

# NTTI Media-Rich Lesson

Arica Arnold-Johnson

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**NAME**

The World of Rainforest Statistics

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**LESSON TITLE**

Fourth Grade

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**GRADE LEVELS**

One Hour class period

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**TIME ALLOTMENT**

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**OVERVIEW**

This Rainforest unit lesson will provide students with investigative inquiry bouts to formulate questions that can be answered using data and the utilization of methods involved in gathering and using data efficiently. Students' knowledge and application skills will be sharpen through hands-on investigations that engage the learner in selecting and using appropriate statistic methods to analyze data, develop and evaluate inferences and predictions that are based on data.

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**TOPIC/SUBJECT MATTER**

Mathematics Domain: Statistics

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**LEARNING OBJECTIVES**

Students will be able to:

- Estimate, collect, read, interpret, and compare data from tables
- Organize data in tables



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## STANDARDS

### National Standards:

- Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
- Select and use appropriate statistical methods to analyze data.
- Develop and evaluate inferences and predictions that are based on data.

### State Standards:

- Collects and organizes data; determines appropriate method to display data; interprets and draws conclusion from data.

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## MEDIA COMPONENTS

Video: Eddie Files: Statistics: "The Lucky Batting Glove"

National Council of Teachers of Mathematics: <http://www.nctm.org>

Georgia Learning Connection: <http://www.glc.k12.ga.us>

Clipart Gallery: <http://www.kidsdomain.com/holiday/earthday/adopt.html>

<http://www.zoomschool.com>

Kazaa media: Amazon Rainforest-Relaxing Instrumental Music/Anton Hughes

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## MATERIALS

### *Student materials:*

Bag and spinner Activity: Ocelot Madness

- (5) sets of gallon size plastic bag with the following contents:
  - colored pencils
  - markers
  - laminated rainforest animal squares (20 each-ocelot)
  - laminated rainforest animal squares (40 each-emerald tree boa, sloth, harpy eagle, morpho butterfly and giant anteater)
  - color chips
  - color popsicle sticks
- spinner board (poster board)
- The Rainforest World of Statistics" data collection journal
- Post-it chart paper (1)
- Rainforest gift bag (1)
- Mini display board with rainforest boarder and number poster

### *Teacher Materials:*

- Laminated state and national standards



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- Video Tape: Eddie Files: Statistics: “The Lucky Batting Glove”
- VCR/Monitor
- Laptop
- Screen
- 5x7” index card (multi-color)
- Copier paper

**Teacher Materials:**

- pocket folders (100)
- Question cards
- Statistics word wall cards
- Statistics word wall poster
- Rubber cement
- Laminated neon color poster board for teacher-made spinner
- Spinners

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## PREP FOR TEACHERS

**Steps for the teacher:**

- 1) Read over the unit lesson “The World of Rainforest Statistics.”
- 2) Gather all materials and supplies needed two weeks prior to implementing the lesson.
- 3) Visit Clipart Gallery <http://www.kidsdomain.com/holiday/earthday/adopt.html> to download rainforest animals other than the ones studied in this lesson.
- 4) Preview video and practice video utilization strategies such as **PAUSE, REWIND, STOP**: The Eddie Files: Statistics: “The Lucky Batting Glove.”
- 5) Visit the Georgia Learning Connections for local standards for mathematics: <http://www.glc.k12.ga.us> to review the Quality Core Curriculum standards.
- 6) Visit the National Council of Teacher of Mathematics site for national mathematics standards (i.e. Statistics): <http://www.nctm.org>
- 7) Create a physical environment that is hands-on and minds-on (e.g. data collecting instruments, mathematics word-wall and reading books). Do a practice run through utilizing all resources.

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## INTRODUCTORY ACTIVITY: SETTING THE STAGE

**Steps for the teacher:** (Engagement) Play rainforest music downloaded from Kazaa media as students prepare for the lesson:

- 1) Share lesson objective and standards with student using a enlarged Standards’ poster.
- 3) **Provide students with a FOCUS FOR MEDIA INTERACTION:** Instruct students to begin observe a video clip from “The Eddie Files: Statistics: “The Lucky Batting Glove.” Pose the following questions to students before the video begins: 1)



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What are the students doing? 2) What type of lesson are they participating in? 3) What mathematics skills are being developed? Students are instructed to jot down observations in their journal.

4) **MUTE video sound and Play** with counter set **0:00:33** and **STOP video** when teacher on the video says “Let’s play ball,” which is counter set **0:01:50.”**

5) Call on student volunteers to share their observations and chart student responses on chart paper.

6) **Provide students with FOCUS FOR MEDIA INTERACTION:** Instruct students to watch the video again with the **sound on** to determine if their observation was accurate.

7) **REWIND video** to counter set **0:00:03** and **STOP video** at counter set **0:01:50** when teacher on the video says “Let’s play ball.”

8) Ask students if they need to restate or revise their previous observation. if so, record student responses on chart paper. Remind students that the unit lesson is about “The World of Rainforest Statistics”.

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## LEARNING ACTIVITIES

### *Steps for the teacher: (Exploration)*

- 1) Explain to student that they will be placed into cooperative groups of (3) by counting off 1, 2, 3,..... and that 1=yellow, 2=green and 3=orange. provide students with a colored popsicle sticks to remind them of which group they are in.
- 2) Have students sit near their group members.
- 3) Tell student groups you want them to share what they know about “Statistics” by completing a KWL chart.
- 4) Provide each group with (1) sheet of post-it chart paper with KWL written at the top of the paper forming (3) columns for each letter and markers. Ask each group to discuss what they know and want to know about statistics. Have them share after 5 minutes. Record the information on the KWL chart. Monitor students and provide feedback while they are recording ideas under the letter K and W section of the KWL chart. Let groups share information on their KWL chart.
- 5) **Provide students with FOCUS FOR MEDIA INTERACTION:** Have students to watch the next video clip of students in Ms. Toliver’s class share the meaning of statistics with teacher. Pose the following questions: What is meant by statistics?
- 6) **CHECK FOR COMPREHENSION:** Instruct students to jot down data in their journals so they can add to what they learn about statistics via the KWL chart under the L section (i.e. what I learned). Ask students: Are you ready?

### *Steps for the teacher: (Explanation)*



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- 1) **Start video with counter set 0:01:50**, “Teacher on the video says, “What is Statistics?” Instruct students to listen for construction of the meaning of statistics in their journal.
- 2) **Stop the video at counter set 0:03:20**, “Eddie the narrator says, “Figuring out the winning team was...”
- 3) **CHECK FOR COMPREHENSION:** Instruct each group to dialogue about whether or not the statistics definition written on their KWL chart needs to be reconstructed and share revisions. **Rewind video back to counter set 0:01:50** if more clarity about meaning of statistics is needed.

**Steps for the teacher:***(Elaboration)*

- 1) Instruct student groups that they will complete mathematics project labs geared to assist in their comprehension of the meaning of statistics.
- 2) Provide each group with student materials needed for the two different activities since students will have a choice.

**Steps for the teacher:***(Elaboration)*

- 3) Instruct students to read and follow instructions attached to the Rainforest mini display board and to complete the data collection instruments provided.
- 4) Teacher monitors by asking group member questions and providing meaningful feedback.

**Ocelot Madness in the Rainforest**

Directions:

- 1) Estimate how many times each team member will pull an ocelot out of a hat full of other rainforest animals within (3) minute intervals and record data.
- 2) Record data in data collection journal using tally marks.
- 3) Write about your process and findings.

**Ocelot Madness in the Rainforest**

Directions:

- 1) Estimate how many times each team member will spin the spinner and land on the ocelot within (3) minute intervals.
- 2) Record data in data collection journal using tally marks.
- 3) Write about your process and findings.

**Step for the teacher:** *(Evaluation)*

- 1) Instruct students to record what they learned about statistics on the KWL chart under the L (learn) category and share. Let student write in their journal what they learn about statistics concerning use of estimation, collecting, reading, interpreting, and comparing data from tables and how to organize data in tables.

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**CULMINATING ACTIVITY**



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Student share knowledge about statistics by sponsoring a “Rainforest Statistics Carnival” for parents, student and community members. Participants engaged in statistical collecting activities:

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## **CROSS-CURRICULAR EXTENSIONS**

### **Science/Mathematics/Reading:**

Read the newspaper and collect statistics on the weather, baseball player’s stats and specific stock. Invite people whose careers depend on collecting statistics in as a speaker. Teacher provides an environment full of reading materials from different disciplines associated with statistics. For example, Macmillan/McGraw-Hill’s Math Anthology: Stories and Poems – “Practicing” by Sandra Liatsos.

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## **COMMUNITY CONNECTIONS**

Have students collect statistics on a community issue (i.e. pollution, acid rain fall, animals endangered in the rainforest, etc.) and inform students to design their own data collection sheet listing topic of choice. Let students write letters to specific government officials addressing their findings.

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## The World of Rainforest Statistics



### Ocelot Madness Data Collection Sheet

Instructions: 1) Roll a number cube to see who gets the highest number to go first; 2) Record your name on the designated line; 3) Record your estimate for the number of ocelots you think will be selected from the bag or spinner; 4) Record tally marks representing the number of colored chips you have for each rainforest animal selected in the correct row;

Rainforest Animals	Student Names and Rainforest Animal Tallies											
	_____		_____		_____		_____		_____		_____	
	Est.	Actual	Est.	Actual	Est.	Actual	Est.	Actual	Est.	Actual	Est.	Actual
Ocelot												
Emerald Tree Boa												
Harpy Eagle												
Morpho Butterfly												
Toucan												
Sloth												

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