



## **Third Grade Ecuadorian Rainforest**

### **National Standards for Grade 3 Lessons**

#### **Language Arts Writing**

##### Standard 4 Level 2 Grade 3-5

2. 3. 4. Gathers and uses information for research purposes (encyclopedias, dictionaries, electronic media).  
Uses multiple representations of information (maps, charts, diagrams, tables) to find information for research topics.  
7. Uses strategies to compile information into written reports or summaries.

#### **Reading**

##### Standard 7 Level 2 Grade 3-5

- Uses reading skills and strategies to understand a variety of informational texts.  
5. Summarizes and paraphrases information in texts.  
6. Uses prior knowledge and experience to understand and respond to new information.

#### **Listening and Speaking**

##### Standard 8 Level 2 Grade 3-5

- Contributes to group discussions.  
Asks questions in class.  
Responds to questions and comments.  
1. Listens to classmates and adults.  
7. Makes basic oral presentations to class.  
10. Organizes ideas for oral presentations.

#### **Reading**

##### Standard 6 Level 2 Grade 3-5

- Uses reading skills and strategies to understand and interpret a variety of literacy texts.  
9. Makes connections between characters or simple events in a literary work and people or events in his or her own life.

#### **Thinking and Reasoning**

##### Standard 3 Level 2 Grade 3-5

4. Makes comparisons between countries in terms of relatively concrete characteristics (size, population, products).

##### Standard 1 Level 2 Grade 3-5

1. Uses facts from books, articles and databases to support an argument.  
7. Recognizes when a comparison is not fair because important characteristics are not the same.

Standard 5 Level 2 Grade 3-5

1. Identifies issues and problems in the school or community that one might help solve.

**Mathematics**

Standard 1 Level 2 Grade 3-5

1. Uses a variety of strategies to understand problem situations.
2. Represents problems situations in a variety of forms.

Standard 3 Level 2 Grade 3-5

7. Solves real world problems involving number operations.

Standard 4 Level 2 Grade 3-5

1. Understands the basic measures perimeter, area, volume circumference.
2. Selects and uses appropriate tools for given measurement situations.
4. Understands relationships between measures.
1. Uses specific strategies to estimate quantities and measurements

Standard 9 Level 2 Grade 3-5

2. Understands that mathematical ideas and concepts can be represented concretely, graphically, and symbolically.

**Life Science**

Standard 6 Level 2 Grade 3-5

1. Knows the organization of simple food chains and food webs.
2. Knows the transfer of energy.
3. Knows that changes in the environment can have different effects on different organisms.
4. Knows that all organisms (including humans) cause changes in their environments and these changes can be beneficial or detrimental.

Standard 1 Level 2 Grade 3-5

Understands atmospheric processes and the water cycle.

Standard 4 Level 2 Grade 3-5

5. Knows that the characteristics of an organism can be described in terms of a combination of traits; some traits are inherited and others result from interactions with the environment.

Standard 5 Level 2 Grade 3-5

3. Knows that living organisms have distinct structures and body systems that serve specific functions in growth, survival and reproduction. (body structures for walking, flying, or swimming).

Standard 7 Level 2 Grade 3-5

3. Understand the concept of extinction and its importance in biological evolution.
4. Knows ways in which living things can be classified.

Standard 9 Level 2 Grade 3-5

Understands the sources and properties of energy.

Standard 11 Level 2 Grade 3-5

5. Knows that good scientific explanations are based on evidence (observations) and scientific knowledge.
6. Knows that scientists make the results of their investigations public.

Standard 13 Level 2 Grade 3-5

1. Knows that people of all ages, backgrounds and groups have made contributions to science and technology throughout history.

Standard 12 Level 2 Grade 3-5

3. Plans and conducts simple investigations.
4. Uses appropriate tools and simple equipment.



## Third Grade Ecuadorian Rainforest

### Lesson 4: The Tropical Supermarket

#### **Concept**

Everything has a source. When we consume products from the shelves of supermarkets we are intricately connected to the ecosystem in which the natural resources originated and to the lives of those people who produced them.

#### **Essential Question**

Whose lives are we eating?

#### **Additional Resources**

- **Resource Index** - Check out this page at <http://www.rainforest-alliance.org/programs/education/teachers/curriculum/resources/index.html> for additional supplemental materials that complement these dynamic units and to access many of the resources listed below.
- **Slideshow** – The Learning Site provides a slideshow and script about Ecuador that includes background information about the animals, people and landscape of this region. The slideshow can be downloaded for viewing in the classroom, printed out and read as a story, or viewed online with the students.
- **Unit-Specific Story:** The Rainforest Alliance has developed an original story for use with these units, available in English, Spanish and Portuguese. The story is available to download and print or can be viewed onscreen.

#### **Romel's Rainforest Home**

- **From the Bean to the Bar: Chocolate Slideshow** - Where does chocolate come from? Take a journey that follows the production of a chocolate bar from the bean to your supermarket. The slideshow can be downloaded for viewing in the classroom, printed out and read as a story, or viewed online with the students.
- **Species Profiles** – The species profiles, available to view on screen or download from the beginning of the unit or the Resource Index, include photos, habitat, foraging behavior, group relationships, threats and many more facts.
  - Bromeliad
  - Ocelot
  - Great Curassow
  - Capuchin Monkey
  - Three-Toed Sloth

- **Rainforest Poster:** Download and print out this colorful two-page poster, which is available for you to use in explaining the layers of the rainforest, its products and the environmental threats facing many rainforests around the world.

**Inside the Canopy** – Structure and species of the rainforest

**Status Report** – What is happening to the rainforest

- **Terrarium Instructions** – Download directions for making a terrarium in your classroom.
- **Rainforest Products** – Visit <http://www.rainforest-alliance.org/resources/forest-facts/lives.html> for a summary of products found in our homes and supermarkets that either originated in tropical forests or are currently produced there.
- **Teacher summary/Chachi Community Profile** – The Rainforest Alliance Learning Site provides a downloadable overview of Chachi cocoa farmers in Ecuador with useful information to introduce you to the lesson topic.
- **Conservación y Desarrollo (Conservation and Development)** – Check out this online resource for more information about how the Rainforest Alliance’s partner group in Ecuador, *Conservación y Desarrollo*, is helping the Chachi protect their precious ecosystems:  
<http://www.rainforestalliance.org/programs/aar/ecuador.html>
- **Profiles in Sustainability** – Visit <http://www.rainforestalliance.org/programs/profiles/index.html> for case studies on companies who work closely with the Rainforest Alliance to ensure that their practices protect wildlife, workers and communities.
- **Certificate of Accomplishment** – Print out colorful rainforest certificates for your students to commemorate their completion of these units.

### **Informational Introduction for the Teacher**

This lesson guides students in an exploration of sustainable agricultural practices directly related to the lives of people living in the rainforest. The connection is made through chocolate and cocoa farming. By engaging students in a study of the origins of chocolate, we will introduce the impact of increased need/want for chocolate on the environment where it is grown and species that surround those farms. The unit focuses specifically on the Chachi people, who protect their forest from destruction by sustainably harvesting cocoa. The Chachi participate with the Rainforest Alliance in developing sustainable farming techniques that conserve the rainforest while providing the local people with a means for earning an income.

## **Informational Introduction for the Students**

Go into almost any backpack in your school and you will find empty chocolate wrappers or chocolate treats waiting to be eaten. Chocolate is a favorite candy of American children and children all over the world. Where does all this chocolate come from? Who produces the ingredients for this treat? As the desire for more chocolate increases, farming of chocolate increases. What effect does chocolate farming have on the landscape, the people and the different animals that live around those farms? What happens when trees are cut down in an area that is rich in biodiversity and replaced with farms that grow only cocoa plants? How might these changes affect our lives so far away?

### **Step 1 - CONNECT (The Concept to Prior Knowledge)**

#### **Challenge**

Students will understand that farmers organize their lives around growing, harvesting and delivering products to markets for other people to enjoy.

#### **Materials**

- Locally produced food (brought in by students)
- Local map

#### **Procedure**

1. Students identify and bring in to school a food that is produced locally. It may be a vegetable, fruit, honey, grain, meat, etc.
2. Using a map of the local area, locate where these foods are grown and how much land each takes to grow, how much time it takes to grow and what kinds of ingredients are necessary for its production. For example: How much rainfall, temperature, fertilizer or feed, soil, etc.
3. Students study a local food producer. (This will be different for each geographical area.) Have the producer come into the classroom or have children visit the local farm/garden to discuss how much of their time and energy goes into producing the item of study.
4. Have students write a report of the food item and all the ingredients that go into its production, including the time of the farmer.

### **Step 2 – LITERATURE/DISCUSS (Give expert Information/ Book: Ask questions)**

#### **Challenge**

Students will understand that many lives of people in Ecuador are part of their chocolate.

## Materials

- Story: **Romel's Rainforest Home**, a Rainforest Alliance story
- Chachi Community Profile – Available at:  
<http://www.rainforestalliance.org/programs/education/teachers/curriculum/ecuador/pdfs/ecuador-summary.pdf>

## Procedure

1. Read **Romel's Rainforest Home**, a Rainforest Alliance story. Use the pictures in the story to compare and contrast the students and communities the students know to those that Romel knows.
2. Read the **Chachi Community Profile**, available from the Resource Index, to share information with students about the Chachi and the social and environmental benefits of growing cocoa in the shade.

### Discussion:

- a. What food products are the same or different in Romel's community than what you find in your supermarket?
- b. How is Romel's life the same and/or different than yours?
- c. How is his home different?
- d. How is the school different?
- e. Do you do chores at home? Are they the same as Romel's?
- f. How much time do you think Romel spends helping produce cocoa beans?
- g. Did you learn anything new about cocoa beans than you knew before after reading the story?

## **Step 3A – PRACTICE (Math and Learning Centers)**

### Challenge

Students will calculate the amount of space necessary to produce chocolate for their classroom.

### Materials

- Paper, pencils

### Procedure

1. Research how much space is needed to grow 10 – 20 – 30 – or 100 cocoa plants.
2. How big will Romel's farm have to be to supply enough chocolate for your classroom?
3. How much space will it take to supply chocolate for 20 classrooms?
4. How many acres of Ecuadorian Rainforest are left?
5. Romel's family grows cocoa in the shade of the rainforest. How many acres of rainforest will have to be cut down if a farmer decides not to use shade-grown cocoa techniques in order to triple the amount of chocolate being produced now?
6. How many acres would that leave for protected rainforest?

### **Step 3B – CREATE (Performance Tasks Related to Standard Indicators)**

#### **Challenge**

Students understand the difference between the impact of shade-grown cocoa beans and plantation cocoa production.

#### **Materials**

- Profiles in Sustainability (Available at <http://www.rainforest-alliance.org/programs/profiles/index.html>)

#### **Procedure**

1. Students research different types of growing practices for cocoa.
2. Students read Profiles in Sustainability and Conservation and Development sites at <http://www.rainforest-alliance.org/programs/profiles/index.html>.
3. Students give 2-3 minute speeches pretending they are Romel's uncle, the president of San Salvador, to explain the benefits of growing cocoa beans using sustainable farming practices.

### **Step 4 - PRESENT**

#### **Challenge**

Students describe the benefits of shade-grown/sustainable growing practices to manufacturing companies who buy cocoa beans from Ecuador.

#### **Procedure**

1. Students develop research papers that describe the process and benefits of sustainable practices in the rainforest of Ecuador especially regarding cocoa beans.
2. Students create an alternative buying strategy for manufacturers that supports the use of sustainable growing techniques by showing how much of the rainforest can be saved and highlighting the value of preserving its integrity for the lives of plants, animals and Chachi communities.

**LESSON 4 ASSESSMENT RESULTS:**

Teacher observations of tasks with rubrics as listed below, as well as collected work samples.

<b>Assessment Guidelines</b>	<b>3 = P (Proficient)</b>	<b>2 = S (Satisfactory)</b>	<b>1 = NW (Needs Work)</b>
1. Student creates a portrait, through his/her report, of a local food through its production and understands the relationship of the grower to the process.			
2. Student compares and contrasts their daily lives to the lives of the Chachi Indian.			
3. Student calculates the amount of physical space necessary for the production of cocoa using two different farming techniques.			
4. Student researches and orally delivers information on sustainable cocoa farming.			
5. Papers will include a description of the sustainable farming techniques and its benefits to the rainforest environment and conservation.			