



Fifth Grade
El Imposible National Park, El Salvador

National Standards for Grade Five Lessons

English

Standard 3: Evaluation Strategies

Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts.

Standard 1: Reading for Perspective

Students read a wide range of print and non-print texts to build an understanding of texts, of themselves and of the cultures of the US and the world.

Standard 4: Communication Skills

Students adjust their use of spoken, written and visual language to communicate effectively with a variety of audiences and for different purposes.

Standard 7: Evaluating Data

Students conduct research on issues and interests by generating ideas and questions, and by posing problems.

Life Science

Standard 3

Students develop an understanding of the structure and function in living systems, populations and ecosystems, and diversity and adaptations of organisms.

Math

Standard 1: Grades 3-5

Students understand the need for measuring with standard units and that measurements are approximations and how differences in units affect precision.

Technology

Standard 5: Technology Research Tools

Students use technology to locate, evaluate and collect information from a variety of sources.

Standard 4: Technology Communication Tools

Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.

Social Studies

Standard 5: Environment and Society

Students should understand how human actions modify the physical environment.

Science

Standard 6: Personal and Social Perspectives

Students develop an understanding of populations, resources and environments.



Fifth Grade
El Imposible National Park, El Salvador

Lesson 2: Birds and Coffee

Concept

In a global economy, where products from one country or bioregion are used in another bioregion, resource use and changes in the landscape impact the lives of species that depend on several bioregions for survival.

Essential Question

How are migratory birds affected by coffee production in El Salvador?

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 Belize 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 Stories-** The Rainforest Alliance has developed two original stories for use with these units, available in English, Spanish and Portuguese. The stories are available to download and print or can be viewed on-screen.

**Alex Goes Exploring in El Imposible
Life In San Miguelito**

- **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.
 - Ocelot
 - Great Curassow
 - King Vulture
 - Blue-Crowned Motmot
- **Rainforests: Supermarkets to the World** - A great two-page introduction to the many fruits, vegetables, medicines and other products that we use everyday, which are harvested from tropical rainforests.

- **Park Profile** - Visit <http://www.rainforest-alliance.org/programs/aar/el-salvador.html> for a basic introduction to El Imposible National Park.
- **Rainforest Poster** - Check out this colorful two-page poster depicting the layers of the rainforest, rainforest products, and the threats faced today by many of the world's rainforests is available for your use.

Inside the Canopy – Structure and species of the rainforest
Status Report – What is happening to the rainforest

- **Rainforest Products** – Visit <http://www.rainforest-alliance.org/resources/forest-facts/lives.html> for a summary of products that we use in our everyday lives that originate in rainforests. Both teachers and students will find information on the products found in their homes and supermarkets that either originated in tropical forests or are currently produced there.
- **Profiles in Sustainability** – Click [here http://www.rainforest-alliance.org/programs/profiles/index.html](http://www.rainforest-alliance.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.
- **Conservation Coffee Summary** – Visit <http://www.rainforest-alliance.org/programs/education/teachers/curriculum/pdfs/conservation-coffee.pdf> to access an eight-page introduction to the issue, including a glossary of terms. These are appropriate for students to read independently.
- **Venn Diagram Template** - Download a photocopy-ready Venn diagram designed to complement this unit.
- **Certificate of Accomplishment** - Print out colorful rainforest certificates for your students to commemorate their completion of these units.

Technology Resources

Migration- How and why do birds migrate?

- Visualization: **Songbird Story** (13 min. video K-6) Migratory songbirds, including tanagers, buntings and orioles are disappearing. What does it mean? Where have they gone? In our backyards in North America, the songbirds' nesting habitats are being lost to development of land. But is this the whole story? The video is available from Bullfrog Films (www.bullfrogfilms.com).
- www.songbirds.org - This Web site gives facts and pictures about the songbirds and their dependency on their habitat. It also has links to forest conservation, farming and the earth's sustainability.
- <http://www.birds.cornell.edu/AllAboutBirds/BirdGuide> - This Web site provides information on bird species in North America, their habitats and migration patterns, as well as guides and photographs to help identify birds.

Shade/Sun grown coffee methods in El Salvador- What are the differences? Why are both methods being used in the rainforest?

- www.rainforestweb.org: This site has many links specifically about El Salvador's agriculture, industrial development and rainforest products, specifically shade coffee.
- www.goldenbean.com/life: This Web site explains the life cycle of the Arabica coffee plant.
- www.rainforest-alliance.org: This site includes information on shade-grown coffee, a visual tour of a coffee farm and a list of sources for shade-grown coffee.

Step 1- CONNECT (The Concept to Prior Knowledge)

Challenge

Students will identify with the changing of the seasons and how these changes affect human and animal behavior. Students will explain what migration is and why many songbirds migrate south for the winter.

Procedure

1. As a class, brainstorm questions such as:
 - a. How do you dress during the different seasons?
 - b. What do you see in winter that you don't see in the summer?
 - c. How do animals react to the changing seasons? (Key words: migration, hibernation, adaptation)

Step 2 - LITERATURE/DISCUSSION (Give Expert Information Book; Ask Questions)

Challenge

Students will learn about the two main coffee production methods used in the rainforest and be able to identify how this affects the habitat and health of migratory birds.

Materials

- El Imposible National Park Slideshow (available on the Resource Index)
- Slideshow script (available on the Resource Index)
- Conservation Coffee Summary (available on the Resource Index)
- CD or cassette of bird calls or bird music
- Chairs

Procedure

1. Give a mini-lecture on migratory birds
2. Address the reasons why birds migrate. (Food, climate, shelter)
3. Give mini-lecture on coffee production in the El Salvador rainforest

4. Provide information of sun and shade coffee growing practices, who's using what and why. (For more background information, see Conservation Coffee Summary)
5. Activity:
Migrating Birds (a take off of musical chairs):

In this rendition of musical chairs, students will role play as birds and each chair will represent a tree.

Set up:

1. Bunch up a large number of chairs, enough for each student to have a seat.
2. Have a CD or cassette of bird calls or other bird music.

Round 1:

- a. Have students stand together as if they were a flock of birds getting ready to fly south for the winter.
- b. Play bird calls and tell the students to migrate to the rainforest (a chair).
- c. Once every student is seated, ask them what they think the chairs symbolize.

The goal is for students to understand that the rainforest is much more than just a bunch of trees; it provides shelter, food, oxygen, etc., not only to the birds but to the other animals and indigenous people that live among the rainforest canopy.

Round 2:

- a. Take several of the chairs and set them upside down on the outskirts of the inner bunch.
- b. Start the music again and initiate another mock migration. A number of students should be without a chair (without a tree, without a home, without protection, etc.)
- c. Debrief and ask them what the overturned chairs represent. (Deforestation for coffee production *and* other threats to rainforests.)
- d. Continue until students clearly understand the benefits of conserving the forest.
- e. Discuss the benefits of shade grown coffee. By cultivating coffee underneath the shade of trees, the forest remains intact not only to migrating birds, but to the local people and animals that live there and depend on its resources year round.

Step 3A- PRACTICE (Math and Learning Centers)

Challenge 1

Students will discover the distances that many birds fly in order to find food and shelter in the rainforest canopy. These distances will be translated to a determined scale and presented visually.

Materials 1

- Research tools: bird books, maps, Internet, etc.
- Chalk

Procedure 1

1. In groups of two or three, students will pick one local migratory bird to study. Using a variety of resources (books, maps and the internet), students will calculate the mileage and through what states and countries their bird travels from start to finish during migration.
2. After the mileage has been estimated, students will come up with a standard scale to represent their calculations. For example: 100 miles = 1 foot.
3. Space and weather permitting, all groups will create their own 'Bird Migration Map' on the playground using chalk. Each map will include a scale and a visual representation of where the bird takes off from and where it lands.

Challenge 2

Students will discover where the coffee in their neighborhood is made, how it is produced and by which method, sun or shade. The goal is for students to connect this information with the findings from the above challenge in order to grasp the importance of conserving rainforest habitat for migratory birds and all living things (i.e. trees, animals, insects, humans).

Materials 2

- Coffee labels

Procedure 2

1. Students will trace origins of coffee sold or used in their neighborhood by looking at labels at home and/or in stores.
2. Then, groups will research if the coffee is grown with sun or shade practices depending on the region in which it came from and information provided by the label.

Step 3B - CREATE (Performance Tasks Related to Standard Indicators)

Challenge

Students will ask their parents or local store owners to buy shade grown as opposed to sun grown coffee.

Materials

- Migratory information from Step 3A
- Paper
- Art supplies

Procedure

1. Students will design brochures for parents or local store owners trying to convince them to sell or buy shade grown coffee. Brochures should include migratory bird information from the first challenge and coffee research from the second challenge.

Step 4 - PRESENT (Edit Work/Students Orally Present Projects)

Challenge

Students will practice public speaking.

Materials

- Brochures from Step 3B

Procedure

Students will distribute brochures and read them to the class.

LESSON 2 ASSESSMENT RESULTS:

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

Assessment Guidelines	3 = P (Proficient)	2 = S (Satisfactory)	1 = NW (Needs Work)
1. Student's brochure is based on scientific facts.			
2. Student's brochure set up is easy to follow.			
3. Spelling, grammar and punctuation are accurate.			
4. The information included in the brochure is convincing.			
5. Brochure represents student's full potential.			