An integrated unit of study

Diana J. Drummer

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An Integrated Unit of Study

A Thesis Submitted to the University Honors Program
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Department of Curriculum and Instruction

by

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HONORS THESIS ABSTRACT

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ABSTRACT:

Children learn through their experiences and through active participation. If this statement is true, then the child within the school setting must be taught according to this belief. Integrated curriculum allows for the student to connect all the disciplines of math, science, social studies, reading and other subjects and presents them with a clear, organized picture of the purpose and reason for learning.

Hilda Taba designed an outline for integration that present students with real life problems and allows for the students to solve these problem. She believes that students, when presented with ideas and facts, will pull the information together and make their own generalizations about the situations and problems involved. I have chosen to follow this unit design and have based my integrated unit of study on this.

The integrated unit involves a problem that the students are presented. How do we depend on our environment? This allows the students to question, do we depend on our environment and if so, how? Throughout the activities within the unit, many facts and ideas are presented in the form of hands-on activities and projects. These activities join the discipline of science with other subjects such as language arts, social studies and math. The students take the information and ideas that they are presented with and make their own educated decision regarding the problem of the unit. They are not restricted to one subject area but are allowed to use problem solving strategies based on information, ideas and evidence from all areas of the curriculum. This presents them with a real life setting and testifies to the importance of learning.

The following ideas and lesson plans were designed to allow the students the opportunity to learn through using their experiences and permitting them to become actively involved in their own learning by giving them choices. It permits the students to demonstrate their knowledge of the ecosystem by pulling their facts and ideas together to make good decisions. It also grants the teacher measurement opportunities through authentic forms of assessment. But most importantly, it illustrates the importance of learning to the students and grants them the understanding as to why learning is essential and how they can achieve it not only in the classroom but in real world situations.
GRADE LEVEL:  4th

TOPIC:  Ecosystem

THEME:  How do we depend on our environment?

RATIONALE:  Our environment affects us in many ways. It not only supplies us with food, water and shelter, it also gives us medicine, clothing and oxygen and many other necessary elements required for survival. When students are presented with the facts of how we are truly dependent on our environment and how our environment is dependent upon us, they are given the opportunity to use that information to make a difference in our community, our world. According to Bruner, problem solving may start anywhere, and where better than a school setting with a real life problem? The problems with our ecosystem are evident on the news, in the papers and magazines, on the Internet and in the television programs. The students must be presented the true, unbiased facts and knowledge about our world that we live in so they can in turn, decide for themselves what should and needs to be done for our environment. I chose to base my integrated unit on the ecosystem. I felt it was a topic that the students could become actively involved in. Many of the facts and concepts that I created my unit around were taken from a fourth grade science textbook and according to the Harlem School District in Rockford, Illinois, state and national goals. Through an integrated approach, students will be able to see how reading, writing, experiments, games and projects all are interrelated to produce big ideas and concepts.

PROBLEM:  How do we depend on our environment? In answering this question, students will be required to dig deep into information and decide for themselves how we are dependent on our environment. Once presented with the information and knowledge, the students will be able to see the bigger picture and ask themselves if the elements present in our environment need to be conserved or protected from the uses and misuses of everyday life. They will be asked if the balance of elements is necessary for our ecosystem and if so, how can this balance be maintained?

GOALS:  This unit is designed specifically to meet the Harlem School District, state and national goals for education in the fourth grade level. The following goals will be met through the following activities.
Harlem School District Goals

Language Arts
1. The child should be able to compose a letter and address an envelope.
2. The child demonstrates listening skills and follows oral directions.
3. The child should be able to underline the titles of books, magazines, and newspapers.
4. The child should apply spelling skills to daily work.

Reading
1. The child should be able to proofread and revise written work.
2. The child should be able to ask questions and make predictions.
3. The child should be able to summarize the main idea and recall supporting details of a story.
4. The child should be able to follow oral and written directions.
5. The child should be able to recognize additional literary elements of plot, character and setting, climax, point of view, resolution and conflict.

Science
1. The child should be able to report results of experiments and understand that questions can be answered by experiment.
2. Recognize the need to conserve natural resources. Investigate ways to use and conserve natural resources in Illinois. (Reduce, reuse, recycle).
3. The child should know the various uses of plants.
4. The child should understand that questions can be answered by experiments.

Mathematics
1. Construct simple bar and line graphs, given the needed information.
2. Read, interpret, and apply information from simple bar graphs, line graphs, circle graphs, pictographs, and tables.
3. Round numbers to the nearest ten, hundred, thousand, or dollar.

Social Studies
1. Recognize the need to conserve natural resources.
2. Interpret and apply information from various graphs, tables and charts.
3. Use a map to interpret and apply information.
Benchmark State Goals:

Language Arts

State goal #2 1. The students will listen critically, demonstrating their ability to follow directions.

State goal #3 2. Students will use rules of grammar, capitalization, spelling, and punctuation to write a well organized, coherent composition.

State goal #4 3. Use spoken language effectively in formal and informal situations to communicate ideas and information and to ask and answer questions.

Mathematics

State goal #7 1. Use mathematical skills to estimate, approximate and predict outcomes and to judge reasonableness of results.

Social Studies

State goal #5 1. Apply the skills and knowledge gained in the social sciences to decision making in life situations.

National Standards

Science

1. Organisms and environments
2. Populations and ecosystems
3. Diversity and adaptation of organisms
4. Changes in environment

Language Arts

1. Students read a wide range or print and non-print texts to build an understanding of texts ...to acquire new information ...
2. Students read a wide range of literature from many periods in many genres ...
3. Students adjust their use of spoken, written and visual language to communicate effectively with a variety of audiences and for different purposes.
4. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources to communicate their discoveries
in ways that suit their purpose and audience.

S. Students use spoken, written and visual language to accomplish their own purposes.

**Social Studies**

1. Social studies programs should include experiences that provide for the study of people, places and environments.

2. Social studies programs should include experiences that provide for the study of global connections and interdependence.

**KEY CONCEPTS:**

- Interdependence
- Roles
- Community
- Wants and needs

**GENERALIZATIONS:**

1) All living and non-living things make up a community in which the sharing of resources and the dependence on each other make survival possible.

2) Every organism must fulfill a role in the ecosystem, making the basic needs of food, water, oxygen and shelter possible for all organisms in one way or another, thus balancing out the system.

**SUB-IDEAS:**

1) Many different populations together make up a community.

2) Ecology is the study of the interrelationship of living organisms to each other and their environment.

3) The ecosystem is diverse.

4) Diversity makes survival possible.

5) Soil, air and water are non-living things.

6) Plants, animals, microbes and fungi are living things.

7) Living things need energy to grow.

8) All organisms need oxygen to survive.
9) All organisms need water to **survive**.

10) All organisms need food to **survive**.

11) Energy is transferred through the food web.

12) Energy cannot be created or destroyed but it can be transferred and **transformed**.

13) The sun provides energy.

14) Most **animals** eventually become food for other **animals**.

15) **An animal** that eats only meat is called a **carnivore**.

16) **An animal** that eats both plants and animals is called an **omnivore**.

17) **An animal** that eats only plants is called a **herbivore**.

18) **An organism** is any living plant or **animal**.

19) A producer is the first link in the food chain.

20) Consumers are **animals** and they eat producers.

21) A decomposer **takes dead producers and consumers from the ecosystem by digesting them and breaking them up**.

22) **Most animals engaged in a constant struggle to find food and escape from their enemies**.

*The following activities will be briefly explained. After the brief explanations, there will be lesson plans for the activities within the same section of the unit.*

**INITIATION ACTIVITIES:**

1) **KWLC**hart
   List on a piece of butcher paper three columns labeled **K, W, L**. Ask the students what they already know about the term ecosystem and list the responses in the column labeled **K**. Next, ask the students what they want to know or learn in the next couple of weeks about ecosystems. List their responses in the corresponding column. Leave the **L** section blank and tell the students that is where you will fill in the facts and things that they learn during the unit.

2) Create a learning center
Designate a corner of the classroom for a learning center. Give the center a name such as "Ecology And Us" and put up attractive materials to trigger student interest. Display pictures from magazines to get the kids started, making sure that there is plenty of room left for the students to design and decorate with their own pictures and projects. Allow the students to use the center on designated days during their free time. Have art supplies for simple art projects available and reading materials. Post an eco-fact every couple of days for the student's information and set up a question box in the corner of the center. Allow this box to be used by the students to write down and submit possible questions relating to the ecosystem. Post the questions at the end of the week on the wall in the center and allow for students to write the correct answers under the questions.

3) Display books
   In the reading area of the classroom, pull from your own collection of books and the library perhaps, books of various genres, ability levels and authors and display them out so the students can see. Allow the students access to the books during free time.

4) Read a book and allow for computer time
   Read the book, Up River by Frank Asch aloud to the students. Then, based on the book and on the KWL chart posted, let the students work in groups on the computer to access information on the Internet. Have them look for ideas, topics and areas of interest in the subject of the ecosystem and have them work in combined groups to sort through the information found. Then have them introduce the information to the class.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objective: Students will be able to create a list of topics they already know, linking their prior knowledge to the theme of the unit and build upon the list to generate topics and questions they want to learn within the unit.

Materials needed: 
- *Up River* by Frank: Asch
- Large piece of butcher paper
- One large, black marker

Subject matter, content, concept: Because this is an initiating activity, there is no explicit concept being taught but the goal of this activity is to trigger student interest and indicate the prior knowledge of the students to the teacher so she/he can base their instruction according to where the students are at and the interests that are noted. The subject matter deals with science and language arts, with reading of literature.

Procedures/strategies:


2. Next, discuss the book with the class, asking questions such as what they thought of the book, paying special attention to the setting of the story.

3. With the butcher paper taped to the chalkboard at the front of the classroom, draw a chart with three columns across. Label the first column K, the second column W, and the third column L.

4. Direct the student’s attention to the chart and explain to them that they are going to fill in the chart.

5. Explain to the students that the unit they will be starting will be based on the ecosystem or ecology.

6. Ask the class what do they already know about the term ecosystem? As the students give answers, write the comments, answers or phrases in the column labeled K, for what the students KNOW about the ecosystem.

7. Next, ask the class what they want to know or learn throughout the next three
week period or for the duration of the unit based on the theme of ecosystems. Chart their answers in the column labeled W, for what the students WANT to know.

8. Explain to the students that the last column is labeled with an L for what the students have learned about the ecosystem. Tell the students that they will be able to fill in that section of the chart during the unit.

9. Make sure to keep the chart visible to all of the students and that it is kept posted in the front of the classroom for student access during the unit.

Evaluation activities: At the close of the unit, the students may be led back to the chart and discuss the things that they knew in the beginning, what they wanted to learn and what was actually learned. The students can compare their knowledge at the beginning and see and discuss the various things learned during the course of the unit.
DEVELOPMENTAL ACTIVITIES:

1) Objective: Students will use literature and writing to expand their knowledge of an ecosystem by reading a work of fiction and writing in their journal about situations and events from the story.
   (Interdependence, Roles)

   The teacher will read aloud the book, Missing 'Gator of Gumbo Limbo by Jean Craighead George. Students will be asked to assess the situations that arise in the book regarding the interdependence of the ecosystem and reflect on the situation in their journals. The students will have time to share their ideas in groups at least once a week and every other week will be able to present to the class.

2) Objective: Students will grow mold and understand the process of decomposition.
   (Interdependence, Roles, Wants and needs)

   The students will work in groups of four and prepare a bag filled with cheese, damp bread and an orange peel. They will observe the bags over several days. This discovery learning activity will allow the students to watch the changes that develop and the mold that forms. The class will record their group's results and share them with the class. They will also respond to critical thinking questions at the close of the activity. They will see what was needed for the mold to grow and understand that the mold gained energy from the food which made growing possible.

   "Lesson was taken and adapted from the Science Horizons textbook series

3) Objective: Students will prepare a terrarium and based on their observations will show how the elements contained are necessary for survival.
   (Interdependence, Community, Roles, Wants and Needs)

   This activity allows the students to prepare a terrarium with ordinary, outside objects and materials. They will be required to provide the necessary elements needed for survival and will choose which elements are necessary. They will observe the organisms and the ecosystem over a period of time and record observations and changes in the environment. They will be asked questions regarding the make-up of the ecosystem and posed questions that will require critical thinking. An example would be, what would happen if we decreased the amount of oxygen in the terrarium? What things would be affected? How? What do you predict would happen? The students will be able to control the environment and see the affects of different variables. They will be allowed to check their predictions and formulate hypotheses and further testing.
4) Objective: Students will develop an understanding of the dependency of organisms through construction of a food web.
(Interdependence, community, roles, wants, and needs)

The students will work in groups of 4-5 and construct a food web. Each group will be required to construct a different web by gluing pictures on pieces of construction paper. These webs will be posted on a bulletin board and the students will label each part accordingly. Then, string will be used to connect the various parts, completing the web.

5) Objective: Students will view the interdependence of our environment by collecting various, natural elements and observing nature in a nature walk.
(Interdependence, community, roles)

The students will be given a paper bag and led out on a nature walk near the school. The students will be allowed to collect various items to be used later in the classroom. On the walk, students will see how the outside environment differs greatly from the inside environment. They will view various plants, animals and other forms of life and will be introduced to the idea of a community. They will see the diversity of the community and how every element is interrelated to one another in some way. When inside, the students will be divided into groups of 5. They will be instructed to sort their items. They may classify however they wish but must be able to provide a reason for the class. Next, all of the same items and classes will be combined and the students will be numbered off so they will work in an entirely different group. Each group will discuss why their item is vitally important to the environment. Explain to the students that only seven of the ten groups will be allowed in your "pretend environment" and it is the groups' job to persuade the class to keep their item and why it is necessary for the environment. Have students prepare mini-persuasion speeches and have the class vote on which seven should be selected.

"Lesson idea adapted from Levinson's Teaching Children About Science, pg. 194"

6) Objective: Students will trace their food to the primary source, demonstrating knowledge of roles.
(Interdependence, roles)

This activity would take place as a class discussion. The students would be asked to list what they had had for breakfast or lunch, depending on the time of the lesson. They would be asked where the food they ate came from? They will trace their food back to the primary source and the many forms it took to get to the arrived and finished breakfast product. The teacher will explain the process of the sun giving energy to the plants who
become producers. Other concepts explained would be consumer, decomposer and how they are all interrelated and dependent on one another in the jobs that they perform. The students would be asked orally to give examples of each of the above mentioned as a check for understanding of the discussion.

*Lesson plan and idea taken from Levinson's *Teaching Children Life and Earth Sciences*, pg. 204-5

7) **Objective:** Students will classify animals according to their place in the food chain, demonstrating the interdependence of the animals on one another and the roles in which each animal must fulfill to keep the system in balance. (Interdependence, roles)

Group students into groups of 4-5. Present each group with a baggie full of different pictures of animals. Ask the group to classify the pictures into three different groups according to what they eat. Have each group note why they classified each group and have a reason to justify their answer. Next, explain the terms, carnivore, omnivore and herbivore and write these terms on the board. Now, according to the terms, rearrange the groups accordingly. Discuss the different animals in the groups of each classification. Lastly, divide the class into teams (3-4). Use the pictures as flash cards and ask each team what the picture is, a carnivore, herbivore or omnivore and keep points to determine a winner.

8) **Objective:** Students will demonstrate knowledge of a food web by becoming key players in a human food web. (Interdependence, community, roles, wants and needs)

Assign each student in the classroom a role such as a plant, a carrot, a rabbit, a hawk, etc. Next, take a ball of string or yam and toss it to a producer. Have that student toss the ball of yam to the next animal or person in the food chain making sure to hold onto a piece of the yam. Continue this until the classroom is a food web.

9) **Objective:** Students will observe and record various data and determine what things are needed for survival. (Interdependence, community, wants and needs)

Plan a field trip to Atwood Outdoor Recreation Park in Rockford, Illinois. Each student should be given a map of the park and a compass and be required to use their map to help them locate important landmarks and directions. Have the students observe the ecosystem of the forest and record their observations of animals, trees, water, food, etc. in a notebook. Have the students watch for deer and conduct interviews with the rangers.
at the park on the estimated deer population in the park area. The students should be able to estimate the deer population before the actual interviews and record that data in their notebooks also. Have the students look for the resources available to the deer for survival. Have the students obtain information from the park and based on that information, chart the results in pie graphs, line graphs, bar graphs, etc. At school, post the different results and discuss the ramifications of the shortage of food and resources. How does it affect the deer population? How does the overpopulation of deer in a given area affect other areas of the ecosystem? Have students come up with possible solutions to the problem of overpopulation. How could the problem be alleviated?

10) Objective: Students will distinguish between plot, setting, character etc. By reading literature and mapping out the various elements through the use of a web. (Could reflect any key concept, depending on the book chosen)

The students will be given different literature pieces that relate to the environment and asked to work in groups of 2-3. In each group, a web sheet will be provided by the teacher and distributed to the students. Each group will be required to map out the different literary elements according to their story. The teacher should model the first two elements to give the students direction for their own webs. Once the webs are completed, each group will share their story and retell it to the class, based on their web. In their retelling, students should be able to relate to the rest of the class the conflict or problem in their story and how it affected the rest of the ecosystem.

11) Objective: Students will use literature to sequence the events to a story by using sentence strips. (Could be any key concept depending on the book selected)

Grouping of students should be in pairs for this activity. The groups should be given a story which relates to the environment and ecosystem. They should also be given sentence strips with five to seven sentences taken directly from the story. The group should read the story together and then together, work to sequence the strips of sentences into the correct order that the events occurred in the book. This would help them in their comprehension of the story. When each group is done, the class should come back together and discuss the story in greater lengths.

12) Objective: Students will create a skit or play using various elements and characters from the ecosystem to show how they are interrelated and dependent upon everyone in the community. (Interdependence, roles, community)
The students should be allowed to express their creativity in their playwriting and development of characters. The students could be grouped in pairs for this activity or could create their own plays individually. Once the plays are brainstormed and a rough draft is written, the students should swap plays and peer edit their classmates for further ideas. The plays should be revised, edited and once completed, bound in book form for final production. The plays could be implemented into the classroom and puppets could be constructed during art time. The students could take their turn putting on the show. Possible extension could be for the plays to be given during an assembly or for another classroom. In that event, students could create brochures describing the plays, characters and settings for distribution.

13) Objective: The students will create two poems based on some aspect of the ecosystem and prepare them for production in the annual poetry edition booklet. (Could be any key concept, depending on the poem theme)

The students will be given the chance to create poems based on their knowledge and experiments with the ecosystem. The students will then edit their poems and type them for final production. The teacher will choose poems from every student and prepare them in booklet form for the classroom and parents.

14) Objective: Students will write a report based on information presented to them in a confidential file. (Could be any key concept depending on their particular file)

The students will each be given a confidential file with the picture, name, and distinct facts about the person. The students will be required to describe the person he is looking for and to choose one "crime" from the folder to report on. The student will be asked to do some extended research based on the information given in their folder and will write their report based on that information. The students will be given a chance to report their findings to the class in an informational speech once the report is edited and completed. The entire editing process should be followed with the students from the prewriting stage to the final production stage.

"idea adapted from the Mailbox Magazine. Dec./Jan. 1994-5 issue"

15) Objective: Students will write letters to various parks to obtain information about the various elements of the ecosystem.

The students will be given an opportunity to select a park district or forest preserve to write to. The student will be required to address the envelope and write the letter in standard business letter form. The letter should request information about the park and
attractions available. The students will then use this information to prepare a three minute persuasive speech on why their park *should* be the one to visit for a field trip. The class should vote on the speeches and the winner's site should be selected for a field trip.

16) Objective: The students will read or listen to *The Lorax* by Dr. Seuss, and then draw conclusions and make predictions about the environmental impact we have on our environment.

*Interdependence, wants and needs*

*The Lorax* by Dr. Seuss should be read to the class. Then the class should be divided into groups of 4 or 5 and given a set of questions to answer about the story. The class should come back together as a whole to discuss each set of questions from each group. Each group will then be given an element from the environment and should predict what would happen if this element was depleted like the trees in the story. The group should be given the option to either present their prediction to the class in the form of a play or skit or draw out their conclusions.

"*Taken and adapted from the web site: ...snre.umich.edu:70100I.j-llegendclres*

17) Objective: The students will demonstrate the flow of energy from the sun through the plants to the animals.

The students will be able to see how energy is transferred through the food chain by becoming active participants in the activity. Each student is made either a meat eater, plant eater, plant, or sun. The students "take a handful of popcorn from the bag and the sun, who would begin the activity, eats some of it and then hands the rest to the plant."

This would show the students that the plant got energy from the sun but then passed some of it onto the plant eater, and so on... It would make an abstract concept of the flow of energy into a more concrete way for the students to visually see and comprehend.

"*Taken from Lingelbach’s book, Hand’s On Nature, pg. 73.*

18) Objective: The students will create environmental posters to be hung around the school.

The students will be able to create their own slogan or poster on an environmental issue or something relating to the ecosystem. The posters will be hung and displayed around the classroom or around the school.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will use literature and writing to expand their knowledge of an ecosystem by reading a work of fiction and writing in their journal about situations and events from the story.

Materials needed: Missing *Gator of Gumbo Limbo* by Jean Craighead George
1 Spiral notebook

Subject matter, content, concept: The subject matter of this activity focuses on the reading and language arts areas with the topic dealing with science and social studies. The concepts of interdependence and roles correlate the key generalizations.

Procedure/Strategies:

1) Introduce the book to the class, discussing the author, the subject matter and predictions about the book based on the title.

2) Begin the book starting with chapter one and gradually working through the book. After each chapter is completed, students should be allowed to write in their spiral journal, expressing their opinions on the characters actions, the situations presented in the chapter and other feelings they might have about the book.

3) As each chapter is read, various activities involving webbing, graphic organizers and other comprehension activities should be implemented. (A copy of various graphic organizers and planners can be found at the end of this lesson plan).

4) Accompanying worksheets will also be present and should be done on an individual level as well as cooperative learning teams. These worksheets should help the students in the areas of reading and comprehension and will aid in their understanding of the chapters as the class progresses through the book.

5) A bulletin board of the map of Gumbo Limbo should be made and posted somewhere in the classroom for the students to trace situations and problems that arise in the book and to help in solving the mystery.

6) At least once a week, students should be allowed to work in cooperative groups of 4-5 and share their journals. This time should allow the students to express their opinions and to back up their assertions by referring back to the book. It will also allow
students, to gain other insights from their peers.

7) Every other week, students should be allowed to present their opinions and ideas based on their cooperative group work in front of the class. This should be done in the same groups that the journal sharing was done earlier.

8) At the close of the book, students should decide what the primary problem within the book was, how it was solved and what might they have done differently if they were in that same situation. The predictions given at the start of the book should be examined again and discussion on what was predicted correctly and what was not can bring a nice closure to the book.

**Evaluation activities:**

The work within their cooperative learning groups will give the teacher a good idea of how the students are arriving at their conclusions and if they are understanding the situations and characters as well as the science message presented in the book. Another indication of their performance on a reading level will be through their class discussions, their predictions, conclusions, graphic organizers and their worksheets.

*The attached worksheets and activities that accompany *Missing 'Gator of Gumbo Limbo* were developed by Mrs. Lois Marinaro and Miss Andrea Funk from Maple School, Machesney Park, Illinois.*
TEACHER NOTE
Introduction to The Missing 'Gator of Gumbo Limbo

This charming story takes a look at the frightening disappearance of the Florida Everglades. Liza K., her mother and the woods-people live in a rare, unspoiled outpost of the Florida Everglades called Gumbo Limbo hammock. Living in a yellow tent underneath a huge live oak tree, Liza K.'s mother says they are just on vacation until they can afford to buy a house. Most people would call them homeless. Dajun, an enormous alligator, helps preserve the delicate balance of nature existing in the complex ecosystem of the Everglades. His sudden disappearance, combined with the fact that Travis from the Pest Control Department is there to kill him, causes Liza K. and the rest of the woods-people to hatch a plot to save Dajun. Furthermore, civilization is encroaching upon their paradise. How will Liza K. and the woods-people manage to save one of the last pristine hammocks?

The ecological mystery that this book presents is being used as a background for the Water Quality Unit, as well as an ongoing source of information while studying water quality. Through reading this book, the students will realize that one inappropriate incident has the potential to disrupt the natural cycles of a habitat.

Various activities, class discussions and assessment will be combined to form an ongoing evaluation process. Many of the activity pages are set up in such a way that the teacher may collect them after the students have completed the assignment. These activity pages may be evaluated by the teacher in a way that fits his/her classroom evaluation strategies.
LEARNING OBJECTIVES

The Missing 'Gator of Gumbo Limbo

1. The child demonstrates the ability to listen attentively to others.
2. The child demonstrates effective oral communication.
3. The child should be able to compose a letter and address an envelope.
4. The child should be able to write a paragraph using correct form.
5. The child should be able to recognize and use appropriate vocabulary skills:
   a. locate the meaning of a given word in the dictionary
   b. use context clues to develop word meaning
   c. use vocabulary words in context
6. The child should be able to apply decoding and word attack skills to unlock unfamiliar words.
7. The child should be able to summarize the main idea and recall supporting details of a story.
8. The child should be able to recognize cause and effect.
9. The child should be able to ask questions and make predictions about story passages.
10. The child should be able to order the events of a story in correct sequence.
11. The child should be able to recognize additional literary elements of plot, character and setting, climax, point or view, resolution and conflict.
### TEACHER NOTE
**ALTERNATIVE ASSESSMENT PRODUCTS**

*The Missing ‘Gator of Gumbo Limbo*

Listed below is a collection of alternative products that can be used at the end of the unit. The students use these to demonstrate their understanding of pollution and what to do about it.

<table>
<thead>
<tr>
<th>Creative Writing</th>
<th>Skit</th>
<th>Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>Web</td>
<td>Pamphlet</td>
</tr>
<tr>
<td>Essay</td>
<td>Chart</td>
<td>Project Cube</td>
</tr>
<tr>
<td>Flip Book</td>
<td>Comic Strip</td>
<td>TV Play</td>
</tr>
<tr>
<td>Labeled Diagram</td>
<td>Detailed Illustration</td>
<td>Write a Book</td>
</tr>
<tr>
<td>Mural</td>
<td>Experiment</td>
<td>Cooperative Group Report</td>
</tr>
<tr>
<td>Oral Report</td>
<td>Game</td>
<td>Diorama</td>
</tr>
<tr>
<td>Puppet Show</td>
<td>Illustrated Story</td>
<td>Interview</td>
</tr>
<tr>
<td>Newspaper Story</td>
<td>Poem</td>
<td>TVI/Radio News Script</td>
</tr>
<tr>
<td>Write a Speech</td>
<td>Debate</td>
<td>Letter to the Editor</td>
</tr>
</tbody>
</table>
## AUTHOR'S VIEWPOINT

<table>
<thead>
<tr>
<th>What the author writes</th>
<th>What she might be saying</th>
</tr>
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</tr>
</tbody>
</table>
1. What was the problem?

2. How did the characters try to solve the problem?

3. What happened to help the characters solve the problem?

4. What happened that got in the way of solving the problem?

5. Was the problem solved? How?
# ELEMENTS OF DIARY WRITING

<table>
<thead>
<tr>
<th>Element</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feelings</td>
<td></td>
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<tr>
<td>Things happening</td>
<td></td>
</tr>
<tr>
<td>Thoughts</td>
<td></td>
</tr>
<tr>
<td>Interesting information</td>
<td></td>
</tr>
</tbody>
</table>
• TEACHER NOTE

This is an activity page directed to you rather than the students. You should explain the steps listed below to the students and show examples.

Step 1: Before reading a chapter, you choose a word that is associated with that chapter. Ask the students to write the word you chose at the top of the paper. For example, the word alligator may be chosen for chapter one.

Step 2: Ask the children to write as many words as they can think of associated with the word at the top of their paper. Allow about 10-15 minutes for the students to complete this step.

Step 3: Ask the children to group all of the words from Step 2 in an organized way and give each group a category name. This may be difficult for some students; therefore, you should show the students an example of how to do this using one type of semantic map or web.

VARIATION:
The students map or web the characters and their characteristics. See below for an example.

![Semantic Map Example]

- **Characteristics**
  - **Character Name**
  - **Character Name**

- **Book; Title**
  - **Character Name**
  - **Character Name**

- **Characteristics**
  - **Characteristics**
  - **Characteristics**
The Missing 'Gator of Gumbo Limbo  
Chapters 1-9 Vocabulary Words

DIRECTIONS: On your own paper, write the first word from the assigned chapter(s) and then write the definition from the dictionary. Skip one line and write the next word and its definition. Do this until you have looked up and written down the definitions for all of the words assigned.

**Chapter 1**

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>reedy (p.1)</td>
<td>keen (p.2)</td>
</tr>
<tr>
<td>waterscape (p.2)</td>
<td>unobtrusively (pA)</td>
</tr>
<tr>
<td>pickerelweed (p.5)</td>
<td>heron (p.6)</td>
</tr>
<tr>
<td>cagily (p.7)</td>
<td>dense (p.11)</td>
</tr>
<tr>
<td>disgruntled (p._)</td>
<td>bask (p.2)</td>
</tr>
</tbody>
</table>

**Chapter 2**

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>epic (p.16)</td>
<td>lure (p.17)</td>
</tr>
<tr>
<td>decaying (p.17)</td>
<td>aquifer (p.18)</td>
</tr>
<tr>
<td>savor (p.20)</td>
<td>canopy (p.21)</td>
</tr>
<tr>
<td>reeds (p.24)</td>
<td>scavengers (p.24)</td>
</tr>
<tr>
<td>zoo-aquarium (p.25)</td>
<td>'ruddy (p.25)</td>
</tr>
<tr>
<td>frugally (p.28)</td>
<td>unfettered (p.28)</td>
</tr>
<tr>
<td></td>
<td>sinhole (p.17)</td>
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</table>

**Chapter 3**

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>tethered (p.33)</td>
<td>scuttled (p.35)</td>
</tr>
<tr>
<td>haunches (p.37)</td>
<td>lurking (p.37)</td>
</tr>
<tr>
<td>humidifier (p.41)</td>
<td>culverts (p.41)</td>
</tr>
<tr>
<td>nitrogen (p.43)</td>
<td>phosphorous (p.43)</td>
</tr>
<tr>
<td>futile (p.46)</td>
<td>animated (p._)</td>
</tr>
<tr>
<td>microscopic (p._)</td>
<td>puckishly (p.36)</td>
</tr>
<tr>
<td></td>
<td>elevation (p.40)</td>
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</tbody>
</table>

**Chapter 4**

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>larvae (p.49)</td>
<td>pesticides (p.50)</td>
</tr>
<tr>
<td>alighted (p.52)</td>
<td>poacher (p.53)</td>
</tr>
<tr>
<td>brackish (p.54)</td>
<td>emerge (p.56)</td>
</tr>
<tr>
<td>reeked (p.57)</td>
<td>congregate (p.57)</td>
</tr>
<tr>
<td>embankment (p.58)</td>
<td>municipal (p.58)</td>
</tr>
<tr>
<td>intrusion (p.61)</td>
<td>pollutants (p.61)</td>
</tr>
<tr>
<td>pry (p.64)</td>
<td>hydrilla (p.50)</td>
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<td></td>
<td>entwined (p.54)</td>
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<td></td>
<td>flange (p.57)</td>
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<td></td>
<td>levee (p.58)</td>
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<tr>
<td></td>
<td>taffeta (p.60)</td>
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<tr>
<td></td>
<td>watershed (p.61)</td>
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</tbody>
</table>
Chapter 5
chinos (p. 65)
evicted (p. 71)
budy (p. 74)
dorsal (p. 76)
scute (p. 77)
quantessential (p. 65)
Eden (p. 71)
hummock (p. 75)
jutting (p. 76)
poignancy (p. 78)
roster (p. 70)
consult (p. 74)
felled (p. 75)
projected (p. 77)
bisque (p. 78)

Chapter 6
scout (p. 80)
environmentalist (p. 83)
legislator (p. 87)
lesion (p. 89)
irrigation (p. 90)
preoccupied (p. 93)
exquisite (p. 95)
serene (p. 82)
diverted (p. 85)
desalinator (p. 87)
impair (p. 89)
fungicide (p. 91)
billowing (p. 94)
refracted (p. __)
intrusion (p. 83)
ecosystem (p. 86)
PCP (p. 88)
runoff (p. 90)
phosphate (p. 91)
hovered (p. 94)

Chapter 7
cavern (p. 98)
phenomenon (p. 103)
foliage (p. 105)
squelched (p. __)
lapsed (p. 100)
penetrate (p. 105)
displaced (p. __)
condescending (p. 102)
tainted (p. 105)
iris (p. 108)

Chapter 8
torment (p. 111)
radiant (p. 114)
absentmindedly (p. 119)
contaminated (p. 122)
departure (p. 125)
allay (p. 111)
hobnob (p. 115)
magnificent (p. 123)
mimicked (p. 1126)
pupa (p. 112)
tousled (p. 117)
fen (p. 120)
maneuver (p. 125)
smugly (p. 127)

Chapter 9
flabbergasted (p. 129)
lepidopterists (p. 133)
naturalist (p. 139)
gaping (p. 140)
spangled (p. 148)
aquifer (p. 130)
declared (p. 135)
undefiled (p. 140)
improvising (p. 143)
conjurer (p. 148)
perplexed (p. 130)
descended (p. 137)
ravaged (p. 140)
billowed (p. 146)
ladened (p. __)
As you read the book, write the names of all of the different kinds of animals you find. **Don't** just put "Birds." List an actual kind of bird such as sparrow or robin.

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Now classify or sort your animals into their correct category of vertebrates.

<table>
<thead>
<tr>
<th>Mammals</th>
<th>Amphibians</th>
<th>Reptiles</th>
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<tr>
<td>BIRDS</td>
<td>FISH</td>
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</table>
### CATEGORIZING INFORMATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Animals in the category</th>
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The Missing 'Gator of Gumbo Limbo
Questions-Chapter 1

Answer the following questions in complete sentences unless the directions tell you to do something else.

1. Who or what is Dajun and how big is he?

2. Who is Travis and why did he come to Gumbo Limbo?

3. What did Travis mean when he said "Pretty good for a girl," to Liza K.? (Page 4)

4. Why did Liza D. and her mother move to Gumbo Limbo?

5. How is Liza K.'s and her mother's home different from yours? Give at least 3 examples.
FISHING FOR A WINNER
The Missing 'Gator of Gumbo Limbo
Chapter 1

On page 4, Liza K. is fishing. She must cast her line out into the water. After your teacher shows you how to cast a fishing line, estimate how far you will cast your line. Your teacher will tell you whether you should estimate in inches, centimeters, feet, etc. Write your estimate on the line below.

Estimated casting distance

In teams of 4-5, you will each cast out your fishing line (one person at a time). You and your teammates must measure the distance of each person's cast. Each person gets one try. Write each person's casting distance and their name below, including your own.

<table>
<thead>
<tr>
<th>Teammates Names</th>
<th>Casting Distance</th>
</tr>
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<tbody>
<tr>
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Add all of the measurements together. The team with the farthest total distance wins the fishing contest!

EXTENSION

Each student will make a bar graph, on graph paper or on the computer, using the teammates' casting distances.
Using the specific information given in chapter one, you are to sketch a drawing of Dajun. Be sure to reread chapter one very carefully with your partner(s) and note how long Dajun is as well as what he looks like. Use the bottom of this page to take notes when you are rereading chapter one. The alligator will be sketched on the large piece of paper that your teacher will give to you and your partner(s). The alligator should be drawn the exact length given in chapter one and colored to match the description in chapter one.

As we read *The Missing 'Gator of Gumbo Limbo*, Dajun is described more and more. We will add anything that we find out about Dajun to our drawings as we read about him.
THE FLORIDA EVERGLADES
The Missing 'Gator of Gumbo Limbo
Chapter 1

Before an author writes a book he/she must research the subject thoroughly. The information is often
difficult to collect, therefore, many resources must be used. Jean Craighead George researched the
Florida Everglades before she wrote The Missing 'Gator of Gumbo Limbo.

Your teacher will divide the class into five groups and assign one of the following addresses to each
group. Write a letter to your organization requesting information about the Florida Everglades. Be
sure to follow all of the writing steps and work cooperatively. Decide what questions and other
information should be included in your letter.

Your letters will be typed on the computer, using the business letter format, and given to your teacher
to be mailed.

Nature Conservancy
2699 Lee Road Suite #500
Winterpark, FL 32789

National Wildlife Federation
1400 Sixteenth Street NW
Washington, DC 20036-2266

Florida Conservation Association
905 East Park Ave.
Tallahassee, FL 32301

Everglades National Park
P.O. Box 279
Homestead, FL 33030

Florida Department of Commerce
126 West Van Buren Street
Tallahassee, FL 32399
The Missing 'Gator of Gumbo Limbo
Chapter 1
Comparing Densities

BACKGROUND

On page 11, Liza K. says, "A black ironwood, with wood so dense it will not float, grows near our oak."

Did you think that wood always floats? If it didn't float would that mean it was probably light or heavy?

If something floats or sinks, it does so because of its density. Density describes the amount of matter packed into a certain amount of space.

*Teacher note: In the science activities is an activity involving liquid densities.

MATERIALS (FOR EACH GROUP)

Activity 1
- bottle cork
- metal washer
- 1 inch piece scrap lumber
- 1 inch piece of styrofoam
  *Each of the above items should be about the same size in appearance.

- clear container with at least 16 square inches surface area
- drawing paper and a pencil

PROCEDURE

1. Put 4 inches of water in the container.
2. Put one of the items in the water. Note its position in the water or the apparent speed at which it sank.
3. Repeat step 2 until all of the items are in or on the water.

STUDENT OBSERVATIONS, RESULTS, AND CONCLUSIONS

1. Draw a side view of the items in the water and their container on a sheet of white paper.
2. Which item had the least amount of density? (The least amount of matter packed into it.)
3. Which item had the greatest density? (The most matter packed into it.)
4. Does water have a greater or lesser density than the cork? Than the washer? How can you tell?
The Missing 'Gator of Gumbo Limbo
Questions-Chapter 2

Answer the following questions in complete sentences unless the directions tell you to do something else.

1. Who, in Gumbo Limbo, protects Priscilla from the "outside people"?

2. How does James James plan to save Dajun from Travis?

3. Describe in your own words the way Dajun helps Gumbo Limbo (Page 20)

4. "Bubbles are alligator footprints..." (Page 26) Tell what this means

5. Describe the events that led Priscilla to Gumbo Limbo.
Dajun slipped into the water like a whisper from a secret.

A simile is a figure of speech which uses the words "like" or "as" to compare two things. Here Dajun's movement is compared to a whisper, so it makes us think he is moving very silently. Find the similes on the pages listed below and copy them.

1. Page 18
2. Page 19
3. Page 20
4. Page 26

Write 2 similes of your own using "like" or "as" between the things you are comparing.

5. 
6. 
Answer the following questions in complete sentences unless the directions tell you to do something else.

1. Dajun is a cold-blooded animal. How is he different in this way from people, and how does he control his body temperature? 

2. List 4 things Liza K. could see from the top of the oak tree.

3. What was the signal Liza K. would use to communicate with James James?

4. Compare and contrast blue-green algae and green algae. (Page 43) List things that are different in the outside parts of the Venn diagrams, and things that are the same in the center.

<table>
<thead>
<tr>
<th>GREEN</th>
<th>SAME</th>
<th>BLUE-GREEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>1.</td>
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<tr>
<td>2.</td>
<td>1.</td>
<td>2.</td>
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<tr>
<td>3.</td>
<td>2.</td>
<td>3.</td>
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</tbody>
</table>
If something happens, then something else must have caused it to happen. We call this the cause and effect. An example might be a dog sitting up to beg (cause) and as a result the dog gets the bone (effect).

Match the following causes and effects by putting the correct litter of the effect into the numbered black next to the causes.

<table>
<thead>
<tr>
<th>EFFECT</th>
<th>CAUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The sun makes Dajun hot.</td>
<td>A. Green algae will grow.</td>
</tr>
<tr>
<td>2. Liza K. climbs the tree.</td>
<td>B. She can see far away.</td>
</tr>
<tr>
<td>3. Liza K. gives one hoot.</td>
<td>C. He slips into the water.</td>
</tr>
<tr>
<td>4. Put tap water in the sun.</td>
<td>D. She might get a job.</td>
</tr>
<tr>
<td>6. Dajun is missing.</td>
<td>F. Liza K. will be lonely.</td>
</tr>
<tr>
<td>7. Mom is taking a course.</td>
<td>G. James James takes Travis a different way.</td>
</tr>
<tr>
<td>8. Travis comes to the beach.</td>
<td>H. Liza K. thinks Dajun is hiding there.</td>
</tr>
</tbody>
</table>
The Missing ‘Gator of Gumbo Limbo
Questions-Chapter 4

Answer the following questions in complete sentences unless the directions tell you to do something else.

1. Why did Liza K. go to the culvert with James James?

2. How do the dragon flies and gambusia fish help the residents of Gumbo Limbo?

3. Liza K. thinks they need a map. What will the map she wants show them? What will the kind of map James James wants show them?

4. What was killing all of the animals and plants in the Cypress swamp?

5. Priscilla collects little empty gin bottles and sugar cubes. What could she be using them for?
The Missing 'Gator of Gumbo Limbo
Chapter 4

Put the following events in the order in which they happened in chapter four. The alphabet letter of the first event should be placed in the blank next to the number one. The first event is done for you.

1. _____ A. James James and Liza K. see vultures circling the swamp.
2. _____ B. Priscilla is not at her house. Liza K. thinks she is hiding.
3. _____ C. Beef Bones says he will tell Travis that a poacher shot Dajun.
4. _____ D. James James and Liza K. run down to the culvert.
5. _____ E. James James counts the dead fish by multiplying a sample section.
6. _____ F. They discover Dajun was not in the culvert.
7. _____ G. They find thousands of dead fish in salty water.
8. _____ H. James James discovers the hydrilla weed that suffocates the big fish and stunts the little fish in the canal.
9. _____ I. They run to the cypress forest in the mangrove swamp.
"The county had to spray pesticides from airplanes to kill the mosquitoes, and the good insects died with the pests: the dragonflies died with the mosquitoes. Since Gumbo Limbo Hammock is out of the spray zone, our mosquitoes are under control. The dragonflies speed through the trees like squadrons of little bombers, catching and eating their prey. Whenever I can, I walk behind them in their mosquitoless wake. I also picked my fishing spot on Gumbo Limbo Hole because it is protected by mosquito fish." p. 50

Discuss this quotation as a class.

Why do you think Gumbo Limbo Hammock’s mosquitoes are under control even though it isn’t sprayed with pesticides? Is spraying the air with pesticides to kill mosquitoes worth losing good insects? What other harmful effects do pesticides have on nature?

Think of some questions and concerns that you could write in a letter to a company that makes pesticides, a county that sprays the area with pesticides, or an environmental agency. What are some other places that you could write to with your concerns and questions?

Use the back of the paper to list the questions and/or concerns you have about pesticides. Then write a letter on a separate sheet of paper that includes those questions and/or concerns. After you edit your letter, type it on the computer and give it to your teacher to mail.
"James James counted the dead fish in a small area and multiplied it by the size of the entire area to get an estimate of the number of fish killed."

Many times it is difficult to count every single fish in an aquarium or other body of water. One way to estimate the total number of fish is to calculate it the way that James James did above and on page 59. This method is also used to calculate the number of people at a fair, carnival, etc.

Fill in the blanks below as you follow this method to calculate the number of people on your page. Get a copy of a page from a Where's Waldo? book from your teacher. Using your ruler, measure and draw the lines that will form a one inch square. Count the number of people in that square and multiply it by the size of the entire area. The product is an estimation of the number of people on that page.

1. How many people are in your one inch square?
2. What is the measurement of the entire area?
3. Multiply the answer to question number one by the answer to question number two.
4. What is the estimated number of people on your page?

EXTENSION

Ask another student what his/her number is, find the average of your two estimates. If his/her number is different
The Missing 'Gator of Gumbo Limbo
Questions-Chapter 5

Answer the following questions in complete sentences unless the directions tell you to do something else.

1. Describe the change in James James’s appearance when he decided to go to the government office.

2. What did Liza K. tell the woman at the Water Management Department in order to get the maps?

3. Ms. Dade, the government worker, said she might drop by the hammock someday. Predict what could happen if she showed up.

4. What fact about Dajun makes Liza K. realize he couldn’t possibly be in the slough in the cypress swamp?

5. Liza K. told lies to get the map. Do you think she had the right to lie? Why or why not?
Have you ever played the game "Twenty Questions?" In this variation your task is to simply compose ten questions about this week's section which can be quickly answered "yes" or "no" by others in your group.

<table>
<thead>
<tr>
<th>QUESTIONS</th>
<th>ANSWER</th>
<th>PAGE</th>
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<tr>
<td>10.</td>
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</table>
Liza K. and James James get a topographical map from the government office. A topographical map is different from most maps in that it measures the high points and low points of the land. Connected lines, like those in the diagram below, are used to show whole areas or bands of a certain elevation or depth. Numbers, letters with a key, or shading might be used to mark the elevation or depth.

Study the map below and answer the questions.

Circle the best answer.

1. The highest area on the map is in the...
   a. northeast
   b. southwest
   c. southeast

2. There are three hills. Which hill is the steepest?
   a. northwest
   b. southwest
   c. southeast

3. The area with the minus numbers is probably a
   a. mountain
   b. deep canyon
   c. shallow valley

4. What does the zero mean?
   a. sea level
   b. there is no land
   c. the map maker didn't want anything there

5. What are 5 differences between a topographical map and a road map?

   ______________________________________
   ______________________________________
   ______________________________________
   ______________________________________
   ______________________________________
The Missing 'Gator of Gumbo Limbo
Questions–Chapter 6

Answer the following questions in complete sentences unless the directions tell you to do something else.

1. Why does Liza K.'s mom think she will not get the job?

2. Why do Liza K. and the other woods people use soap instead of detergent?

3. PCP, a poisonous chemical, is in a sample James tested. What is PCP used for and how do you think it got into the water?

4. Why were canals built in the everglades?

5. What does Liza K. find out about Priscilla's notebook?

6. What are Priscilla's bottles and sugar used for?
SOAP VS. DETERGENT

The Missing 'Gator of Gumbo Limbo

Chapter 6

NOTE: This activity requires each student to have one detergent bottle or box and one soap container or wrapper. This activity will be completed in groups of 4-5 students.

STEP 1: Reread page 91 in The Missing 'Gator of Gumbo Limbo.

STEP 2: Define the word phosphate. ________________________________

STEP 3: Write the brand names of the detergent bottles/boxes that you and the other students in your group have brought to school for this activity. Liza K. and her mother use soap rather than a detergent because of the phosphates in detergents. Next to each brand name, write the amount of phosphates in it. Remember to work together, within your groups!

<table>
<thead>
<tr>
<th>BRAND NAME</th>
<th>AMOUNT OF PHOSPHATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
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<td>5.</td>
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</table>

Step 3: Answer the following questions below.

1. Which brand contains the least amount of phosphates? ____________________________

2. Which brand contains the greatest amount of phosphates? ____________________________

3. Did any of the brands contain no phosphates? ____________________________

4. Why do you think manufacturers produce products that contain phosphates? ____________________________
5. What brand of soap wrapper/container did you bring to school?

6. How many phosphates are in it?

7. On the back of this paper, make a Venn Diagram of the ingredients in your soap and your detergent. This activity is to be completed individually.

8. Using the information in your Venn Diagram, write one statement about it.

STUDENT’S CHOICE: Complete either question number nine or ten on a separate sheet of paper.

9. Using the information in the chart above, write a letter to your parents persuading them to purchase a different product.

10. Write a letter expressing your views to a company that produces a detergent which contains phosphates. Look on the detergent bottle for the address and company name.
The Missing 'Gator of Gumbo Limbo
Chapter 6
Graphing Precipitation

In order for the everglades to exist, there must be a lot of rainfall or precipitation. The amount of rainfall in an area allows certain crops to grow, certain animals to survive, and also helps people to decide if they want to live there. Let’s graph the yearly rainfall of six cities in different regions of the United States to compare them in picture form. In an encyclopedia or atlas, first find the name of a state. Next, locate the climate information about the state, and then, find the average yearly precipitation of a city in that state. Do the same thing for cities in 5 different regions. (Florida is in the southeast region.)

*Teacher Note: Use this activity with a computer graphing program if you have one available.

<table>
<thead>
<tr>
<th>NAME OF CITY OR STATE</th>
<th>YEARNAL RAINFALL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>inches centimeters</td>
</tr>
<tr>
<td>1.</td>
<td></td>
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<tr>
<td>2.</td>
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If you do not have a computer program, use the graph box on the following page. Put the rainfall scale on the left side and city names on the bottom. Give your graph a name and color it neatly when you are finished.

SIMPLE GRAPH
1. Even though the borrow pit is full of blue-green algae, Priscilla thinks he might be there. What makes her think this?

2. Liza K. decides Dajun is really in Gumbo Limbo Hole after all. What makes her come to this decision?


4. Liza K. meets a new character at the end of the chapter. This character gives her a possible answer to the mystery of Dajun's location. Who or what is the character, and what is his clue?
Put the following events in the order in which they occurred. Write a number one next to the first thing that happened, a number two by the second, etc.

___ A. Liza K. grabbed her fishing rod and met Travis on Dajun's beach.

___ B. Liza K. named the gray parrot Sherlock Holmes.

___ C. Priscilla and Liza K. check the borrow pit for some sign of Dajun.

___ D. Liza K. "found" an African gray parrot with a carmine red tail.

___ E. Liza K. discovered that both spots of blue-green algae were gone.

___ F. The gray parrot told Liza K. something very important about Dajun.

___ G. Priscilla and Liza K. put Brazilian holly leaves on the borrow pit.
The Missing 'Gator of Gumbo Limbo

Questions: Chapter 8

Answer the following questions in complete sentences unless the directions tell you to do something else.

1. List 4 things Liza K. did on her last day in Gumbo Limbo to use up time while waiting to see Dajun.
   A. ___________________________________________
   B. ___________________________________________
   C. ___________________________________________
   D. ___________________________________________

2. How were the problems at Gumbo Limbo related to Liza K.'s mom getting her new job at the diner?
   ___________________________________________
   ___________________________________________
   ___________________________________________

3. Many wild animals have changed their habits because of human interference with their lives. How did Dajun adapt to the fact he was being hunted?
   ___________________________________________
   ___________________________________________
   ___________________________________________

4. James James suggests the real cause of the PCP problem in the water. What is it?
   ___________________________________________
   ___________________________________________
   ___________________________________________

5. A social worker is supposed to come and get Priscilla. What did Priscilla mean when she said she would "... turn into a night person." when the social worker came to get her?
   ___________________________________________
   ___________________________________________
WHO SAID THAT?
The Missing 'Gator of Gumbo Limbo
Chapters 1-8

Match the quotes below with the names in the word list. Write the correct name on the line before the quotation.

WORD LIST:

Mom  James  James  Liza K.  Travis  Caruso  Priscilla

1. "Years ago I used to analyze the drinking water for a citizen's group in my hometown."
2. "I guess a young lady like you could use a reward."
3. "Come here, Liza K. Sit down. In a moment, you'll see something incredibly beautiful,"
4. "That's got to be Dajun. Only he's twelve feet long, not ten."
5. "As I said to Beef Bones, I'm only on state for an hour or so each day, so why not help Sweeney and the nation."
6. "We get a lot of elderly people in the diner. I guess we should use bottled water."
The Missing 'Gator of Gumbo Umbo
Questions-Chapter 9

Answer the following questions in complete sentences unless the directions tell you to do something else.

1. At the beginning of this chapter James James says Dajun can't possibly be in Gumbo Limbo Hole. What is his reason for saying this?

2. What does Liza K. remember about something in the water that finally solves the mystery about Dajun's location?

3. Do you think Caruso should get in trouble for putting PCP in the water? Why or why not?

4. How does Ms. Dade help to solve the problem of Dajun being hunted?

5. Who do you think was the most important character in preserving Gumbo Limbo? Explain your answer.
6. Who was your favorite character in the book and why?
A cinquain poem has five lines. It has a definite pattern but does not require rhyme.

<table>
<thead>
<tr>
<th>Line one:</th>
<th>one word</th>
<th>John</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line two:</td>
<td>two words</td>
<td>'Gentle giant</td>
</tr>
<tr>
<td>Line three:</td>
<td>three words</td>
<td>Helping many people</td>
</tr>
<tr>
<td>Line four:</td>
<td>four words</td>
<td>His courage is unique</td>
</tr>
<tr>
<td>Line five:</td>
<td>one word</td>
<td>Policeman</td>
</tr>
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</table>

A CHARACTER

The Missing 'Gator of Gumbo Limbo
Chapter 9
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will grow mold and understand the process of decomposition.

Materials needed: Plastic baggies (1 per group)
- bread
- orange peels
- cheese
- adhesive labels
- a bulletin board to hang the plastic baggies from thumbtacks
- science log sheet to record the results of the activity

Subject matter, content, concept: The subject matter is primarily science and relates back to the concept of roles and the fulfillment of needs within a community.

Procedure/strategies:

1) Divide the class into groups of four. Number the groups (1, 2, 3 or A, B, C etc).

2) Distribute a science log sheet to everyone in each group. Have the students place their name and group number on their paper.

3) Write the procedure that the students will follow on the board for them to refer to during the activity. The procedure is as follows:
   1. First take the plastic bag and place the number or name of the group on the label. Place the label on the baggie towards the top.
   2. Next, place a small piece of bread, cheese and orange peel into the baggie and seal the baggie shut. Write a description of the food and the baggie on the log sheets.
   3. Using a thumbtack, display the baggies on a bulletin board so each group can observe the changes in the baggies.
   4. Allow the students to observe their group's baggie each day and record their results on their log sheet. Ask them questions during this time such as, "What is happening to the food?" "Why is there change occurring within the bag?" "Describe the changes to the food." "What is happening?"

4) Students will record their results of the baggies for a week. At the close of the week, students should be allowed to discuss with their group the results they have collected.
Then, each group will share their results and compare them to the rest of the classes. They will give reasons why they think the food changed, what influenced the change, and how that change is important to the environment.

5) Students should discuss how decomposition or the growing of mold is essential to our environment and be able to give reasons why this is true. They should be told that the mold which formed on the foods gained energy from the food. They should see that the food had energy and when it started to decompose, the mold on the food gained energy which made growing possible. Further discussion on the acquisition of energy can be explored from here.

Evaluation activities: Based on their answers given in class and their daily logs, the students should be able to describe the decomposition process on an exam or be able to describe the experiment conducted in class. An example of an essay/short answer question on a science test might be: Describe the decomposition process and tell why it is important to us. How does it help us and why must it occur? (Hint: Remember the activity with the baggies!)
SCIENCE DAILY LOG

~A~€: ________________________________________________

PA~T 1.
Describe the materials used for the activity using your senses! (Touch, smell, hear..)

____________________________________________________

____________________________________________________

____________________________________________________

Draw a picture of how the baggie looks when it is assembled: Day 1!


PAQ,r 2.

Keep writing your observations using your senses and detail according to each day.

Day 2

____________________________________________________

____________________________________________________

____________________________________________________

Day 3

____________________________________________________

____________________________________________________

____________________________________________________
Day 4


Day 5


PA;2.r J.

Discuss and record within your group, how did the appearance, the smell, the shape, etc. change throughout the week? What was happening? What is the term for this? Does this happen in our outside environment?


Draw a picture of how the baggie looked five days after it was assembled.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will demonstrate the importance of independence and roles within a community by designing and creating their own terrarium.

Materials needed: 8-10 gold fish bowls or small aquariums, water, rocks, grass, dirt, living organisms such as ants, caterpillars, turtles, hamsters ..., leaves, wood chips, data sheets to record their observations.

Subject matter, content, concept: This activity deals primarily within the science discipline and its concepts relate back to roles, wants and needs, interdependence and the community.

Procedures:

1) Introduce to the students what a terrarium is. Discuss the terms, ecosystems, niche and habitat with the students.

2) Group the students into teams of 3-4 depending on the class size and have each group decide on a habitat that they would like to create.

3) Write down the habitats from all of the groups and then have each group research their habitat in their science book, in library books, encyclopedias and also have them access information from the Internet if that hook up is available in the room or school.

4) Stress the importance of survival for their habitats and the living things that will exist once it is created. Have each group generate a list of important and necessary elements that need to be present in their habitat for survival to become possible.

5) Take a walk outside to gather some of the materials needed for each team's habitat. Also, send notes home to parents 1 week prior to the assignment and have them help with materials, ideas, aquariums etc. Have the students bring in the necessary materials they will need to construct their project.
6) Allow each team to record on their information log the materials they used for their habitat, how they constructed it, and reasons for why they included the materials they did. (How they are important for survival). Have the students construct their habitats.

7) Each day, allow the students to take time to observe their habitat and to hold conferences within their team to discuss the progress of their habitat. Does the oxygen level within the aquarium or goldfish bowl need to be adjusted? How about the feeding for those habitats with animals? What other elements need to be included that were maybe forgotten? Have them record their results and observations daily on their information log sheet. If changes need to be made, consensus within the groups should be reached before decisions are executed.

8) After a two week period of observations, each group should write a summary of their findings, based on their log sheet.

9) Each group will share their findings and results with the rest of the class.

Evaluation activities: I feel that the speeches, the daily log and the observations and small group interaction will indicate to the teacher if the students are learning the concept of interdependence and roles within the habitats. They will be able to visually see the results of their predictions and be able to adjust the factors to successfully complete the project.
Totally Terrarium

Name: ________________________________

Part 1.

Title of Habitat: ________________________________

Members the team: ________________________________

Part 2.

Step 1: How do you plan to construct your habitat? Which elements are going to be included in the execution of your project? What materials will you need to use? What is the design of your habitat? Reasons needed to back up your decisions.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

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__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
Daily Habitat Log

Day 1

Day 2

Day 3

Day 4
Day 9

__________________________

__________________________

__________________________

__________________________

Day 10

__________________________

__________________________

__________________________

__________________________

Conclusions based on observations:

__________________________

__________________________

__________________________

__________________________

__________________________

__________________________

__________________________

__________________________

__________________________
Habitat Quiz

Name: ___________________________________________________________

Please answer the following questions with short answers. Remember the activity we have completed with the habitats and your observations in your daily logs. Use as many details and vocabulary as you can, based on your research, your science book and discussion in class.

1) What is a habitat?

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

2) What elements are necessary for survival?

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Why? How do you know this? ________________________________________
_________________________________________________________________
_________________________________________________________________

3) I am a scientist who plans to develop a forest habitat. What would I need to include in my plans and why would I need to have those? How would I begin to plan constructing my habitat? What would I need to execute my plans? Remember, I am new at this so I will need lots of directions, explanation of things (definitions, terms, etc.) and reasons to back up your answers.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
Whew! Finally done!
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will develop an understanding of dependency of organisms through construction of a food web.

Materials needed: old magazines with pictures
glue
construction paper
string
scissors

Subject matter, content, concept: The subject matter of this activity deals with the science discipline. The concepts of roles, interdependence, community, and wants and needs all relate back to the key generalizations.

Procedures/strategies:

1) Group the students into cooperative teams of 4-5 in each team.

2) Distribute magazines, scissors, construction paper and glue to each group.

3) have each group find pictures of animals from the magazines, based on what they eat. Let the students refer back to their science textbooks to look up such terms as carnivore, omnivore, and herbivore. (This lesson would be a follow up of a lesson which dealt with the terms listed above and would be an application lesson of knowledge previously learned.)

4) Each group should find a plant to start with and cut it out of the magazine. They should glue it to the center portion of their group's construction paper. Next, they should look for an animal that would eat the plant. Glue that picture onto the construction paper and draw an arrow. Next, find another animal that would eat the last picture and glue that one with an arrow from the last picture to this one and so on.

5) When each group is done, distribute the string and have the students glue the string from each picture to the next picture in order of what they eat. By the end of the gluing, the picture should resemble a spider web.

6) Discuss the terms primary producer, consumers, decomposers and scavengers. Use the food webs to trace each animal and discuss their various roles within their community. Discuss the impact of missing links or animals to the food web and how it
would affect the web. Focus on the idea the food web is a continuous cycle with each element and animal dependent upon each other for survival.

Evaluation activities: I would choose an authentic form of evaluation for this by evaluating the students on their webs and their comments and opinions in the classroom discussion. Through their discovery learning they would be able to tell me how and why they arrived at the conclusions they did.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will view the interdependence of our environment by collecting various, natural elements and observing nature in a nature walk.

Materials needed: A brown paper bag for each student  
Paper and pencils

Subject matter, content, concept: The subject matter of this activity deals with science. The concepts that relate back to the key generalizations are the concepts of roles, communities and interdependence in the ecosystems that the students observe in nature.

Procedure/strategies:

1) Distribute a paper bag to each student.

2) Lead the class on a nature walk near the school. Tell the students to collect various elements from the environment in their paper bag to be taken and discussed later.

3) Locate different populations such as a water habitat if the school is near a stream or creek or animal populations that exist. View and point out many different populations and explain to the students that each of the populations together make up a community. Discuss the roles that each population plays on the community based on the evidence seen on the walk.

4) Note the diversity of the ecosystem and the different elements that together make up the ecosystem.

5) Take the students inside and divide them into groups of 5.

6) Have each student in each group sort out their items collected on the walk and classify them any way their group chooses as long as each group has a reason for their classification system.

7) Once the students are allowed time to complete this, number off each of the students 1-5 in each group and have all of the ones get together, the twos and so on so new groups are created. All of the items that are similar in classification should be grouped together with the new groups. For example, the pine cones collected could go with the ones, the dirt with the twos, the grass with the threes, the acorns with the fours, etc.
8) Each group will discuss why their group is vitally important to the environment.

9) Explain to the groups that you are creating your own environment and only seven elements or classes of things can be present in your environment out of the ten groups. It is the group's job to persuade the rest of the class to keep their item and explain why it is necessary for the environment. The groups should prepare a mini-persuasion speech to be given to the rest of the class.

10) The class should vote on the seven top speeches and convincing arguments.

Evaluation activities: The speeches and reasons behind the elements should indicate how the students arrived at their conclusions and the level of thought behind each argument. Have the students reverse their argument and list reasons why the element is not necessary for our new environment. Then discuss the ramifications that would exist if the element they chose really did cease to exist. How would it affect the populations they observed during their walk?
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will trace their food to the primary source, demonstrating knowledge of roles.

Materials needed: Manila paper for each student
notebook paper
markers, crayons
pencil

Subject matter, content, concepts: This is a science lesson that deals with key concepts of roles that tie into the social studies discipline. It could also be linked to social studies and the production of wheat, corn, or other grains based on student answers during class discussion.

Procedure/strategies:

1) The lesson will begin with a teacher directed discussion. The teacher will ask the students what they had for breakfast and list various answers on the blackboard.

2) Have each student take out their piece of notebook paper and write down where they think their particular breakfast came from.

3) Take one example that was given and listed on the board and have the students trace that product back to where it originated. The teacher should list this on the board and draw miniature diagrams to accompany the steps. If this proves to be too challenging for the student, it would also work to start with a grain such as wheat or corn and trace the production of cereal, bread, etc. forward.

4) The teacher should explain the process of the flow of energy and explain that the sun gives energy to the plants and the animal or person that eats that plant receives that energy and so on. Explain to the class how the plant receiving energy becomes a producer and examine terms from the last lesson (producer, consumer, decomposer, scavenger). Ask the students how each of the different roles named are important in maintaining the balance of the ecosystem.

5) Allow the students to create their own flow chart on their manila paper, based on what they had for breakfast that morning. Have them fold the paper into 8 boxes so that they will have boxes to write and draw inside of. Have the students write the sentences of what is going on in the bottom portion of the boxes and illustrate the process step by step.
Evaluation activities: The student flow chart and class discussion answers, as well as their sentences on their chart will indicate if they understand the roles of the food, plant, sun, producers, consumers, etc.

I would score the flow chart _ out of 16 possible points.
I would allow one point per box for the sentence and one point per box for the illustration. 16/16 would indicate that the student knew the concepts discussed in class and was able to apply the information to his own experience and demonstrate that through the project.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or objectives: The students will classify animals according to their place in the food chain, demonstrating the interdependence of the animals on one another and the roles in which each animal must fulfill to keep the system in balance.

Materials needed: Baggie with pictures of animals for each group

Subject matter, content, concept: The subject matter for this activity is science. The students will be able to relate the activity back to the key generalizations and concepts of interdependence and roles within their environment.

Procedures/strategies:

1) Group students into groups of 4-5.

2) Present each group with a baggie full of different pictures of animals.

3) Ask each group to classify the pictures into three different groups according to what each animal eats. For example, does the horse eat plants, other animals or plant and animals both?

4) Explain to the students that they must have a reason to back up their groups that they chose.

5) Next, explain the terms, carnivore, herbivore and omnivore to the students. Then tell the students to rearrange their groups according to this new information presented. Make sure you give examples of the animals that would be considered a carnivore, so the students have a more concrete idea of the concepts. Discuss the different animals in the groups of each classification. Have each group tell the class why the animals in one of their groups were grouped there and not in another group.

Evaluation activities: Divide the class into teams of 3-4. Use the pictures of the animals that they had previously used as flashcards. Flash a picture of an animal and have one team tell whether the animal is a carnivore, omnivore or herbivore. If the answer is correct,
the team scores one point. Have a student keep score to determine a winner. Another activity you could do would be to distribute worksheets and have the students label the animals as carnivore, omnivore or herbivore. Then, ask the students to come up with their own animals and write them under the appropriate column heading.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will demonstrate knowledge of a food web by becoming key players in a human food web.

Materials needed: Pictures of different animals, plants, etc. pasted on cards that have string tied to them so they can be placed around student's necks, a large ball of yarn or heavy string

Subject matter, content, concept: This activity reinforces other activities dealing with the science discipline and the food web activities. It lets the students physically construct a web and demonstrate the ideas of interdependence and roles.

Procedures/strategies:

1) Assign each student a card with an animal, plant, etc. on it. Have each student place the card around their neck so everyone can see.

2) Have the students stand in a large circle around the classroom, shoulder to shoulder.

3) Begin this activity by tossing the ball of yarn to the person who has a card with the plant or animal lowest on the food chain. Make sure that when the ball of yarn is tossed, the person initially tossing it keeps the end of the string so it creates a line of string from the person to the next person.

4) Have the next student look around and locate someone with a card or picture around their neck that would eat their animal or plant. Have the student wrap the string around their finger and then toss the ball to the next person.

5) Continue this until the whole circle is all tangled up with string. Discuss the different roles and what would happen if all of the animals were vegetarians. What if none of the animals were carnivores or omnivores? What if none of the animals were herbivores? Have the students predict what the web would look like and how it would affect the environment.

Evaluation activities: The student tossing the ball of yarn would have to understand the concepts in order to participate in this activity. If the student did not toss the ball correctly to the right person it would indicate if the student realized the
concepts. This would allow the students to apply their knowledge of the concept in a fun, game-like atmosphere and the sharing of ideas would be informal.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objective: Students will observe and record various data and determine what things are needed for survival.

Materials needed: map of Atwood Park Recreation Center
Small notebook
pencil
compass

Subject matter, content, concept: The disciplines involved here include science and mathematics. The concepts revolve around the key generalizations and concepts of roles, interdependence, wants and needs and the community.

Procedure/strategies:

1) Plan a field trip to Atwood Outdoor Recreation Park in Rockford, Illinois. If it is possible, the fall would be the best time for the students to attend.

2) Have students come prepared with small notebooks for collection of information and data and pencils.

3) Compass use and map reading skills should be practiced before the field trip. When at the park, a tour will be given of the facilities. Students should take this time to jot down information about the environment at Atwood. Are there necessary elements for survival? What are some of those elements? Students should observe the ecosystems that exist in the park and record their observations of animals, trees, water, food sources, etc. in their notebook. Use of their map and compass during this time will be useful to the students.

4) Afterwards, students if given the opportunity should conduct interviews of the park rangers about the resources of the park. One key question might be asked, "What is the deer population here at Atwood?" Have the students estimate the actual deer population before the actual number from the rangers are given. How did this number differ from their estimated one? Have the students look for resources available for the deer for survival.
5) Based on their observations and findings, as well as the information gained from the Park Rangers, chart the results in pie graphs, line graphs, or bar graphs. (It will depend on the information provided. This would be done back at school.)

6) Post the different results and discuss the ramifications of the shortage of food or resources. How does it affect the deer population? How does the overpopulation of deer in a given area affect other areas of the ecosystem? Have students come up with possible solutions to the problem of overpopulation. How could the problem be alleviated?

Evaluation activities: Have the students launch a campaign based upon their results from the field trip. According to the information they were presented, have the students make arguments (pro or con) and back up their opinions with facts and information. This authentic assessment will allow the students to use the information and concepts they have learned to express their knowledge in a constructive, meaningful way.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will distinguish between plot, setting, and construct character analysis by reading literature and mapping out the various elements through the use of a web.

Materials needed: Quality children’s literature
Worksheets
Pencils

Subject matter, content, concept: These activities deal with the language arts area and reading area of the curriculum. The students will explore views on the ecosystem and read about the various roles within a community based on the specific literature used.

Procedure/strategies:

1) Each student will be given a different literature piece that relates to the environment. For further suggestions on quality children’s literature, see the references page of this unit or ask the Librarian at your school.

2) Students should be allowed to read their material and time to look back on their book to answer their own predictions, questions, etc. These books should be shorter books so that the students will have time to finish. Picture books for the fourth grade level would be appropriate for this activity.

3) Next, each student will be given a worksheet that has a character web and a story map on it. This sheet will be provided to the students by the teacher. Each student will be asked to map out the literary elements from their particular story. The students will fill in their worksheet, completing it with the information found in their particular story.

4) The teacher should model the first web and map (a sample) so that the students understand what is expected of them when they complete their own. This will give the students direction for their own.

5) Once the worksheets are completed, the students should be allowed to join in small groups of 4-5 per group and share their stories and sheets with their peers. At this time, the other students will be allowed to help the student sharing their maps and webs with constructive comments and suggestions and also ask further questions about the plot. The student should be able to relate to the rest of their group the conflict or problem that arose in their story and how it affected the ecosystem.
Evaluation activities: The worksheets handed in by the students will indicate to the teacher whether the student understand the different literary elements of the story. The sharing in small groups will allow the students to edit their work before handing it in for a grade. It allows the students to work together to achieve goals rather than the teacher always directing the activities.
4~a.

Character Map
### Story Map

<table>
<thead>
<tr>
<th>The setting/main characters</th>
</tr>
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<tbody>
<tr>
<td>Statement of the problem</td>
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<table>
<thead>
<tr>
<th>Event 1</th>
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<tbody>
<tr>
<td>Event 2</td>
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<td>Event 3</td>
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<td>Event 6</td>
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<td>Event 7</td>
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<table>
<thead>
<tr>
<th>Statement of the solution</th>
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<tbody>
<tr>
<td>Story theme (What is this story <em>really</em> about?)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Values brought out in the story</th>
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*Ty b.*
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will use literature to sequence the events of a story by using sentence strips.

Materials needed: pencils
The Lorax by Dr. Seuss
teacher prepared sentences (7 in total) that accompany each storybook
construction paper
scissors
glue

Subject matter, content, concept: Reading is the subject matter in this lesson plan. The concept may relate back to the key concepts of the unit based on the book and information presented in the book.

Procedure/strategies:

1) The students will group themselves into teams of 2. Each team will be given the book, The Lorax by Dr. Seuss.

2) The students will be assigned to read the book with their partner.

3) After each team is done reading, the sentence strips will be passed out. Each team will cut out the strips and glue them onto the construction paper in the correct sequence or order in which they appeared in the book. The students will be allowed to use their books for reference.

4) Have the students hang their finished product on a clothespin line to dry. Explain to the students that we will be discussing the book more in depth later on in the week.

Evaluation activities: I would evaluate the students based on the objective. If the students had the sentences in correct order then I would assume that they understood the concept of sequencing and perhaps comprehended the story. I would do this activity as a kick off to begin The Lorax to help them remember the story and to let them review the idea of sequencing.
The last Truffula tree is cut down and production of the Thneeds end.

The Once-ler invents the super Axe Hacker which cuts down four trees at a time.

The Lorax leaves behind a small pile of rocks, on which the word UNLESS is inscribed.

The Once-ler begins to cut down the Truffula trees so he can produce Thneeds.

The Lorax speaks up in defense of the trees, animals, air and water that the Once-ler is polluting.

The Once-ler ignores the Lorax's warnings and builds a factory.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will create a skit or play using various elements and characters from the ecosystem to show how they are interrelated and dependent upon everyone in the community.

Materials needed: paper
pencils
lots of imagination!

Subject matter, content, concept: Language arts is the primary subject matter. The concepts deal with the roles within the community and the interdependence that must exist between those roles.

Procedure/strategies:

1) Students should be grouped into pairs or groups not exceeding 3. Based on what they have learned about the habitat, ecosystem, roles within a community, and environment and information learned, students should be given the opportunity to produce their own plays.

2) Allow the students to create their own characters and plot, directing them to the key concepts in the objective and content area: interdependence, roles, community.

3) A rough draft should be written by each group.

4) Once the rough draft is written, students will enlarge their groups by joining another group and sharing their rough drafts. Students will offer each other suggestions for improvement, comments and questions. The students will then be allowed to return to their original small group of 2-3 and edit their draft. The plays should be revised and edited once more.

5) After the plays are completed, they should be handed into the teacher who will produce them in a bound book production.

6) The plays will then be allowed to be executed in the classroom. Students will be allowed to prepare props, backdrops, and bring in costumes. Each group will be allowed to perform their skit or play for the class. Puppets could be a suggestion for the students who are shy and do not like to speak in front of their peers.
7) Other classrooms within the building may be interested in the productions and the students may make brochures advertising their particular play or theme. These can be distributed around the school for advertising purposes.

Evaluation activities: I feel this would be a great authentic assessment which would allow everyone to become involved! It would give the teacher a chance to view their knowledge of information and concepts previously learned and it would give the students an opportunity to present their knowledge in a fun, exciting way. The plays and content will determine whether or not the students understand the concepts.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: students will create two poems based on some aspect of the ecosystem and prepare them for production in the annual poetry edition booklet.

Materials needed: Paper
pencils
Booklet rings

Subject matter, content, concept: The subject matter here deals with reading and incorporates language arts in some areas. The poems will be a reflection of the students' knowledge of the key concepts of interdependence, roles, the definition and impact of an ecosystem and the community.

Procedures/strategies:

1) Students will be given two poem formats to follow. The first will be the Haiku which is the Japanese poetic form that consists of 17 syllables in 3 lines (5-7-5). These poems usually deal with nature and represent one single clear idea. The second poem format will be the Cinquain, which is a 5 line poem containing 22 syllables (2-4-6-8-2). This type of poem tells a story or describes.

2) Allow the students to refer to books, encyclopedias and textbooks to gain information or words that they would like to use in their poetry.

3) Explain to the students that you will not be grading this poetry but rather looking for good ideas, imagery, the use of the senses and creativity when you read them.

4) When the students are finished with their poems, have them type them on a computer or typewriter and then collect their poems.

5) Publish the poems in a booklet put out annually with their work.

Evaluation activities: The content and creativity used in the poems will indicate whether the student understand the roles and ideas behind the ecosystem. This will also give the students practice with poetry and imagery and allow for their creativity.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objective: Students will write a report based on information presented to them in the form of a confidential file.

Materials needed: One file for each student
- paper
- pencils

Subject area, content, concept: This activity focuses on language arts and reading with the topic areas dealing with science related issues. The concept students will grasp will be deductive reasoning and the collaboration of information about the ecosystem through the execution of a paper.

Procedure/strategies:

1) Each student will be given a confidential file. In each file will be the name, the picture and basic facts about a person. They will be detectives for their file and determine if their person committed a crime or not and give reasons to support their answer.

2) The students will be asked to read the file carefully and to write up a report based on the file. The students should write a description of their person and the facts about the person. In the folder will be listed numerous crimes the person has committed against the environment. The students will choose one crime and write on that.

3) Depending on the crime, the student is required to discuss in their paper why this person is wanted by the police and why his actions were viewed as a crime. The students may be creative in their reasoning and should come up with reasons why they felt this particular action was considered a crime or why it was not. The students must give reasons to support their findings and be able to back up their decisions based on information learned in this unit.

4) Each student will edit their paper and type it in report format.

5) The students will share their reports with the class along with their solutions.

Evaluation activities: This is another form of authentic assessment. The students will be allowed to discuss and support their opinions based.
on facts and concepts presented earlier within the unit. Their answers and the content of their papers will indicate whether they have truly learned the material or not and whether they can take that material and knowledge and use it in a real life situation or event.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will write business letters or various parks to obtain information about the various elements of the ecosystem.

Materials needed: Phone books, dictionaries
Lined paper and pencils
envelopes
stamps

Subject area, content, concept: The subject area of this lesson is English with the integration of language arts around a science topic. The students will learn more about the interdependence and roles within an ecosystem through the correspondence with the various parks.

Procedure/strategies:

1) The students will be given phone books from the local area. The students will be allowed to choose parks, recreation centers, etc. from the phone book and locate their addresses.

2) Once the students have established a site to contact, each student will write a business letter in proper format to the park. This letter should request information about the park, the attractions and sites within the park and other information they want to know.

3) The students will be required to address their letter in a proper letter writing form both on their letter and on the envelope.

4) When the information is received by the students from the park it is the student's responsibility to gather the highlights and important information given and prepare a 2-3 minute persuasive speech for the class on why their park should be the one chosen for the class field trip.

5) The class will vote and the winner's park will be the site for a field trip.

Evaluation activities: The objective in this lesson was letter writing and through the letter writing activity, the students were also allowed to gain more information about their theme in which they are presently studying. The letter and envelope content and punctuation as
well as spelling and format would be considered in a grade for this project,
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: Students will read or listen to an environmental fable and understand the concept of an ecosystem. Students will be able to draw conclusions and make predictions about the environmental impact and wise use of resources.

Materials needed: The Lorax by Dr. Seuss
worksheets
pencils

Subject matter, content, concept: The subject area deals primarily with reading. The concepts of interdependence, roles and wants, and needs become apparent to the students through this activity worksheet.

Procedure/strategies:

Refer to attached lesson plan found on the Internet. This lesson plan would be used as is except for the introduction of The Lorax and instruction of the students to read the book. The sequence strips charts should be substituted for that portion of the lesson.

This lesson was taken from the web site: goher:11ee1ink.emich.edu70111activities/cornel/ 4
LEGEND OF THE LORAX ACTIVITY

GRADE LEVELS
4-6

SUBJECT AREAS
science, language arts, social studies

CONCEPT
Conservation of Natural Resources.

OBJECTIVE
Students will read or listen to an environmental fable and understand the concept of an ecosystem. Students will be able to draw conclusions and make predictions about the environmental impact and wise use of resources.

MATERIALS:
1. The Lorax by Dr. Seuss
2. worksheet: The Lorax

KEYWORDS
uninhabitable, wasteland, ecosystem

BACKGROUND
In The Lorax, Dr. Seuss introduces the "Once-ler" who cuts down the beautiful Truffula tress so that he can use their wonderful silk tufts to knit "thneeds". Thneed sales are so successful that the Once-ler builds a factory and invents the Super Axe Hacker which cuts down four trees at a time. The Lorax speaks up in defense of the trees, animals, air and water that the Once-ler is destroying in pursuit of bigger and bigger profits. Finally, when the last Truffula tree is cut down, production of the Thneeds ends. Closed factories, polluted air, polluted water and an uninhabitable wasteland are all that remain on the once beautiful site. The Lorax can no longer live here, but he leaves behind a small pile of rocks on which the word UNLESS is inscribed.

The Lorax illustrates an ecosystem, a natural unit in which living and non-living parts interact. All of the parts are linked together and functions as a unit. When one of the parts is altered or damaged, the entire system may fail.

PROCEDURE:
1. Students should read, or have read to them, The Lorax, and then complete the questions on the worksheet individually. Focus the follow-up discussion on the concept of an ecosystem and note how each step on the Once-ler's developing business removed a piece of the ecosystem until the entire system ceased to function.

2. Encourage the students to speculate on:
   a. Why the Super Axe Hacker was invented
   b. Why the Once-ler ignored the Lorax's warnings
   c. What happens to the Lorax
   d. What the Lorax's message "UNLESS" means
FOLLOW-UP:
1. Have children write poems about real forest and the wildlife which inhabit them.
2. Distribute drawing paper for before and after pictures of the Truffula-trees forest.
3. Have children create a collage of "thneeds" (things that we think we need), either as a class project or individually, by cutting pictures from magazines.
4. Create ads for Natural Resources, modeled after the Once-ler's Ad for the Thneed: "A Thneed's a Fine-Something-That-All-People-Need. It's a shirt. It's a sock. It's a glove. It's a hat. But it has other uses. Yes, far beyond that. You can use it for carpets. For pillows! For sheets! Or curtain! Or covers for bicycle seats."
5. Encourage students to discuss the ways we use Natural Resources and to emphasize the value in our lives.
6. Instruct children to draw diagrams or flow charts of the steps involved in the production of thneeds, accompanied by diagrams displaying the process of manufacturing iron or other precious metals.
7. Have students illustrate their needs and wants as contrasting pictures.
8. Plant something or raise money for a tree to be planted on the school grounds in honor of the Lorax and in memory of your class.

The Lorax

Name:

1. Why did the Once-ler cut down the Truffula trees?
2. Why do the Brown Bar-ba-loots have to leave?
3. What kind of problems does the Thneed factory cause for the environment? Name at least three.
4. What happens to the Once-ler when there are no more Truffula trees?
5. What happens to the Lorax?
6. What do YOU think the Lorax's message "UNLESS" means?
7. What could the Once-ler have done to minimize his factory's effect on the environment?

8. Is bigger always better? Give an example to back up your opinion.

9. A "Thneed" is defined as a fine thing that everyone thinks they need (but probably really don't) - What are some examples of thneeds - things that we think we need but could do quite well without?

10. The Lorax speaks for trees "for the trees have no tongues". What would you choose to speak for, and what would you say? Plan a one minute talk on behalf of something which cannot speak for itself.

Teacher's Page
THE LORAX

1. Why did the Once-ler cut down the Truffula trees?
Answer: The Once-ler uses the Truffula tufts to make Thneeds.

2. Why do the Brown Bar-ba-loots have to leave?
Answer: Truffula fruit, their main food, become scarce when Truffula trees are cut down. The Bar-ba-loots get crummy tummies from hunger.

3. What kind of problems does the Thneed factory cause for the environment? Name at least three.
Answer: Create smog, polluted pond, cut down all trees, forced wildlife relocation.

4. What happens to the Once-ler when there are no more Truffula trees?
Answer: Manufacturing ends, the factory closes down and all the Once-ler's relatives leave. The Once-ler lives alone at the top of his store.

5. What happens to the Lorax?
Answer: He leaves the forest forever.

6. What do YOU think the Lorax's message "UNLESS" means?
Answer: Students should mention the need for future generations to care for the earth.

7. What could the Once-ler have done to minimize his factory's effect on the environment?
Answer: Install air pollution and water pollution safeguard devices, replant Truffula trees continuously.

8. Is bigger always better? Give an example to back up your opinion.
Answer: Student opinion.

9. A "Thneed" is defined as a fine thing that everyone thinks they need. What are some examples of thneeds - things that we think we need?
Answer: Answers will vary. Students may mention some of the items which advertising persuades us to buy which quickly becomes outdated, such as Cabbage Patch dolls.
10. The Lorax spoke for trees "for the trees have no tongues". What would you choose to speak for, and what would you say? Plan a one minute talk on behalf of something which cannot speak for itself. Answer: Answers will vary. Encourage students to consider a wide variety of natural resources.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objective: The student will demonstrate the flow of energy from the sun through the plants to animals.

Materials needed: yellow hat
bowl of popcorn
green headbands
pictures of plant eaters
pictures of meat eaters

Subject matter, content, concept: The subject matter of this activity is science. The students will relate the idea of the flow of energy through the food chain by role playing the various parts of the environment. This activity relates back to the concepts of interdependence and the roles that various elements play in maintaining the balanced system in our environment.

Procedures/strategies:

1) Select one student to be the sun and to wear the yellow hat.

2) Select 12 students to be the plants and to wear the green headbands.

3) Select 6 students to be a plant eater and distribute the pictures, one per student. Do the same for the meat eaters, although there only 2 students are needed.

4) Place the students in order so that the sun is at the head of the line with the plants right behind the sun, the plant eaters right behind the plant and the meat eaters right behind the plant eaters. There should be a couple of lines.

5) The sun should hold the popcorn bowl and the teacher should explain that the sun is a provider of energy. The teacher should also explain that energy is transferred through the food web and it cannot be created or destroyed but merely transformed.

6) To start the activity, each plant should take a large cupful of popcorn from the sun. They should eat some of it making sure to leave some of the popcorn in their
cup. Next, the plant eaters take some popcorn from the plant's cup and eat some of it. The meat eaters in turn, take some popcorn from the plant eater's cup and the students can see the relationship of the popcorn as it is passed from one student to the other.

7) The students should see that the energy was not created or destroyed at each level but was transferred from one thing to the next. It all came from one source and was all part of the same energy.

8) The teacher should then discuss with the students how the plants got their energy? The students should also be asked if energy came directly from the sun to the meat eaters etc.

Evaluation activities: The students could role-play case scenarios presented to them such as, what would happen if the plant died? Where would the energy go? What if the plant eater died? What would happen to the energy? The students could also take this activity and turn it into a game which the object would be to transfer the energy given by the sun to other elements according to the energy flow direction before various elements made the transfer impossible. The students could use this as a tag game with designated students as plants, plant eaters, meat eaters, death, herbicides, etc.

*This lesson plan was taken Lingelbach's book, Hand's On Nature.*
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goals and/or Objectives: Students will create environmental posters to be hung around the school.

Materials needed: Poster board, markers, crayons, colored pencils, rulers, dictionaries, pencils

Subject matter, content, concept: This activity involves the language arts and the bodily kinesthetic. It takes the concepts of roles, interdependence, community, and wants and needs and uses them to promote conservation.

Procedure/strategies:

1) Pass out one piece of poster board for each student.

2) Allow each student to develop a slogan and illustration on the poster board relating to an environmental issue or something they have learned about the ecosystem. These posters may take the form of conservation themes.

3) Display their work around the school as the start of the culmination of the unit.

Evaluation activities: The student's illustrations, vocabulary and creativity will indicate whether or not the concepts and ideas presented to the students were learned and used by the students in a meaningful way.
CULMINATING ACTIVITIES:

1) **Objective:** Students **will** develop their own ecosystem.

Have the students design and develop their own ecosystem based on their knowledge of interdependence and of the roles that each living and non-living thing must play in order to maintain a balance to the system. Students should be able to state why each variable present is necessary and what would happen if it ceased to exist.

2) **Objective:** Students **will** develop case scenarios in the form of plays.

Have the students each develop a play script on the effects of missing elements from the environment. An example of this would be how life would be without water. Or how life would be without decomposers. Another way students could express their scenario would be to create a book, illustrating what life on earth would look like and how the lack of distinct elements would affect their community.

3) **Objective:** Students **will** develop a conservation program for the school.

Based on the knowledge the students have gained from the unit, have them develop a program that would conserve and protect the elements in the ecosystem that are important. Have students make posters to illustrate why conservation is important and what water, soil, plants do for us as humans. The students could write to various officials in the city to obtain information or facts about the environment or ecosystem. Based on that information, students could develop a campaign and write to government agencies to voice their opinions.

4) **Objective:** Students **will** develop their own ecosystem game book based on the terms and concepts learned in the unit.

The students will compile crossword puzzles, word searches, pictures designed to be colored and tongue twisters based on the key concepts and terms presented in the unit. The students could create their puzzles on computer programs in the classroom. Each student will be required to develop 2 of the 4 above mentioned items based on the unit. The students should be instructed to choose two different activities to develop. Once all of the puzzles, etc. are completed and submitted, the teacher will bind the material and publish it into a book. Each student will receive a copy to take home for their parents, sisters or brothers, friends, or for themselves.

5) **Objective:** Students **will** create an acrostic poem using the term ecosystem.
The students will be given the term ecosystem and will be asked to create their own poem using ideas and concepts, facts and phrases learned during the unit. An example to start with could be: E-everyone depends on our environment. The students should be given a sheet that tells them what they will be graded on before they create their poem. After the students create their poem, they will be asked to grade themselves based on the sheet shown to them before the project was started. The teacher will then give them a grade based on the sheet and the student given grade.

6) **Objective:** Students will determine which items are necessary for survival for a space trip to Saturn.

(Interdependence, wants and needs)

Pose a hypothetical trip to Saturn. Discuss the materials and goods needed for the spacecraft in this journey. Have the students compile a complete list to be used by NASA for this particular mission. With the list, the students should transform it into a letter which informs the astronauts of the things they will need to have on their spacecraft. The students should be able to explain why each item is on the list, in the event that an astronaut does not wish to comply with the completed list.
LESSON PLAN

Thematic Unit Section: Ecosystem

Instructional Goal and/or Objectives: The student will develop their own ecosystem game book, based on terms and concepts featured in the unit.

Materials needed: paper with blank crossword puzzle
pencils
vocabulary words
markers, crayons
bindings for books
binder machine
overhead projector
overheads, blank and an overhead pen
graph paper
dictionary
LOTS OF IMAGINATION!!!

Subject matter, content, concept: This activity deals primarily with the subject of science but incorporates language arts into the activity. It also includes reading at a lower level. The students will use all of their knowledge gained from the unit to develop their own word puzzles, and games that will be published into a book. The students work should reflect the ideas of interdependence, roles, community and wants and needs in the words, activities and games that they choose to create.

Procedure/strategies:

1) Explain to the students that they will be creating a game book, based on the ideas and concepts that they have previously learned about the ecosystem.

2) The teacher should model each activity with the students so they know what to do when they are creating their own activities.

3) The students should be aware that they are to choose 2 of the 4 activities that will be described and the 2 activities chosen must be different activities. They should not do 2 crossword puzzles, or 2 word searches and so on.

4) Introduce the word search first. Show the students the blank search and explain to them that it will be their choice to create words and ideas to
fill in the blanks. Tell them that the vocabulary words that they have studied would be excellent sources for the puzzle.

5) Show them how to create words to go across and down, modeling this on an overhead projector. Have them come up with clues for the words and list them in the appropriate columns (across or down).

6) Show them how to label the words with numbers and how to blacken in the areas or blocks of space not used with words.

7) Do an example crossword puzzle with them on the overhead.

8) Ask for student questions about the activity, check for non-verbal cues that indicate confusion, frustration or misunderstandings.

9) Next, model the creation of a word search.

10) Ask the students to think of words that were used to describe, label or name something from the ecosystem. Have the students write those words down. Have them come up with a list of 10.

11) Show the students how to hide the words in the spaces on the grid. Have them fill in the extra spaces around the words with letters from the alphabet. Make sure the students realize that a word bank must be accompanied with the word search puzzle.

12) Ask for questions about the activity. Check for non-verbal cues once again.

13) Explain to the students that they will be able to draw a picture to be colored in by others who use the book. Also explain the importance of using pencil first so that if they make a mistake on their picture, they can simply erase the pencil markings.

14) Once the students have drawn their picture depicting something (item, thing or concept) from the ecosystem, have the students go over the final lines in black marker. Make sure they leave the picture blank and do not color it.

15) Give the students the option of labeling their drawing with numbers in the white spaces and allow them to create their own directions for the book user to follow. Example, color all of the spaces with the number 2 in it with the color red. Color all of the spaces with the number 4 in it with the color blue.

16) Lastly, model some tongue twisters with the students from books, etc. That you have found and have them try to create some of their own phrases.
that involve different items from the ecosystem to say that may be difficult.
Give them a hint that phrases with many words starting with the same letter
are often the best tongue twisters. Tell the students that they need to create
3-4 tongue twisters.

17) Give the students class time to work on these. Once all of the projects
are submitted, have the students swap with a neighbor and have their
neighbor edit their work. Have the students check for mis-spelled words,
incorrect punctuation, and help to foster ideas.

18) Return the work to the original owner and have the mistakes corrected.

19) Have each student submit their final product in for a grade. Make sure
each student submits a key for each item.

20) The teacher should sort all of the work and put it together in a booklet form.

21) The teacher should have the materials copied, making sure there are enough
copies for every one in the class and some extras and have the copies
bound into booklet form.

22) A title page should be created with the booklet.

23) The booklets should be distributed to the class and each class member should
draw and create their own cover.

24) The students can take home their product!

**Evaluation activities:** The students will be evaluated on their work according to
creativity and if their work reflected what they learned
in the unit. The work should reflect connections to ecology or the
ecosystem and if their work is turned in on time. The students
may want to work on their books themselves and see how many
of them can complete the activities in the book based on their
knowledge from the unit.
Word Search Bank of Words
EVALUATION:

During the course of this unit, I would use many different measurements to evaluate the students. At the beginning of the unit, I would first use formal and informal measurements. I would use the KWL chart to distinguish what the students as a whole knew about the ecosystem. I would make anecdotal records on each individual student during the first few activities to see where they were at and where I could structure my curriculum and unit to fit their needs and their level.

I would also make many informal measurements where I would observe the students in their discussion groups, activities and in the teacher directed-whole classroom discussion and instruction. I feel that this would tell me a great deal on how interested the students were with the subject matter and how activities could be incorporated to produce big results in student learning.

I would occasionally check their journals to see how they were doing in reference to the subject material and objectives of the unit as a whole and the objectives of the journal. Also during the course of the unit, I would keep a portfolio for each student and allow each student to choose their best work. This would be a great idea for parent/teacher conferences and a good way to show how the student has progressed from the beginning of the unit until the completion of the unit.

The science experiments would be a good way to evaluate the student learning that is taking place. Through the experiments, with the food web, the construction of a terrarium and the notes and observations that are recorded, the students are showing the teacher what they are thinking and what they are learning. These are valuable items that help in making evaluations of the students. The food chains and webs that the students create would also be a way to assess their comprehension of the concepts and ideas presented to them. Through literature, the webbing maps also will be good indicators of what is being learned and how the teacher might structure the unit in a different way to help the students learn the facts and concepts better.

At the completion of the unit, the finished products of the culminating activities will greatly aid the teacher in establishing what the student knew and learned through authentic assessment. It will allow the student to show the teacher what they did learn and how they can apply what they learned to other situations. By creating a conservation program, game book based on ecology, their own ecosystem and their own plays and case scenarios, they are required to use the lessons, concepts, and ideas presented in the unit to another situation. It allows for them to show the teacher what they learned and why it is important in real life experiences.
RESOURCES:

Resources Used In This Unit:


*Fiction, adventures with interaction with the ecosystem.


"Fiction, ecological mystery involving an alligator.


*Non-fiction, teacher resource book.


*Non-fiction, teacher resource book with ideas for lessons.


*Non-fiction, teacher resource book with ideas for lessons.


*Non-fiction, experiments and ideas for the classroom.


"Science textbook used in the Harlem School District.


"Fiction, environmental fable involving unique characters.

Resources for teachers:

"These resources could be used to gather more information and ideas when developing lesson plans and curriculum.


*Non-fiction, teacher resource book.

"Non-fiction, teacher resource book that incorporates science into literature. Features specific stories and activities to use with each story.

*Fiction, could be used to read-aloud to the class and generate discussion.

*Non-fiction, book that contains facts about the earth, informational material.

*Non-fiction, book that contains details about the earth, informational material.

*Non-fiction, teacher resource book about conservation.

*Non-fiction, teacher resource book contains lesson plans and ideas.

*Non-fiction, teacher resource book with conservation themes.

*Non-fiction, teacher resource book based on ecology concepts.

Resources for students:

*The following are books that would be of student interest for silent reading, leisure reading, book reports, informational material and explanations on the ecosystem. While some of the fiction material is not strictly related to the ecosystem, it does relate to various elements of nature which could easily be tied into the unit.

*Poetry, invoking sense from the desert ecosystem.

*Non-fiction, informational book that has large fold out pictures of cross sections of various habitats, items and places.
*Poetry, read in choral style or pairs of two dealing with insects from the environment.

*Non-fiction, account of a man made environment within a confined area.

*Fiction, takes student into a tundra.

*Fiction, takes the reader into the desert environment.

*Fiction, takes the reader into the prairie environment.

*Fiction, takes the reader into the tropical rainforest.

*Fiction, takes the reader into the woods environment.

*Fiction, an ecological mystery.

*Fiction, discusses the elements of the environment.

*Fiction, an ecological mystery.

*Non-fiction, resource with science experiments that could be done at home.

*Poetry, uses elements of nature in poems.

"Non-fiction; ideas in which kids can take action to save the environment.

*Non-fiction. informational book about grasslands and environment.

*Fiction. introduces nature through description, arrival at island

*Non-fiction, informational book that answers basic questions about grasslands.

*Non-fiction, informational book incorporating nature.

*Non-fiction, presents various types of ecosystems on the earth.

*Poetry. describes the prairie land ecosystem and the interdependence of the land and environment on the people who live there.

*Non-fiction, informational book about ecology.

*Non-fiction, informational book about prairies with terms defined

*Fiction. boy and man shipwrecked on an island; must rely on environment for survival.

*Fiction; action/adventure involving nature.

*Fiction, action/adventure tale.

"Fiction, follows the life of a fire fighter into the woodland ecosystem.

"Fiction, travel back in time to a different environment.

"Fiction, uses elements of the nature in the story.

"Fiction, nature elements in story.

"Fiction, travel through nature as a Native American.

Web Sites for Teachers and Students:

http://www.public.asu.edu/~toppinglcurry/kidlinks.html
*Site designed for kids that provide direct answers to questions

*Site providing information on water use in and around home setting.

http://medinfo.wustl.edu.yspIMSN/
"Site-mad scientific site, allows questions to be answered

http://www.envirolink.org/enviroed/envirok12.html
*Resource site for teachers to branch off to obtain information.

http://idptv.idsu.edu/educat/howmany/html
*Lesson plan on carrying capacity and limiting factors.

http://lessonsubjectsocialstudies/cecsst.60
*Lesson plan on community and location.

http://lessonsubjectsocialstudies/cecsst.14
*Lesson plan about state and involves report writing skills.

http://www.stark.k12.oh.us/unitx/rainforest/lessons/soc/lesson160.txt
*Lesson plan on depletion of rainforest.

http://www.ran.org/ran/kids_action/life.html
*Site about the rainforest that provided information for students to become
actively involved. Very nice visuals and fun for students to play around with.

http://www.edf.org/heaplessons.html
*Lesson plan on recycling.

gopher://eelink.emich.edu:70111activities/corneI114
*Wonderful site! Tons of lesson plans for grades 4-6 on recycling and conservation.

http://www.cyberlearn.com/lolan@cyberlearn.com
*Site about ecology, informational site.

http://www.csun.edu/~vceedoo9/socialstudies.html#socialstudies
*Site about ecology, informational site.

**Community Resource:**

Atwood Park, Outdoor and Recreation Center
815-874-2697
*This park is located in Rockford, Illinois and is an outdoor education experience for students. The students may visit Atwood for a day field trip or sign up for a three day experience of a week experience field trip. In any event, the school and class must call and be put on a waiting list for availability.*

Mrs. Lois Marinaro and Ms. Andrea Funk, fourth grade teachers at Maple Elementary School, Machesney Park, Illinois.