



ROBERTO'S RAINFOREST

A simulation of a canoe trip down a river to explore a tropical rainforest

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Artwork by Jason Kessel.

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Interact

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ISBN 978-1-57336-267-2

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The author wrote ROBERTO'S RAINFOREST and other science units in this passport series because she is concerned by a national trend discussed in the April 9, 1990, issue of Newsweek:

"Whether out of boredom, laziness, or the allure of other pursuits, American students are fleeing math and science in droves. 'By the third grade, half of all students don't want to take science any more,' says Edward Pizzini, associate professor of science education at the University of Iowa. 'By the eighth grade, only one in five wants to keep going. Fewer than half ever take a math or science course after the 10th grade.' "

ROBERTO'S RAINFOREST is a scientific canoeing trip that allows naturalists (K-3) to explore a tropical rainforest in South America. It is designed to broaden the students' scientific knowledge through the study of life forms found in the rainforest. The 11 lessons include information on tropical rainforest weather, insects, plants, water, birds, people, and animals. Other scientific and travel-related concepts are emphasized throughout the unit. ROBERTO'S RAINFOREST is a science program that stimulates young learners through well-planned activities. The unit's activities are a base on which to build required science concepts for grades K-3.

During the scientific canoeing trip, students will experience:

Knowledge (Based on science guidelines grades K-3)

1. There is great diversity among living things that can be described and classified by their characteristics and behaviors.
2. Living things have adaptations that enable them to live in particular environments.
3. Plants and animals have basic requirements that need to be satisfied in order for them to survive.
4. Living things shelter themselves in special places called habitats and share their particular environments with other living things to form communities.

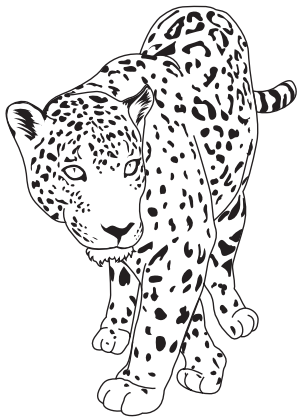
Feelings

1. Feeling positive toward science.
2. Appreciating nature and its habitats.
3. Experiencing the simulation of canoeing on a river.

Skills

1. Studying scientific concepts carefully to understand terms and definitions.
2. Creating multi-dimensional projects.
3. Enhancing vocabulary, language, and public speaking.
4. Experimenting, gathering information, and estimating in the field of science.
5. Learning to read directions to complete an activity.
6. Following oral and written directions.

Taylor's Scientific Travel



Adventures

*You should have a
good time naming
a science travel
agency after
yourself!*

ROBERTO'S RAINFOREST is run by your travel agency. You become the scientific travel guide who escorts the students through the rainforest along the mighty rainforest river in canoes. As your scientists travel they collect specimens from the rainforest and build a rainforest in your room. As a culminating activity your students will invite other classrooms into the rainforest that you have built throughout the unit.

You are aided by a large map of ROBERTO'S RAINFOREST that you will post on a bulletin board. The map is an important visual aid as the lessons' activities are centered around it. The map shows the many animals and plants that will be studied as well as the mighty river that runs through the rainforest.

Each student is required to use a Passport to Adventure that is stamped at the end of each activity. A post card is filled out and sent home at the beginning of the unit to alert parents that their child is going to embark on a scientific canoe trip and will guide someone from another class through the rainforest via the collection of specimens during the unit.

A simple map of Roberto's Rainforest is prepared by the students to stress the importance of reading maps. Many multidimensional activities are planned to aid in teaching the science concepts and vocabulary that are pertinent to each unit.

ROBERTO'S RAINFOREST is organized into cooperative learning teams. Team members help each other complete an activity before they get their passports stamped. The passport contains personal information on each tourist, a snapshot created by each traveler, and boxes to be stamped.

The 11 lessons contain options and enhancement activities that build on the basic concepts taught in the lesson. Each lesson also has patterns and ideas on how to build the rainforest in your classroom. At the end of the unit, Lesson 12, you give your students a brief final test. It covers concepts, vocabulary, and closure questions students have experienced throughout the unit.

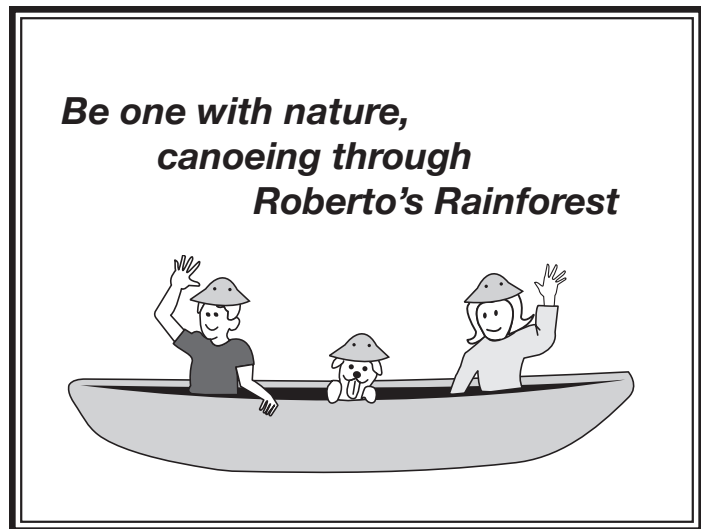
As the young scientists finish their investigation of the rainforest they will be ready to share their findings with other students and adults. You will want to set up the classroom to simulate a rainforest environment. As your class learns about the rainforest, wall and floor space will be needed. Many suggestions throughout the unit will spark ideas to make the rainforest tour a success. The section on Rainforest Setup (pages 6-7) will be very helpful.

We always found someone on staff was saving what we needed "just in case."

The travel advertisement may be used to entice "tourists" to your classroom.

The custodians will love your "messy" room during ROBERTO'S RAINFOREST. Remember students retain information through hands-on activities.

1. **Initial understanding and staff support:** Take a moment to read through this Teacher Guide. Pay particular attention to various lessons. Notice the special supplies needed as you may need to start saving a few items. Post your needs list in the faculty lounge so that other faculty members can help you collect items you don't have available.
2. **Bulletin board:** Create a focal point for ROBERTO'S RAINFOREST by making a bulletin board display.
 - a. Place the fold-out map of ROBERTO'S RAINFOREST in the center of the display. This map is referred to throughout the unit.
 - b. Create a real travel advertisement for the unit. Check the travel section in the newspaper to get a feel for the jargon that sparks a traveler's curiosity (i.e., Explore Roberto's Rainforest, Be one with nature, Canoeing through Roberto's Rainforest). When the students



present their simulated rainforest to other classes they will want to create a travel slogan to entice their tourists.

- c. Clear out! Allow your floor space, bulletin boards, and wall space to collect the specimens for the students' simulated rainforest.
- d. Place a canoe for each team on the bulletin board. Use the canoe to reward team with individual points throughout the unit. More information about the canoes may be found in Lesson 1.

*ROBERTO'S
RAINFOREST
activities make
wonderful
portfolio items.*

*The author has
found that it
is important
to establish
responsibilities and
standards when
setting up the
groups. We model
and role play how
each monitor will
carry out his/her
responsibility.*

*Two stamps are
provided—one for
English; one for Spanish.*

- e. Display student activities as well as a sample of the passport and any photos that you take. An instant camera is a great “travel tool” to have in the classroom for spontaneous snapshots. This array of student work can also be used as “research documentation” to reinforce the authenticity of the simulated rainforest.
- f. Feature the bulletin boards and simulated rainforest during open house. It is also a highlight for parent conferences.

3. **Unit length:** ROBERTO'S RAINFOREST can run as long as you'd like, depending on which materials you choose for your students. The activities for each of the 11 lessons are developed as basic scientific information for young learners. The basic activities should take approximately 30–40 minutes to complete. The option and enhancement activities have been included to expand the basic concepts and for students who are ready for higher-order thinking opportunities.

4. **Student grouping:** This unit utilizes cooperative learning.

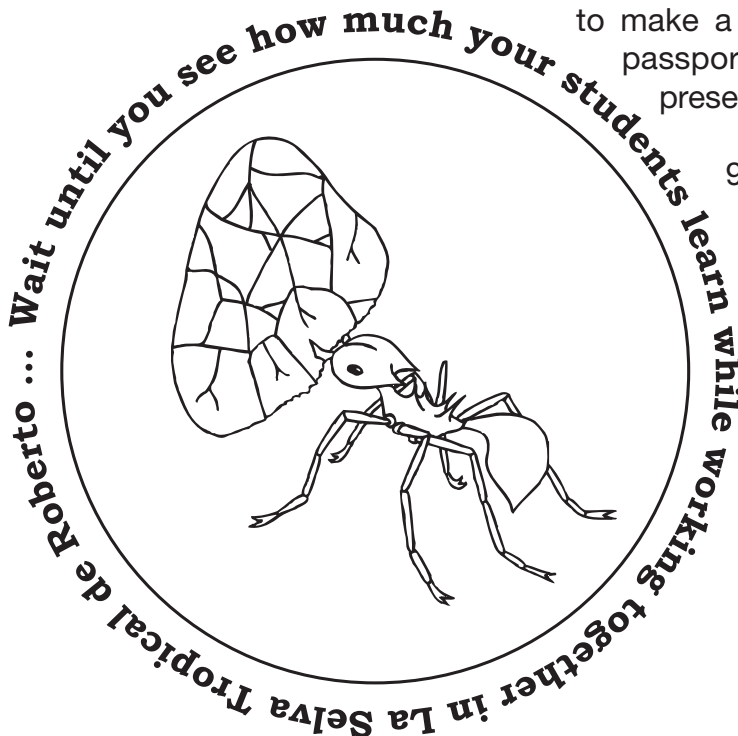
- a. Group your students in advance to include equal distribution of students' abilities. Strive to set up fair cooperative learning groups.
- b. Select each group's leader/organizer to begin the unit. (**Option:** rotate roles so that all students have a chance to be the leader and to be responsible for the group's duties. The team leader is responsible for everyone, making sure everyone completes each activity.)
- c. Designate a duty for each team member (i.e., monitors for the rubber stamp, crayons, scissors, paste, paper, etc.).

5. **Passports and stamps:** Get a generic rubber stamp or stickers that will fit inside the passport squares. Either can be used to stamp the passports after completion of lessons 3 through 11. This stamp simulates the stamping of real passports when entering and departing countries. The passport has boxes for each lesson. The stamp monitor stamps each team member's passport upon completion of each lesson. If options and enhancements are used, stamp the lesson box again or put additional stamps on the canoes posted on the bulletin board. (See Lesson 3 for more details.)

- a. Designate a student in each canoeing group to do the stamping. Demonstrate how it is done. (**Note:** each

*ROBERTO'S
RAINFOREST
provides practice
in essential
fine-motor skills.*

*Schedule the
ceremony toward the
end of the day. This
assures that passports
may get home!*



team must be responsible for everyone on its canoeing team to complete each activity. This is a component of cooperative learning stressed for young learners.)

b. Reward teamwork and individual accomplishment by giving bonus points. These points can be accumulated throughout the unit and used as a behavioral objective. Use your own judgment on how frequently team and individual points are rewarded. Record the points on the team canoes posted on the bulletin board.

6. **Supplies:** Basic classroom supplies to have on hand include scissors, paste/glue, construction paper, pencils, crayons, non-permanent markers, yarn, ink pad. Refer to individual lessons for more specific needs.

7. **Duplication:** Materials needed are found with each lesson plan. Realize duplicate patterns and worksheets are needed. The lesson plan suggest how many copies are needed per activity.

8. **Certificates:** A certificate of completion is found in the passport.

a. Organize a ceremony at the end of the unit. Sign the certificate and present passports to the travelers/tourist guides.

b. Hole punch the passports so a string can be inserted to make a neck strap for each passport. Place passport around each traveler's neck when presenting them.

9. **Cooperative learning:** Each team must be responsible for everyone on its team to complete each activity. This is a component of cooperative learning stressed for young learners. This unit gives students a chance to excel as leaders, followers, and doers as cooperative learning needs all these types of learners in each team. Set the standards on how to use this behavioral objective in a positive way.



The author has used fluorescent paint on all rainforest specimens. Using a black light with the lights out and playing rainforest sounds created an atmosphere of a real rainforest.

Simulating a rainforest in your classroom will provide a chance for students to experience a rainforest environment that, for most of us, is not easily accessible within our communities. The rainforest is an important habitat that makes our complicated ecosystem on Earth functional. The conservation aspect of saving the rainforest is addressed superficially and, if so desired, can be enhanced by you. Political and personal suggestions regarding conservation appear in various formats throughout the unit.

Each lesson concentrates on one aspect of the tropical rainforests of South America and Central America. These Rainforest Setup suggestions complement what has been studied in each lesson. Some of the specimen patterns are provided in each lesson so each canoe group can make a different item for the rainforest therefore creating many species of plants and animals to place in the simulated rainforest. Use the specimen patterns to make a display copy or enlarged picture of the plants and animals. Trace/transfer the patterns onto cardboard or heavy paper and provide each canoe group with enough patterns to keep busy. Tempera paints provide a bright array of colors that will make your rainforest beautiful. Appropriate plant and animal colors and sizes of each specimen are suggested. If so desired, you could assign students to research the plants' and animals' color and size as an enhanced research project.

Collect refrigerator boxes that you cut down one side. Line your room with the boxes so they become the walls for the rainforest. Your room will be totally engulfed when it becomes time for the tour.

Put the call out early and start collecting small ropes, yarns, tissue paper, boxes, tissue paper rolls, and more items to simulate vines, leaves, trees, etc.

Each specimen has a short elementary description that can be used in various ways. Simply make a copy of the description and pin it close to the specimen in your simulated rainforest for tourists to read as they visit your rainforest. Have students read and memorize the descriptions so a select few can tell the tourists about the animals and plants as they tour the rainforest. Another suggestion is to audiotape students reading the descriptions and run the tape during the tours. It is suggested to tape or read only a few descriptions for each



Streamers of green and brown crepe paper work well too. Strive for a thick, lush rainforest look which can be accomplished with many unusual materials.

tour group as the monotony will quickly drain your tourists. You could also make more than one tour format and rotate the speakers and tapes for different tour groups so all of your students have a chance to be heard orally or on tape.

Each lesson contains ideas of how the projects can be incorporated into other activities during the day. Use the specimen patterns in the most productive way so you will finish the lessons in the unit about the same time you finish building the rainforest. It is important for maximum retention of facts and to keep motivation high to conduct tours through your rainforest immediately after the unit is completed.

Lesson 2
Activity

POST CARD

Directions: Duplicate on heavy paper. Cut with pinking shears, if available. Each student receives one post card.

Dear


My class is going to take a canoeing trip to Roberto's Rainforest. It is a huge rainforest that is awesome to study.

We are going to learn about plants and animals that live in different areas in the rainforest. We are going to have passports to keep track of everything we study.

Don't worry, I'll be home after school because our canoeing trip will take place in my classroom.

Love,

To:



Roberto's
ainforest

Dear


My class is going to take a canoeing trip to Roberto's Rainforest. It is a huge rainforest that is awesome to study.

We are going to learn about plants and animals that live in different areas in the rainforest. We are going to have passports to keep track of everything we study.

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Lesson 3: Passport

Concept

When you travel from one country to another country you carry a passport that tells who you are and where you have been traveling. The passport has important information about you that all countries require. Carry your passport with you at all times when you are in a foreign country.

If you have a real passport you are comfortable displaying, do so, explaining what an important and valuable document it is.

Vocabulary

1. Passport: A passport is a small booklet that people use when they travel from one country to another country to tell who they are.

Materials

Activity: PASSPORT

1. PASSPORT (pages 25–26), one per student
2. science stamp
3. ink pad
4. pencils, crayolas

Procedure

1. Prior to lesson time assemble the two-page PASSPORT.
2. Have students work in canoe teams.

Activity: PASSPORT

1. Hand out PASSPORTS for students to inspect.
2. Explain the purpose of a passport when traveling. Stress to students that we will pretend that Roberto's Rainforest is a country because we are going to explore the borders, animals, plants, people, and insects in Roberto's Rainforest.
3. Explain and show spaces where the science stamp will go when each activity is completed.
4. Have students fill out the personal information in the PASSPORT. This may take more than one day. Help from home on address, spelling of last name, etc. is acceptable.
5. When completed, have teammates check each other's PASSPORTS for accuracy.
6. As students finish personal information section, have them draw and color a picture of themselves in the space located in the PASSPORT as they think they will look in the rainforest.
7. Ask Closure Question: What is a passport?
8. When the lesson is complete, stamp the box marked Lesson 3. Assign one student from each team to do the stamping. To move this stamping process along, have the "stampers" stamp, while other teammates clean up the group areas. Use this same procedure throughout the unit.
9. Store passports according to teams. A shoe box per team works fine.

Very likely you will wish to shift the responsibility so that all students on the canoeing team get to stamp members' passports on at least one day.

Assign one student for each team to pass out and store the passports during the unit. Change students' other responsibilities as needed.