Title: The Great Kapok Tree
Time 60 – 70 Minutes
Subjects: Science, Social Studies, Language Arts

Objectives

- Listen to gain knowledge and share information and perform a task (relating to problems facing rain forests due to harmful human behavior).
- Compare the actions of the character in the beginning, middle, and end of story.
- Explain the interdependent relationships between humans and trees.

Standards

Language Arts Standard 8: Use listening and speaking strategies for different purposes.

- Benchmark # 1: Make contributions in class and group discussions.
- Benchmark # 2: Ask and respond to questions.
- Benchmark # 5: Use grade level appropriate vocabulary in speech (e.g., terms related to rain forest).

Language Arts Standard 6: Uses reading skills and strategies to understand and interpret a variety of literary texts.

- Benchmark #3: Knows setting, main characters, main events, sequence, and problems in stories.

Science Standard 14: Understands how human actions modify the physical environment.

- Benchmark #1: Knows how people affect the environment in negative (e.g., cutting trees, burning forests) and positive (e.g., becoming stewards of environment) ways.

Geography Standard 4: Understands the physical and human characteristics of place.

- Benchmark 2: Knows that places can be defined in terms of their predominant human and physical characteristics (e.g., rural, forest,or by types of land forms, vegetation, water bodies, climate).

Materials

- A copy of "The Great Kapok Tree" by Lynne Cherry
- Sticky note paper (1 ½ x 2 inch or 3 inch square)
- World map
- Writing and drawing utensils
- "Beginning, Middle, and End" worksheet provided below

Description

Trees are the main feature of forests. Forests have trees of many different species, sizes, and ages. Trees have four basic parts: roots, trunk, branches and leaves. The roots absorb water and nutrients from the

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298

soil, anchor the tree to the ground, and store food materials. The trunk holds the tree upright and transports nutrients and water from the roots to the leaves. The branches help carry materials from the trunk to the leaves. The leaves make its own food from the sun.

Trees and forests are located worldwide. Tropical rain forests are located near the equator in South America, Central America, Africa, Southeast Asia, and Australia and neighboring islands. Temperate rain forests are located along the Pacific coast of the US and Canada. New Zealand, Tasmania, Chile, Ireland. Scotland, and Norway are also homes to temperate rain forests.

Trees are wildlife habitats and useful resources for humans, Trees prevent soil erosion, produce oxygen and reduce carbon dioxide in the atmosphere by means of photosynthesis, and moderate ground temperature. Trees provide food such as nuts and fruit. Additionally, trees in forests supply people with raw materials for wood, paper, and cardboard products. Fuel for cooking and heating and fats, gums, and oils for manufacturing are also derived from trees. Trees also give humans scenic beauty, shade, and recreational areas for camping, hiking, hunting,and bird watching. However, forests are changing and trees are being destroyed due to damaging human activities and habits.

Despite their usefulness and importance, trees and forests throughout the world are being harmed by human behavior. Deforestation, the clearing of trees, happens in areas of rapid population growth for farms, cattle ranches, towns, and timber. In tropical rain forests trees are cut to clear land for growing crops and raising livestock. Destructive agricultural procedures not only destroy trees but also deplete soil in burned forests of nutrients and reduce biodiversity when only one crop is planted on farmland. In addition, deforestation causes a loss of topsoil and plant roots which can lead to harmful flooding in affected areas. Logging is another prime cause of deforestation around the world. Trees are cut for lumber, paper, and cardboard and used heavily in the packaging of manufactured goods. Deforestation has also caused many species of plants and animals to become endangered or extinct.

Industrial pollution also hurts trees and forests when automobiles, power plants, factories, agricultural and household chemicals release harmful substances into the environment. Acid rain can disrupt photosynthesis in plants. It weakens them causing them to be more susceptible to disease. Smog can damage plant proteins and reduce the production of seeds making plants less resistant to drought and diseases. Pesticides from farming and yards can enter waterways that flow to trees and forests. The chemicals in these pesticides can kill trees or impair their growth. Oil and toxic spills contaminate forest soils preventing plant or tree growth in polluted areas.

Many scientists believe that human activities are the prime cause of climate change and global warming. Fossil fuels burned by factories, power plants, and motor vehicles release carbon dioxide as they burn. Global warming is caused when greenhouse gases, such as carbon dioxide, accumulate in the atmosphere of the Earth trapping the heat of the sun. Trees help prevent global warming by absorbing and using carbon dioxide during photosynthesis. However, deforestation means significantly less trees are available to remove carbon dioxide from the air and release oxygen. Carbon makes up half of the weight of the tree. When trees are burned in rain forests to clear land, carbon is released and this also adds to the global warming problem.

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298

However, human activity can fortunately help trees and forests with mindful changing of behaviors. People can plant trees. Less trees will be destroyed when people reduce reuse, and recycle wood and paper products. Although rain forests may be far away from our homes the negative impact of their decline has far reaching effects. It's not too late to make a difference.

Kid's Speak: The kapok tree is found in tropical America, Africa, and the East Indies. Fruit bats pollinate the trees and spread the seeds. The kapok tree can grow to over 100 feet tall and is the tallest tree in Africa. Clusters of pink, white or yellow flowers that bloom at night grow on the kapok tree. The seed pods, oil from the seeds, leaves, and wood have many uses to humans.

Eco-fact: Tropical rain forests cover less than 6% of the Earth but contain more than half of the species of the world.

Procedure:
Before Activity:

- Ask students to tell you about the rain forest. Listen to responses and begin a word web.
- Show students a map of the world and point out areas where rain forests exist. A map is included in the front of the book "The Great Kapok Tree.
- Explain to students that you have a book to read to them that shows beautiful illustrations of the plants and animals that live together in the rain forest. There is also a story in this book that tells about some problems in the rain forest.
- Show students the cover and some pictures inside "The Great Kapok Tree." Tell students to look carefully at the kapok tree because they will soon be drawing one.
- Explain to students that we are going to create our own rain forest. Distribute a small sticky note paper (1 ½ x 2 inch or 3 inch square) to each student. Instruct the students to quickly sketch and color a kapok tree on the sticky note.
- When tree drawings have been completed, children will attach them to the map in areas where there are rain forests.
- Read aloud "The Great Kapok Tree." Stop reading periodically to discuss the dependence of the community of animals on this one tree and the problems facing the rain forest as trees are destroyed.

Conduct Activity:
Lead a Discussion:

- Tell students that in the story you noticed the rain forest was being harmed by people.
- Ask students why the man went into the rain forest at the beginning of the story. (to cut down the kapok tree)
- Ask students what the man did in the middle of the story.
  (fell asleep and in his dream heard stories about the importance of the tree from different animals and one child)

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298

- Finally ask students what the man did at the end of the story, why he did this, and what changed his original plan.
  (left the rain forest without cutting the tree)

Activity Directions:

- Explain to children that now we are going to do an activity to see how the rain forest can be destroyed and the problems caused by the destruction of the rain forest.
- Provide scenarios of the gradual destruction of the rainforest. Examples from the story are provided below. With each scenario have a student remove one or more sticky notes from the map to symbolize the loss of trees and destruction of the rain forest. (You may wish to vary the amount of sticky notes removed to align with the severity of the problem in the scenario.)
- To end the activity on a positive and hopeful note, explain that some adults and children have joined together to save the rain forests. They have formed groups and raised money to buy land that no one can then destroy. Tell students that we can add back some trees to show that the rain forest is starting to be helped.
- Explain to students that people who protect land like those who are helping to save the rain forests are called *stewards* of the land.

Scenarios of the Gradual Destruction of the Rain Forest:

- Man cuts down one tree then another tree
- Bees pollinate trees
- Roots of tree die and soil will wash away when in heavy rains
- People set fire or burn the tree to clear land for farms and buildings
- Many animals are left homeless
- Many animals depend on tree to find food
- Trees provide oxygen for animals and people to breath
- No trees will be left for children in the future
- Beauty of rain forest will be destroyed

After Conducting Activity:

- Ask students to provide additional ideas for the rain forest word web.
- Give directions for completion by students of the "Beginning, Middle, and End" worksheet provided below.(The activity is on 2 worksheets and can be printed double sided to save paper.) Students will complete sentences telling what the man did at the beginning, middle, and end of the story. Additionally, students will draw and write captions for three problems facing the rain forest.

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298

Adaptations:

- The “Beginning, Middle, and End” worksheet can be done individually, in pairs, or whole class.

153 Washington Street | Fourth Floor | Walpole | MA | 02032 | 1.888.668.2298