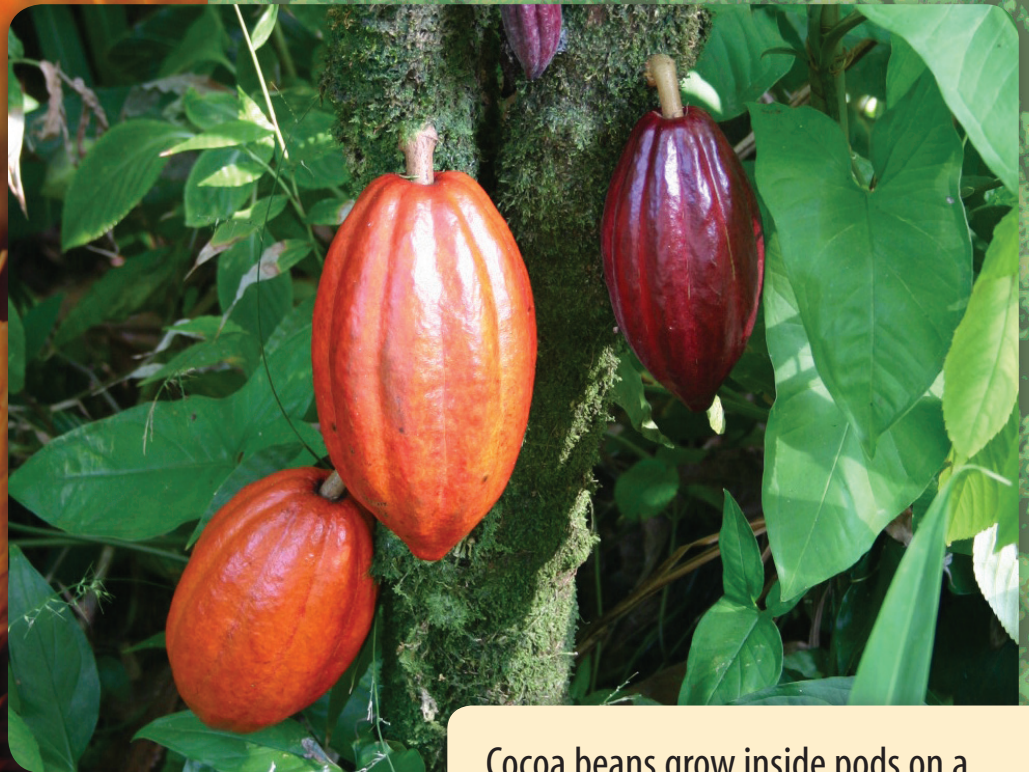
▲ Brazil nuts grow on trees. Each piece of fruit holds about twenty nuts. Brazil nuts are rich in oil.



SET 11

Slide 3

◀ The white “meat” of the coconut can be eaten fresh or used as an ingredient in recipes. Coconut milk is made by mixing grated coconut with hot water.



Cocoa beans grow inside pods on a cocoa tree. The cocoa beans are
▶ actually the seeds inside the pods.



Medicine Chest of the World

The rain forests have sometimes been called “the medicine chest of the world.” Many important medicines and drugs are made from rain forest plants. For example, quinine, a drug commonly used to treat malaria, is made from the cinchona tree.

Some people believe that scientists can do more to study the healing powers of rain forest plants. Perhaps the cure to many terrible diseases is waiting inside the rain forests.



► The cinchona tree is the source of quinine, a drug used to treat malaria.

What can be done to save the rain forests?



SET 12

Slide 1

Scientists are trying to find better ways for people to use the rain forest. One method is to harvest natural rain forest fruit and nuts. Another method is to restore the rain forest by planting new trees.





SET 12

Slide 2

▼ These children are growing seedlings of rain forest trees.



► These mango fruits grow naturally in the rain forest.



How You Can Help

Many organizations are working to help save the rain forest. Here are some of their suggestions for things everyone can do.



SET 12

Slide 3



1. Learn about the rain forest.

The most important thing you can do is learn what a rain forest is, how it works, and why it is special.

2. Write letters.

Write letters to your representatives in Congress and urge them not to support certain aid programs, such as building new roads, that would further harm the rain forest ecosystems.



3. Shop carefully.

Buy products from companies that are careful to protect the environment.

4. Reduce your paper and wood consumption.

Fewer trees will be needed to make paper and wood products if we use less and recycle.



What can you do to help save the rain forest? *(main idea/supporting details, connecting)*



Protecting an Ecosystem

The Rain Forest

Reading Tips

Reading Strategy	When do I use the strategy?	How do I use it?
Main idea/ supporting details	Use it to find the big idea, and then identify the facts and details that support it.	<ol style="list-style-type: none">1. Think about what you want to know and what you <i>already</i> know.2. Read the text and think: <i>What is the "big idea" here?</i>3. Look for information that is important to the big idea. Some facts are interesting but not important.4. The details you find may cause you to change your big idea.
Comparing and contrasting	Use it to find information that tells you how two or more ideas are alike and different.	<ol style="list-style-type: none">1. Think about what you want to know.2. Choose two events or ideas to compare and contrast.3. List important information about one event or idea.4. For each item on the list, look for information about how the other idea is the same or different.5. Look for clue words such as "similarly," "also," and "however."
Making inferences	Use it to understand information not stated directly in the text, or to "read between the lines."	<ol style="list-style-type: none">1. Think about what you want to know and what you <i>already</i> know.2. Look for clues in the text that give you new information.3. Compare this new information with what you already know to figure out what the author is saying.
Connecting	Use it to understand new information by connecting it with what you already know.	<ol style="list-style-type: none">1. Think about what new information you want to remember.2. Think about what you already know.3. Look for connections between the new information and what you already know from experience or reading.4. These connections will help you remember the new information.
Scanning	Use it to quickly find the specific information you need.	<ol style="list-style-type: none">1. Think about what information you need to find.2. Move your eyes over the page looking for subheadings, italicized or bold print words, and key ideas.3. When you find what you're looking for, slow down and read carefully.
Understanding visuals	Use it to find information presented in visual form, such as maps, graphs, photographs, diagrams, and timelines.	<ol style="list-style-type: none">1. Think about what you want to know and what you <i>already</i> know.2. Look for information that explains the visual. For example, look at labels, captions, arrows, or map keys.3. Search for the specific information you want.4. Put the information into words to help you understand the visual.