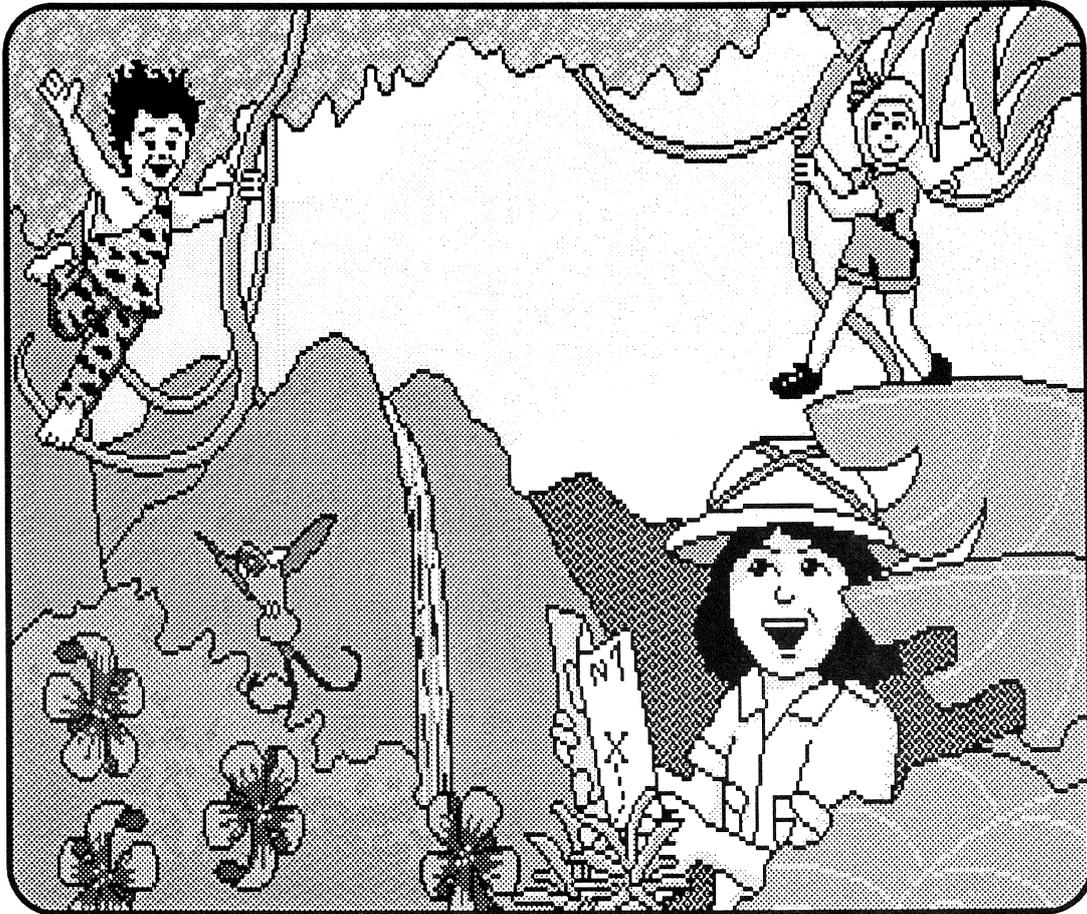
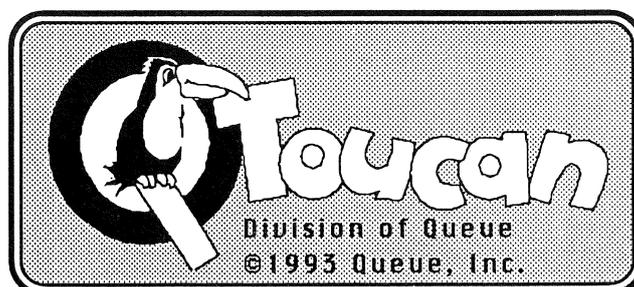


Big Book Maker: The Rain Forest™

Apple II 128K



User's Manual



Big Book Maker:

The Rain Forest™

Credits

Concept & Design.....Toucan Software

Director of Product Development.....Joel Fried

Art Director.....Susan Swanson

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Big Book Maker:

The Rain Forest™

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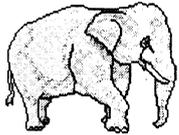
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The Rain Forest Identification Chart

Mammals



ant eater



Asian elephant



beaver



capybara



coatis



Franquet's bat



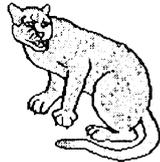
fruit bat



giant otter



giant tree squirrel



golden cat



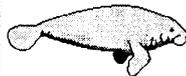
gibbon



jaguar



kinkajou



manatee



mouse opossum



ocelot



okapi



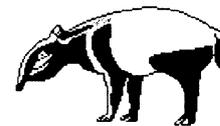
opossum



orangutan



river dolphin



tapir



three-toed sloth

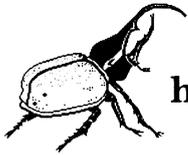
The Rain Forest Identification Chart

Birds

 <p>blue bird of paradise</p>	 <p>harpy eagle</p>	 <p>quetzal</p>
 <p>cassowary</p>	 <p>hawk</p>	 <p>rainbow lorikeet</p>
 <p>cock-of-the-rock</p>	 <p>hoatzin</p>	 <p>scarlet macaw</p>
 <p>crowned pigeon</p>	 <p>hummingbird</p>	 <p>toucan</p>
 <p>curassow</p>	 <p>junglefowl</p>	 <p>Wilson bird of paradise</p>
 <p>great bird of paradise</p>	 <p>parrot</p>	 <p>woodpecker</p>
 <p>great hornbill</p>		

The Rain Forest Identification Chart

Bugs/Fish



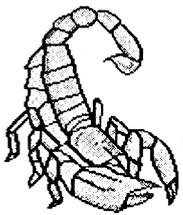
hercules beetle



praying mantis



blue morpho



scorpion



termite



tarantula



weevil



giant water beetle



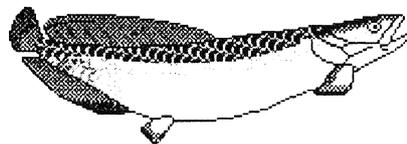
leaf-cutting ant



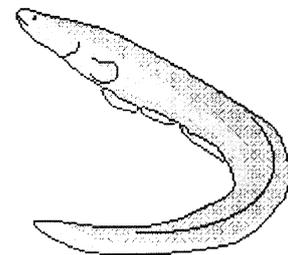
katydid



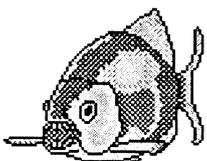
catfish



arapaima



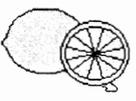
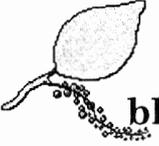
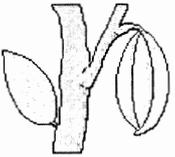
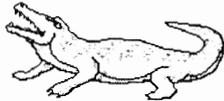
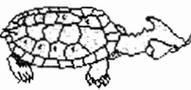
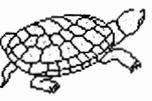
electric eel



piranha

The Rain Forest Identification Chart

People/Products/Reptiles

 <p>New Guinea tribesman</p>  <p>New Guinea tribesman</p>  <p>pygmy</p>	 <p>rubber tapper</p>  <p>South American cattle ranchers</p>  <p>South American Indian</p>  <p>South American Indian</p>	 <p>South American Indian</p>  <p>South American Indian</p>  <p>logger</p>
 <p>capsicum peppers</p>  <p>limes</p>	 <p>vanilla</p>  <p>coffee beans</p>	 <p>black pepper</p>  <p>cacao</p>
 <p>anaconda</p>  <p>caiman</p>  <p>chameleon</p>	 <p>matamata</p>  <p>arrow-poison frog</p>  <p>snapping turtle</p>	 <p>soft-shell turtle</p>  <p>Wallace's flying frog</p>

Big Book Maker: The Rain Forest™

Introduction

This easy-to-use publishing program, with its word processor and variety of graphics, will stimulate children's imaginations as they combine graphics with text to create Big Books, storybooks, activity sheets, bulletin board displays, reports, newsletters, puppets, and so much more! Children can write and illustrate stories about exploring the Rain Forests for new cures, or they can write thought-provoking illustrated articles on how and why the Rain Forests should be saved. Older students can write illustrated reports about the various animals, plants, and insects that inhabit the Rain Forest. The program includes bold graphic backgrounds designed to be "written upon". Take a look at the exciting features in this program:

- Colorful backgrounds and numerous clip art categories to create an endless variety of unique designs.
- Text processing with a variety of text styles and sizes.
- Four unique printout sizes ranging from Mini Book to Big Big Book.

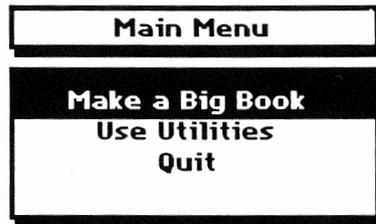
This documentation is broken down into three sections: the **Reference Guide**, the **Creative Guide**, and the **Art at-a-Glance Guide**.

REFERENCE GUIDE

The Reference Guide provides step-by-step instructions for designing a page. If you are using the 3.5" version, the entire program is included on one disk. If you are using the 5.25" version, you will be flipping the disks periodically during the use of the program. A prompt will appear telling you when you need to switch disks.

THE MAIN MENU

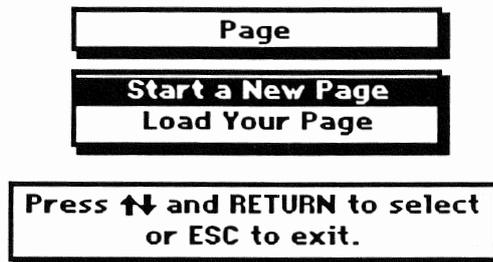
When you boot up the program, the **MAIN MENU** appears. There are three options listed:



To select an option from this or any other menu, simply use the **ARROW KEYS** or **MOUSE** to highlight the option you want, and press **RETURN** or click the **MOUSE**.

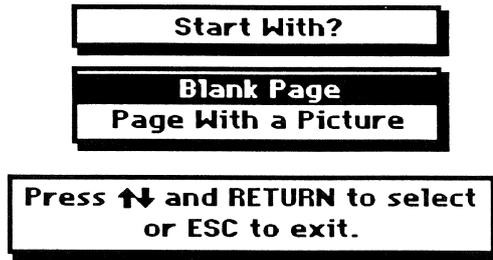
MAKE A BIG BOOK

A **Big Book** page is two screens long. It can be designed with clip art, frames and/or text. To begin designing pages of a Big Book, select **Make a Big Book** from the **MAIN MENU**. The next screen presents two choices:



Select **Start a New Page** to create a new page.

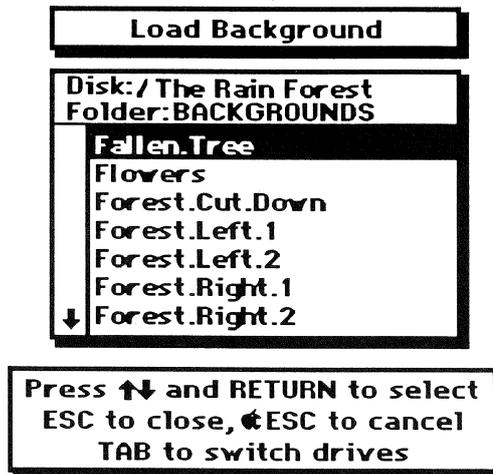
A **Start With?** screen appears with two choices:



You can choose to start a design with a blank page or one of the colorful backgrounds.

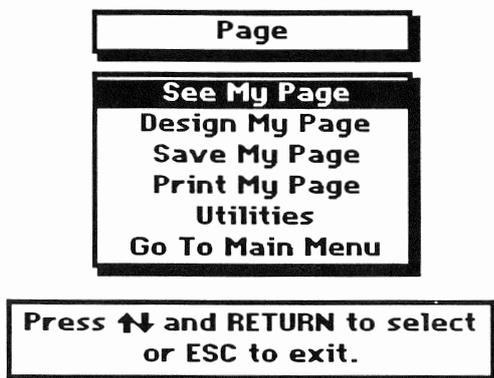
Select **Page with a Picture** (If using the 5.25" version, insert the disk side with backgrounds and press RETURN). A list of the background graphics appears alphabetically. Select a background graphic. The background graphic appears on the screen along with the **Page menu**.

Select **Load a Page** to work on a page that you have already saved onto a work disk. Insert the work disk on which your page is saved and press RETURN. The **Load Page Menu** appears. Select the page that you want to work on. The page appears along with the design menu.



The PAGE MENU:

After choosing **Blank Page** or **Page With a Picture**, the **Page Menu** appears. This menu lists the following options:



These are the basic options for creating and editing your Big Book.

• **See My Page**

Selecting **See My Page** allows you to scroll up and down the page. Select **See My Page** from the **Page Menu**. Use the DOWN ARROW KEY to scroll through the page. When you reach the bottom of the page, use the UP ARROW KEY to scroll back to the top. Press ESC to go back to the **Page Menu**.

• **Design My Page**

You can design your page with clip art, text, or a frame. Select **Design My Page** from the **Page Menu**.

The **DESIGN MENU** appears with four choices:



...CLIP ART

Select **Clip Art** to add clip art graphics to your page. (If you are using the 5.25" version, you will be asked to insert the **Clip Art** disk in any drive and press Return.) A list of clip art categories appears alphabetically.



Each category includes several pieces of art. (Refer to the **Art-at-a-Glance** section to see the clip art in each category.) Select a clip art category. An instruction box appears, explaining the key commands to use while working with clip art. Press any key to remove the instruction box. (Press **?** to see the instruction box at any time while designing your page.) The first piece of clip art from the category you selected appears. Press the SPACE BAR to view the different pieces of clip art in this category. Press the B KEY to go backwards through the clip art category.

Creative Hint: Use the clip art "cutouts" in the Props.2 category to create slashes on rubber trees, ax chops in lumber trees. Use the lines to create your own boxes or frames.

To Move Clip Art

Use the ARROW or MOUSE to move the clip art anywhere on the screen.

Keyboard Users: Press a number from 1 to 9 to change the distance a piece of clip art moves when you use the ARROW KEYS. To move a piece of clip art a small distance (slowly), press 1 and use the arrow keys. To move a piece of clip art a larger distance (quickly), press the 9 key and then use the arrow keys.

To Flip Clip Art

You can flip any piece of clip art horizontally or vertically before you stamp it.

To flip a piece of clip art horizontally, press the H KEY.

To flip a piece of clip art vertically, press the V KEY.

Note: *Delete* will only undo the clip art stamped while you are working within that category. Once you leave that clip art category, by pressing **ESC**, you must use the **Eraser** to “white out” the unwanted clip art. The **Eraser** will also erase that section of the background as well.

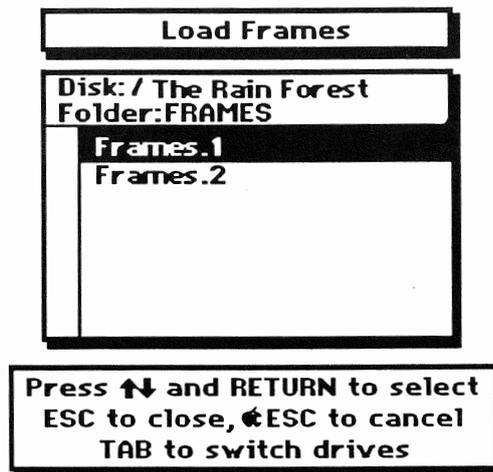
Press **ESC** to return to the **Clip Art Menu**. Select another clip art category, or press **ESC** to go back to the **Design Menu**.

...FRAME

Select **Frame** to put a frame around your page.

*(This option is ideal for adding a decorative border around a narrative page. If you're using the 5.25" version, insert the **Frames** disk in any drive and press **RETURN**.)*

The **Frame Menu** appears.



Select a **Frame** category and the first frame in that category appears. Use the **SPACE BAR** to view the other frames in the category and press **RETURN** to select one. A message appears asking, “Do you want to use this frame?” Press the **Y KEY** to place it on your page. The frame appears around your page. A message will ask you if you want to use the frame. Press the **Y KEY** for yes and the **N KEY** for no.

...WRITE!

The **Write!** function allows you to add text to your page. You can combine different timesteps on your page. Select **Write!** from the **Page Menu**. (If you are using the 5.25" version the program will ask you to insert the *Typesyles* disk (in any drive and press RETURN.) The **Load Typestyle Menu** appears.

There are six fonts from which to choose:



Select a font and an instruction box appears explaining the key commands needed to use with the write function. Press any key to remove the instruction box. (*Note: Press ⌘-? to call it up again.*)

- ⌘-O • **Outline:** Pressing these keys before you begin to type will outline the letters that you type.
- ⌘-B • **Bold:** Pressing these keys before you begin to type will bold the letters that you type.
- ⌘-N • **Normal:** Pressing these keys before you begin to type will return the letters back to the Normal style.
- ⌘-C • **Center:** Pressing these keys will center any line of text that you have just typed. You can only center one line of text at a time.

A cursor appears in the upper left hand corner of the screen. Use the ARROW KEYS or MOUSE to move the cursor to anywhere on your page that you want to start typing. Use Delete to undo unwanted text.

Note: This simple text processor does not have word processing capabilities-insert, word wrap or edit functions. The letters are actually just like clip art. Using the Mouse or Arrow Keys, you can move the cursor all around the screen to write shaped text, swerved text or wrap text around a picture. Once you press ESC, you can no longer delete the text you have previously written. Use the eraser to "white out" any unwanted text.

When you are finished typing, or you want to choose a different timestep, press ESC to return to the **Load Typestyles Menu**. Press ESC again to return to the **Design Menu**.

...ERASE

The **Erase** function allows you to erase graphics and text from your page. The eraser is an adjustable solid block of white which, when stamped, erases anything underneath it.

Select **Erase** from the **Design Menu**. An instruction box appears explaining the key commands needed to use with the eraser. Press any key to remove the instruction box and an eraser appears. Press the SPACE BAR to view the different eraser sizes, stopping at the size you want to use. Use the ARROW KEYS to move the eraser over the part of your page that you want to erase, and press RETURN. The text or graphics underneath the eraser disappear. Press ESC to go back to the **Design Menu**.

Now that you are familiar with the four functions of designing a page, press ESC again to go back to the **Page Menu**.

•Save My Page

You can save your **BigBook** pages onto a formatted work disk (*To format a work disk, see the **Utilities** section*). Select **Save My Page** from the **Page Menu**. A message appears telling you to insert your work disk. Insert your work disk in any drive and press RETURN. The **Save Page** screen appears. At the bottom of the screen is **Name:**, followed by a flashing cursor. Type in a name for your page and press RETURN. The page is saved onto your work disk, and the **Page Menu** reappears.

Save Page	
Disk: /DATA	
No Page files.	
781.5k free	
Name:	

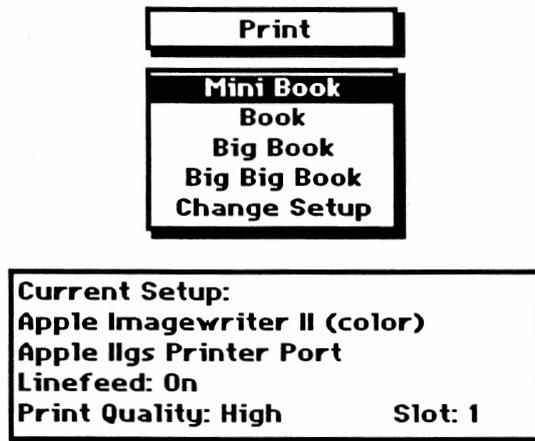
Press ↑↓ and RETURN to select
ESC to close, ⌘ESC to cancel
TAB to switch drives

Note: You may use periods instead of spaces to separate words in your page name.

HELPFUL HINT! It's a good idea to save your design periodically. This way you can reload your page if you make a mistake.

•Print My Page

Select **Print My Page** from the **Page Menu** and the **Print Menu** appear offering five options:

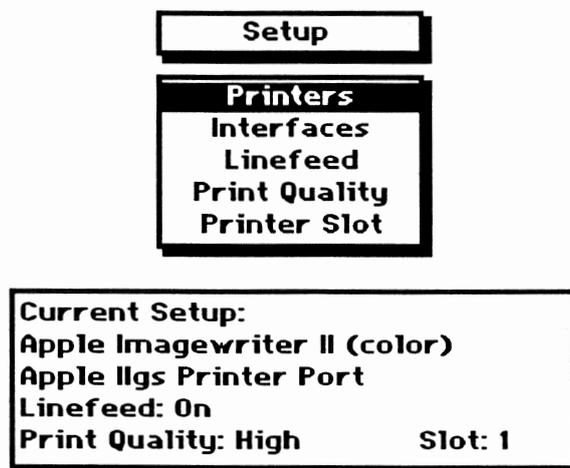


The first four options relate to the desired size of the printout.

...Change Setup

To print out a page, you must give the program specific information about the equipment you are using. This information is displayed in the **Current Setup** box at the bottom of the screen. Select **Change Setup** to change the printer settings displayed in the **Current Setup** box at the bottom of the screen. (*Current Setup information includes printer, interface, linefeed, print quality and printer slot.*)

The **Setup Menu** appears with the following choices:



Warning: *If you don't have the correct setup and you try to print, the program will freeze. This means rebooting the program and losing your design, if it was not saved. When you change the setup, you must have the program disk in any drive, and it must not be write-protected.*

Choose each item you need to change. After you change an item press ESC, and the **Current Setup** box displays the changes you made. (See your printer manual for more information on your printer setup.)

Common Setups

<u>Computer</u>	<u>Interface</u>	<u>Printer</u>
• Apple IIc	Apple IIc Serial Port	Apple ImageWriter II
• Apple IIe	Apple Super Serial	Apple ImageWriter II
• Apple IIGS	Apple IIGS Printer Port	Apple ImageWriter II
• Macintosh LC (With Apple IIe Card)	Apple Super Serial	Laser Printer

Print Options

Now that your **Current Setup** is correct, you're ready to print. Select a print size for your page. If you chose **Big Book** or **Big Big Book**, a screen appears offering two choices:

- All Panels
- Some Panels

A page is divided into panels. The **Big Book** printout size consists of two panels, and the **Big Big Book** size has three panels. This menu allows you to either print out all of the panels or select which panels you wish to print out. Select **All panels** to print out your entire page. If you select **Some Panels**, the **Select Panels** screen appears allowing you to choose the section of the page that you want to print out.

Use the right and left arrow keys to move the **Start Arrow** to the panel where you want the printout to begin.

Press ⌂ -RIGHT ARROW KEY and ⌂ -LEFT ARROW KEY to move the **End Arrow** to the panel that you want the printout to end. Then press RETURN.

Note: If you are printing out a **Big Book** or a **Big Big Book**, make sure to adjust your printer so you won't have to do any trimming. Notice the red mark on the right side of the bailer bar. Simply line up the perforations of the computer paper with that red mark and your printouts (panels) will line up perfectly!

After you choose a printout size, a screen appears with two options:

- **Normal**
- **Outline**

The **Outline** option removes most of the patterns from the graphic and prints it out like a coloring book.

*(Note: If you use an outline typestyle on your design and choose the **Outline** print option, some of your letters could vanish. We suggest that you select the **Normal** printout option when using outlined text.)*

Normal will bring up a **Print Color Menu** that offers two choices:

- **Black & White**
- **Color** (*You'll need a multi-color ribbon*)

Choose the desired option and press **Return**. Make sure your **Printer Setup** is correct, and that the paper is placed correctly in your printer. If your page prints on more than one piece of paper, the printer will automatically advance to the next sheet. Press RETURN to begin printing. A scale appears marking the progress of the printing.

• **Utilities:**

Select **Utilities** from the **Page Menu** to:

...Format a Disk

Select **Format a Disk**. The **Format A Disk Menu** appears with a list of the slot and drive numbers. Insert an unformatted disk in the drive and choose the slot and drive number. Next, a file box appears asking you to give your work disk a volume name. Type in a name and the program formats the disk.

...Make a Folder

Big Book page files can be saved in folders. Select **Make a Folder** and the program asks you to type in the name of your folder. You can make several folders on your work disk. Each folder can hold several files. Putting files into categorized folders keeps your disk more organized, and it is easier for you to load and delete files. To open a folder, you must highlight its name and then press RETURN.

...Delete a File

Select **Delete a File** if you want to delete an unwanted file from your work disk. Highlight the name of the file to be deleted, then press RETURN.

Warning! Once you delete a file, it's gone forever!

Go To Main Menu:

Select **Go To Main Menu** to quickly get back to the **Main Menu**. If you have not saved your design you are asked if you want to save it.

USE UTILITIES

This works the same as the **Utilities** option, previously discussed under the **Page Menu** section of this guide.

QUIT

This allows you to exit the program.

Support

Before calling, we suggest you read through the documentation. Should you still have a problem, or if you have technical questions, call Queue at (800) 232-2224. Defective disks will be replaced free of charge up to 180 days after invoice date. Disks damaged after 180 days may be replaced at \$10.00 for the first disk and \$5.00 for each additional disk in a program. Mail the damaged disk(s) and appropriate payment to Queue at 338 Commerce Drive, Fairfield, CT 06432, for a prompt replacement.

Backup disks are available at \$10.00 for the first disk and \$5.00 for each additional disk in a program. Customers are limited to one backup for each disk purchased. **Backup disks are for archival purposes only.**

Creative Guide

This creative guide offers ideas on how you can use “Big Book Maker” to enrich your curriculum and to make learning about the environment fun. Young authors will love writing imaginative stories or creating posters about the issues concerning the rain forest. Big Books are wonderful for fostering language development and group discussion. Critical thinking is involved as children begin to see relationships between the pictures and anticipate plot development. “Big Book Maker” is the perfect publishing tool. Use it to create not only Big Books, but bulletin board displays, activity sheets, beautifully illustrated storybooks, reports, and more!

Big Book Maker and Whole Language

Discuss with the class the literary experiences they have shared. What information about the rain forests have they read? Are there any fictional stories that take place in a rain forest? There are three phases in a literary approach to reading: The oral presentation of stories to children, the modeling of stories, and the utilization of the stories as the content of the reading program.

Story-telling is a wonderful way to express ideas, build themes, and use descriptive language. Writing the stories is the next step. The connection between spoken and written language is vital, even if children spell words incorrectly or have sentences that aren't perfectly formed. Well-known stories make it easy and fun for young children to make the connection. The pictures provide the children with story themes, and the simple-to-use text processor lets them write the story in a variety of typestyles. Choose the writing theme using one of the backgrounds, or let the students write their own.

The printouts are perfect for enrichment materials. Have students work together to create a Big Book using the program and make stick puppets that allow students to act out the stories! Create posters without words, combining pretend characters with real-life children, for interpretation. Discuss real life experiences, character development, plot, and eventually end up with a finished story.

Rain Forests

(For Young Explorers)

Rain forests are areas with thick vegetation found in the hot and wet areas of the world. These are places in South America, Africa, tropical islands, and others near the equator (middle of the earth). Rain forests are the homes for many plants and animals. The plants and trees are cut down to make lumber and medicine, and to make room to grow food.

The trees have wide leaves that grow all year. That's because the temperature stays warm, even during the winter. The rain forest trees absorb rain and minerals with leaves that form a canopy at the top and with roots at the bottom. The trees need a lot of rain. Most of the rain is caught by the leaves at the top.

There is very little light inside of the rain forests. Most of the light is shaded by the tree leaves. Many small plants are found where the light touches the ground. The plants are flowers, vines, and small trees (like ferns).

Trees use sunlight, water, and air, to make oxygen (the air that we breathe). When the trees are removed, there is less oxygen. Without the trees, the soil can wash away in the rain and muddy the rivers.

Insects and animals live in the rain forests. Many kinds of insects and animals have evolved because food is plentiful. There are many harmful insects. Scorpions, spiders, bees, and wasps are found all over the forest. Many have poisonous bites or stings that can cause rashes, sickness, or even death. The poisons are used to make poison darts, by tribal people, to hunt animals. Big cats, eagles, and snakes are the biggest hunters in the forest.

People live in the rain forest in tribes. They know what food is good to eat. They use plants and animals for food, to make houses, clothes, medicine, and tools. They know how to get these things without destroying the forest. Many other people are destroying the rain forests, though.

Much of the rain forests are being destroyed when the trees are taken from them too quickly. This is because there is a high demand for its resources that returns a large profit. If this continues, there will be soon be no more rain forests. Thousands of types of plants and animals will disappear forever.

Organizations and governments are working together to save the rain forests. But more needs to be done. The governments and the companies who take the resources from the rain forests need to agree on a way of using the rain forest without causing permanent damage.

We still know very little about rain forests. Scientists say that there are many foods, medicines, animals, and plants that have not been discovered. The rain forests are beautiful and natural resources that, with responsible use, can help mankind in many ways.

Rain Forests

Rain forests are found mostly in the tropics because of the high rate of rainfall there. They are important for their valuable timber resources, their role in the environment, and their uses in medicine. In the tropics they are cleared to make way for commercial crops such as rubber, tea, coffee, bananas, and sugarcane. They also include some of the last remaining areas of the Earth that have not been fully explored. The largest areas of tropical rain forests are located in the Amazon basin of South America.

Rain forests cover less than six percent of the Earth's total land surface, but they are the home for up to three-fourths of all known kinds of plants and animals, and to some that are still unknown. Almost all rain forests are located between two imaginary lines north and south of the equator, called the Tropic of Cancer and the Tropic of Capricorn.

Tropical rain forests are characterized by thick growths of broadleaf evergreen trees, an abundance of vines and animal life. The tropics never become really cold, maintaining a mean temperature of 75 degrees year-round. No notable fluctuations in temperature occur with the changing of seasons.

In the tropics, the weather conditions only go from wet to wetter during the rainy season. The rain forest trees do not need to flower in spring or shed their leaves in autumn. Instead, each type of tree has its own growth cycle. The varying tree cycles guarantee a regular supply of flowers, fruits, nuts, and seeds for rain forest creatures. The trees help to keep the air around us clean. They use sunlight, water, and air to make food. In the food-making process, they make use of the part of the air that we breathe out (carbon dioxide) and produce the part that we breathe in (oxygen). When rain forests are burnt down to clear land, the trees stop using up carbon dioxide. Instead, the forest fires produce carbon dioxide which pollutes the atmosphere.

Temperate rain forests, growing in regions further to the north and having wet, maritime (near the sea) climates, are smaller than those of the tropics, but include some of the most valuable timber in the world.

Rain forests are fragile ecosystems (the way in which living things relate to each other within an area). Their soils can quickly lose the ability to support most forms of plants once the trees are removed, and some soils even turn into hard clay. The effect of forest removal on local climates (weather conditions over an area) is also often great, although the role of rain forests in world climatic changes is not yet totally understood.

The layer of fertile soil is thin, and therefore it is inefficient for forest life to allow the nutrients (food) to stay in the soil. Over the years, a system has been developed to produce an almost leak-proof system for returning nutrients to the ecosystem. When the main source of nutrients, rainfall, hits the forest canopy, it is filtered by algae, bacteria, and lichens (nonflowering plants usually found on trees or on the ground). Tree roots form a network that is extra thick and efficient at absorbing nutrients washed into the soil, whether from rainfall or rotting vegetation. Fungi (one kind is the mushroom) grow on or near roots of plants where they help them to absorb minerals. In return, the fungi obtain energy from their plant hosts in the form of carbon. The trees and fungi are dependent on each other for survival.

Forest ecosystems are extra sensitive to the amount of moisture in each season. The amount of rain during each season is the main difference between rain forests and seasonal forests, and between evergreen (having trees that don't shed leaves seasonally) and only partly evergreen (having some trees that shed leaves) forests. Rain forests must receive 200mm. of rain in 10 of the 12 months.

Most rain forest life is found about 120 feet above the ground, in the canopy. The branches of the giant trees tangle together to form a thick, green covering. Wiry stems hang like lifeless ropes around the giant tree trunks. These climbers and vines produce a mass of leaves and flowers in the canopy layer. Moss, lichen, and hundreds of flowering plants cover the canopy branches. These plants do not harm the host tree. Their roots dangle in the air or grow in a thin layer of compost (decaying plant and animal matter) which forms in the dips and cracks of the many branches. Underneath the canopy, smaller trees and plants (such as an exotic layer of herbs and ferns) compete for space where light can shine through. Little grows on the forest floor, but leaves and other debris rain down from the canopy. Plants, insects, and animals convert this waste to food.

Food is abundant all year round because different plants grow food at different times of the year in the unchanging temperature. Because of the abundance of food supplies, many organisms don't have to constantly roam the forest looking for their next meal. They generally confine their activities to a limited space, often just a few square yards of forest habitat. Where food is plentiful, there is more potential for the evolution of new species. New niches (places in the food chain) are formed and the ecological system becomes more complex.

The bulk of animal life in the rain forest is made up of insects. Ants, termites, butterflies, and spiders are the most numerous. Most of the insects are found in the sunlit canopy of the trees. The amount of insect species that have not been discovered may well outnumber the amount of insect species that have been identified. Many of the insects use camouflage as a means of protection. Some will try to look like a dangerous animal, like a snake, others will disguise themselves as a less tasty or poisonous cousin.

Big cats and eagles are the largest hunters in the forest, but there are hundreds of others. In the canopy, long, slender tree-snakes catch lizards, frogs, and small birds. On the forest floor, huge, heavy constrictors wait for larger prey, such as wild boar or deer that feed off of the plants along the forest floor. Scorpions, spiders, bees, and wasps are found all over the forest. Many have poisonous bites or stings that can cause rashes, sickness, or even death.

Tribes found in the rain forests live in structured communities with their own cultures and customs. They have a very deep respect and understanding of the way the rain forests work. They know which plants and animals are useful and how to take from the forest without causing long-term or permanent damage. The many different plants and animals found in the forest provide the raw materials for meals, houses, clothes, medicines, tools, and cosmetics.

After World War II, the tropical forests started to be exploited in a manner that they cannot sustain--excessive commercial timber, slash and burn farming, and large-scale ranchers replacing forest with plant pastures to raise beef for the fast-food trade in the U.S. Half of the world's rain forests have been cut down in the last fifty years and the clearance continues. In 1989 rain forests were disappearing at a rate of 60 acres every minute. Latin America and Asia have lost almost two-fifths of its original forests, and Africa over half. Tropical scientists believe that, at the present rate of destruction, there will be no rain forests left by the year 2050. Thousands of different plants, animals, and insects will also disappear forever.

An estimated 500 million people have moved into the world's rain forests and more are sure to follow. They clear the forest to farm small areas of land for food and money. They are called slash-and-burn farmers because they build simple homesteads in the forest and then burn the surrounding vegetation to enrich the soil. It can take less than ten years for rain forest land to become as barren and lifeless as a desert. This is because most rain forests are found on poor clay soils. Only a thin layer of nutritious topsoil covers the forest floor and this is anchored down by giant tree trunks. The wastelands left behind by farmers are baked by the sun and drenched by the rains. The rains, which would have watered thirsty trees and plants, fall straight to the ground and run downhill, carrying tons of soil with them. Valleys are flooded and freshwater rivers become clogged-up with mud. As rain forest disappears, so do different species living only in that area. With their loss, we lose the resources to create new medicines (the cure for cancer?) and new products.

Steps are being taken to protect the disappearing rain forests. Representatives from Japan, the United States, Britain, and other major importers of tropical hardwoods have met with major tropical wood producers to discuss ways of allowing the forests to regenerate after logging. In India, trees have been replanted in the form of seedlings. In Brazil, they have established plantations to supply 60 percent of Brazil's needs at virtually no cost to the natural forests. Brazil hopes to meet all of its industrial demands from plantations in the near future. Water supplies are an important source to both civilizations and rain forests. Sections of rain forests that are important sources of water supplies are starting to be protected by governments, protecting the animal species and vegetation as well.

The future of the rain forests is in the hands of today's students. The more students understand the importance of the rain forest as it applies to their lives, the more they will want to work for the preservation of the rain forest.

We still know very little about the rain forests. Scientists believe there are thousands of foods, medicines, animal and plant species, and raw materials waiting to be discovered. The rain forests are beautiful natural resources that, with responsible use, can help mankind in many ways.

Sources:

The Primary Source by Norman Myers 1984
 Tropical Rain Forest: Ecology and Management by S. L. Sutton 1984
 Tropical Rain Forests of the Far East by T. C. Whitmore 1984

For more information, refer to the following sources:**National Geographic magazine articles**

"In the Gardens of Olympus," July 1955
 "The High World of the Rain Forest," June 1958
 "Malaysia's Giant Flowers and Insect-trapping Plants," May 1964
 "The Olympics: Northwest majesty," February 1974
 "Tropical Rain Forests," January 1983
 "Cock-of-the-Rock: Jungle Dandy," December 1983
 "Return of Java's Wildlife," June 1985
 "The Usumacinta River: Troubles on a Wild Frontier," October 1985
 "Brazil: Moment of Promise and Pain," March 1987
 "Madagascar: A World Apart," February 1987
 "Rondonia: Brazil's Imperiled Rain Forest," December 1988
 "Madagascar's Lemurs: On the Edge of Survival," August 1988
 "La Ruta Maya," October 1989
 "The Efe: Archers of the Rain Forest," November 1989
 "Missouri's Garden of Consequence," August 1990
 "Will We Save Our Own?" (old-growth forests), September 1990
 "A Raft Atop the Rain Forest," October 1990
 "Zaire River: Lifeline for a Nation," November 1991
 "Rain Forest Canopy: The High Frontier," December 1991
 "Amazonia: World Resource at Risk," map supplement to August 1992

National Geographic Society books

Exploring the Amazon, 1970, out-of-print
 Living on the Earth, 1988 \$29.95
 The Emerald Realm, 1990, \$9.95
 Hidden Worlds of Wildlife, 1990, \$9.95

National Geographic Society videos

"Rain Forest," 1983, \$19.95
 "Tropical Kingdom of Belize," 1986, \$19.95
 "Baka, People of the Forest," 1989, \$19.95
 "Amazon, Land of the Flooded Forest," 1990, \$19.95

These organizations are involved in efforts to protect rain forests:

Rain Forest Action Network 301 Broadway, Suite A San Francisco, CA 94133	The Nature Conservancy 1815 North Lynn Street Arlington, VA 22209	Bat Conservation International P.O. Box 162603 Austin, Texas 78746
Conservation International 1015 18th Street, N.W. Suite 1002 Washington, D.C. 20036	World Resources Institute 1735 New York Avenue, N.W. Washington, D.C. 20006	Children's Beach House 1800 Bay Ave. Lewes, Delaware 19958
Renew America 1400 Sixteenth St. N. W. Suite 710 Washington, D.C. 20036	World-Wide Fund for Nature 1250 24th St. N.W. Washington, D.C. 20037	Rain Forest Alliance 270 Lafayette St., Suite 512 New York, NY 10012

Activities

The Classroom Big Book

Young students love reading and sharing Big Books. Many teachers integrate Big Books into their Whole Language program. In this activity, your students will write, illustrate, and publish their own Big Books. If you like, you can even turn this into a language experience exercise in which students discuss, write about, and share their real-life experiences. Creating and sharing Big Books with you and with other students is a perfect way for students to develop an awareness of the relationships between speaking, reading, and writing. The final product provides a terrific way to showcase your students' work on Parent-Teacher Night. The smaller sizes offer students the opportunity to reproduce smaller versions to bring home to their parents.

Getting Started. Begin this activity by sharing a Big Book with the class. You might want to create one Big Book page with simple captions and dialogue, print out the page in the Big Book size and share it with your students. Then, divide the class into pairs and have each pair create one page of a Big Book about a rain forest animal or an adventure into a rain forest.

Creating and Printing the Graphics and text. Depending on the age of your students and their level of comfort using computers, you may want to make them responsible for designing and creating the graphics screens only.

Writing the story that goes with the graphic is a valuable learning experience and a lot of fun. But if you're working with very young students or with students who are not familiar with the computer, you should type as they dictate the story. This is also a good way to involve your students in a discussion about language--describing the picture, choosing the best words to tell the story and even discussing how to spell certain words. Print out in the Big Book size. The scene will print in six panels that you can tape together.

NOTE: If you're working with older students, they might enjoy creating Big Books for younger students to read as a cooperative learning project.

The Children's Book Club

- Each time a student prints out a design in the Book size, bind it into a book of printouts. This book can be separated into sections for each type of project that was assigned. At the end of each week, month, or marking period the book can be shown to the class. A new book can be made every month and each class which uses the program will begin to form a section of literature.
- Allow students from the class to view these books on special days.
- If different classes are using Big Book Maker, create a book club that allows teachers and students of the different classes to "take out" the books created.

Puppets

Make stick or lunch bag puppets easily.

- Simply print out pictures of different animals and people in the Book size. Mount them onto oaktag and cut them out.
- Have the students color and paste them to popsicle sticks or paper bags.
- The students can use the puppets to act out different view points.
- For added theatrics, print out backgrounds in the Book size and use them as backdrops in a box diorama or for a puppet theater.

Send a Letter (Primary and Upper Grades)

- Assign students to choose a clip art picture of an animal that lives in the rain forest and place it at the top of their screen.
- Now have them write a letter to one of the organizations listed in this manual describing their feelings about the shrinking of the rain forest and what it is doing to his or her animal.
- Print out in the Book size.
- Have them use an envelope and address the letter correctly.
- Students can cut out the clip art animal and paste it on the envelope. Sometimes a decorated envelope makes people open their letter more quickly.

The Canopy

The cover formed by the tree tops of the forest is called the canopy. This layer is between 100 and 200 feet off the ground. It is home to two-thirds of the animals and plants living in the rain forest. Sunlight can not reach the lower levels through the canopy.

- Choose the Tree.Branch background and add the clip art animals and plants that live there.
- Print out in the Big Big Book size and put it on the bulletin board. Students can then draw in plants and animals to add to the ones from the program.

Rain Forest Mobile (Primary and Upper Grades)

- Break the students into groups.
- Have one student from each group print out the Tree.Branch background and a variety of animals and plants.
- Have another student cut out the branch and mount onto oak tag. A different student can cut out the clip art and mount them onto oak tag.
- Tie various lengths of string to the clip art and staple the string to the branch.

Rain Forest Awareness Week (Upper Grades)

It would be beneficial to have a "Rain Forest Awareness Week" in the school. Posters describing the benefits of the rain forest and posters showing the problems of the rain forest can be displayed along with a large bulletin board rain forest. The class can gather articles from newspapers and magazines to reinforce the concept of saving the rain forest.

- Using the Fallen.Tree background, assign students to design a poster to illustrate what is happening to our rain forests. The audience is their fellow students. What do they need to know to become aware of the danger of losing the rain forests. This can be shared with other classes at the school.
- Using the backgrounds and clip art, have students decorate the library as if it were a rain forest. Hang branches from the ceiling. Hang animals at appropriate heights. It would really be unique if the room were kept a little hot during the class tours to simulate the climate of the rain forest. Students can bring stuffed animals that are found in the rain forest for a library display of endangered species. The younger students will benefit from a trip to the library.
- Create tickets to come to the library rain forest using the program. Students can answer a question regarding the rain forest to win a ticket. The holder of the ticket gets a free trip through the rain forest.

Hint: Why not hand out Rain Forest Brochures created in an earlier activity?



Finding Food (Upper Grades)

There are 300 species of parrots found in the rain forest in a wide variety of bright colors. Some are endangered because of over-collecting by sellers of animals and the destruction of the habitat. Finding food is another problem of the parrots, as well as the other animals.

•Create a work sheet that asks students to find out how the animals listed below get their food. What part of their body do they use to help them find and eat their food?

1. elephants
2. toucan
3. reptiles
4. insects
5. monkeys
6. frogs
7. butterflies
8. bats
9. tree kangaroo
10. gorilla

What's My Family?--Animal Classification

(Primary Grades)

•The teacher makes five charts, one for each classification, and prints them out in the Big Book size.

•The students then print out clip art in the Big Book size and cut and paste to the appropriate classification.

Adventures in a Rain Forest

Let students pretend that they are on a fact-finding expedition in a rain forest. Have them set up a goal (discover how to decrease the amount of trees lost each year) and tell how they set out to reach it. They can write about meeting and interviewing tribes people, loggers, and farmers. They can mention the plants and animals they encounter.

•Have students write and illustrate a story about their imaginary expedition.

•They should include interviews that they have with the local people.

•Have them make a list of plants and animals that they identify along the way.

•Have them draw a map and paste clip art of people, plant, and animals where they encountered them (stamp the clip art on a blank screen, print out in the Book size, and cut out).

•Students should finish the story with a conclusion. The conclusion should include what is being done to the rain forest now and what needs to be done in the future, to save it.

•Print out the story in the Book size, punch holes through it bind together with string.

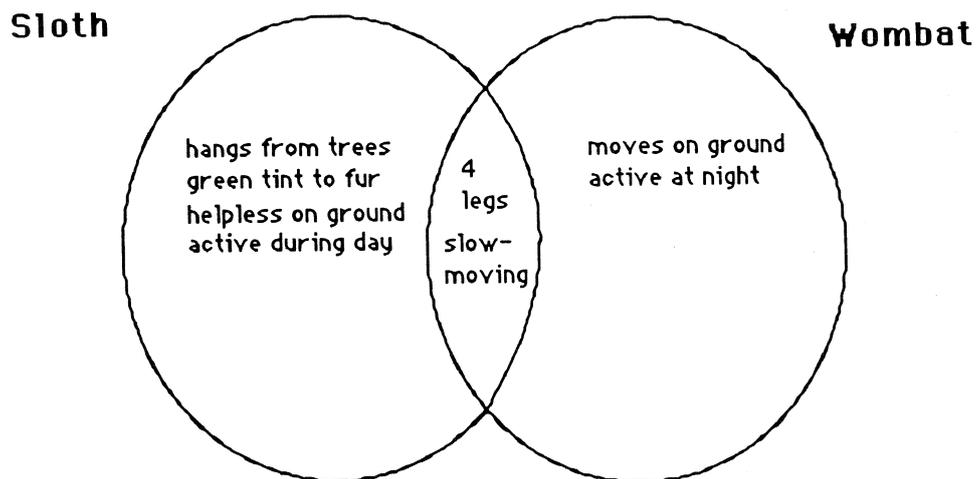
Odd Animals Book (Upper Grades)

Many of the animals on the following list may be unfamiliar to students. Assign students to research and gather information about them. Have them choose ten animals and write two important facts about each animal. They can draw pictures of the animals or use the program to print out the pictures. Have them put one animal on each page and put the pages together into their "Odd Animals Book". Students can use the word processor to write information about their animal.

- | | |
|------------------------------------|-----------------------|
| 1. Flying Fox | 2. Tree Kangaroo |
| 3. Ocelot | 4. Tarsier |
| 5. Sloth | 6. Potoo |
| 7. Civet | 8. Gorilla |
| 9. Hoatzin | 10. Wombat |
| 11. Toucan | 12. Panda |
| 13. Heliconius nattereri Butterfly | 14. Coatimundi |
| 15. Quetzal | 16. Okapi |
| 17. Macaw | 18. Poison Arrow Frog |
| 19. Puff Bird | 20. Ualang |

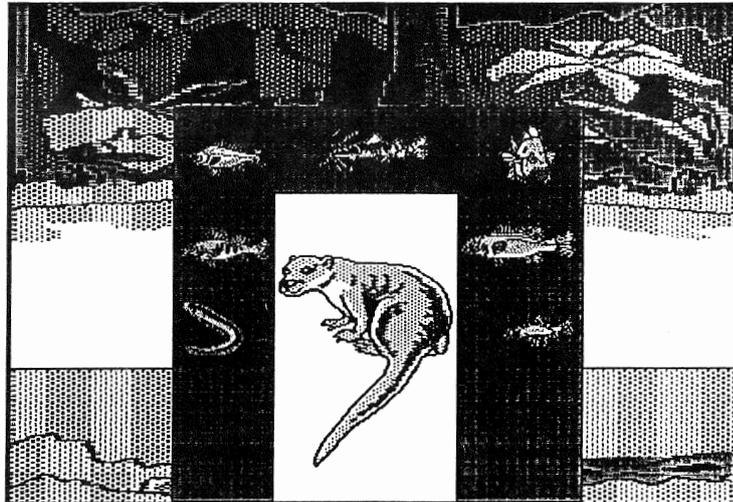
Teacher's Note: Use the program to print out the above animal names in the Big, Big Book size. Laminate and use as a whole class activity. Display the names of the animals on the bulletin board. For a cooperative learning activity, divide the class into groups and have each group find information on four specific animals.

As a further extension, use the Venn diagram procedure to find likenesses and differences between the animals.



Create a Habitat (Upper Grade)

- Have students choose a rain forest animal and research its life and habitat.
- They are going to use three different printout sizes for this project. They can print the largest page in Big Book, the next page in Book, and the final page in Minibook.
- For the largest printout, have students choose an appropriate background for the habitat of their particular animal. They can print out their page in black and white and then color it themselves.
- For the Book size printout, have them choose animals and plants that would be found in their animal's habitat.
- On the smallest size page, add the picture of the animal.
- Have them staple the sheets on top of each other.



The Retreat of the Glaciers (Upper Grades)

The destruction of the rain forest is contributing to the reduction in the delicate balance of the atmosphere. Scientists believe that the greenhouse effect will cause oceans to rise as the hotter air melts the glaciers, as is now happening in Alaska. To find out more about this problem, do the following experiment.

Materials Needed:

1. 3 ice cubes
2. 1 small glass of cold water
3. paper towel or cheese cloth
4. elastic band

- Fill a glass to the top with water and place it on a clean, dry table.
- Wrap a paper towel or cheese cloth over the top and secure it with an elastic band.
- Place three ice cubes on the top of the glass.
- Check every 15 minutes.
- What happens when the glaciers melt? How can you prevent more changes to the atmosphere?

Greenhouse Effect (Primary and Upper Grades)

The greenhouse effect is a result of the changes in the earth's atmosphere. The atmosphere is a layer of air around the earth. It has 78% nitrogen and 20% oxygen and protects the earth from the harmful rays of the sun. There are also small amounts of carbon dioxide which plants use to make food.

The problem today is that we are burning fuels that destroy the balance of the atmosphere and create holes in the atmosphere. Heat is building up because the sun's ultra-violet rays are seeping at a greater rate through the holes in the atmosphere and then becoming trapped. This is turning the earth into a giant greenhouse. A greenhouse has glass walls and roof and traps the warmth of the sun, creating a warm, moist atmosphere for the plants inside. The glass keeps heat from leaving the greenhouse. The results of the greenhouse effect are that the earth's temperature may rise, weather changes are occurring in various parts of the world, and the water level of the oceans may rise 1 to 4 feet in the next 10 years.

We are going to create a greenhouse for the classroom so that the students may see the results of the atmospheric conditions.

Materials Needed:

1. aquarium
2. a piece of plastic larger than the aquarium
3. tape
4. thermometer

- Put a thermometer in the aquarium.
- Cover the aquarium with a plastic sheet and tape it around the edges to seal it.
- Punch several holes in the plastic sheet.
- Read the thermometer immediately and record the temperature.
- Place the aquarium in the sun and record the temperature several hours later.

- Compare readings:

How much did the temperature go up?

The next day, did it return to the beginning temperature?

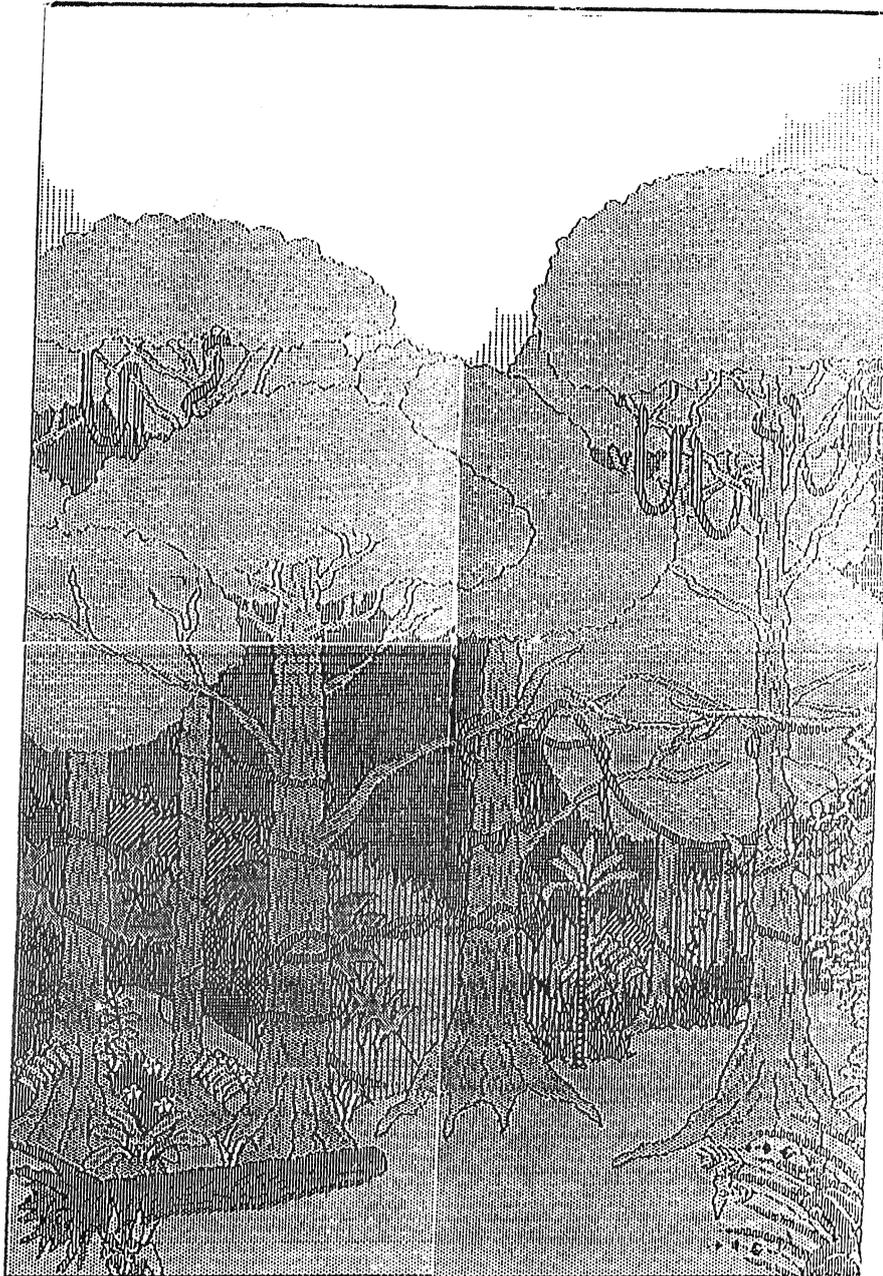
Why do you think the temperature rose?

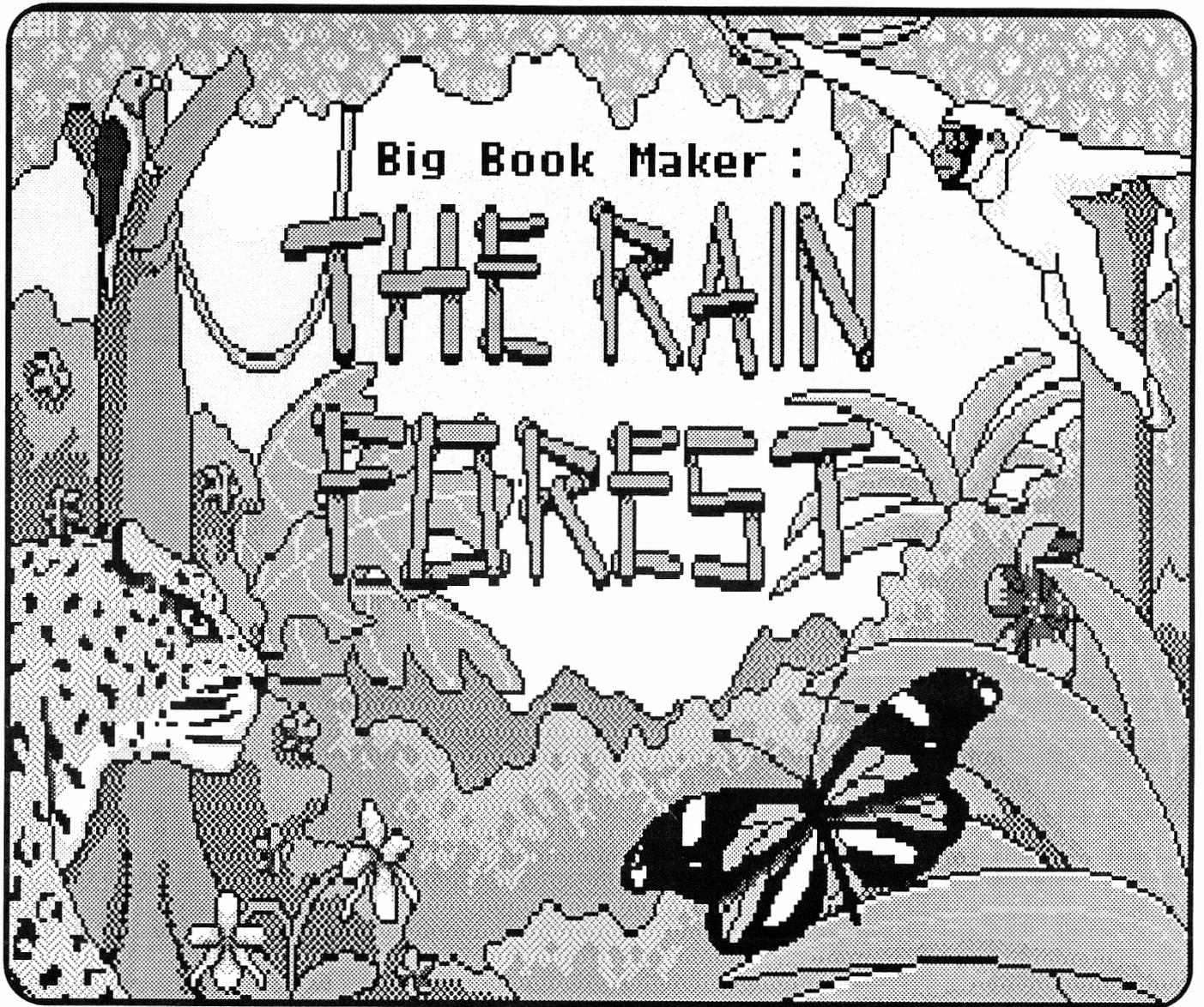
What is the rise in temperature doing to the earth?

If Animals Could Talk

- Have students write and illustrate a story about an animal's views of the destruction to the rain forest.
- They should include interviews with the animal, a typical day for the animal, and how the destruction to the forest is affecting its everyday routines.
- Some pages should include an animal with a speech bubble as it gives its views.
- Print out in the Book size and bind together.

Helpful Hint: There are four forest backgrounds that can be joined together to form one large background (forest.left.1, forest.left.2, forest.right.1, forest.right.2). Print out the four backgrounds and tape the backs of the printouts together.





Apple II 128K

Artat - a - Glance

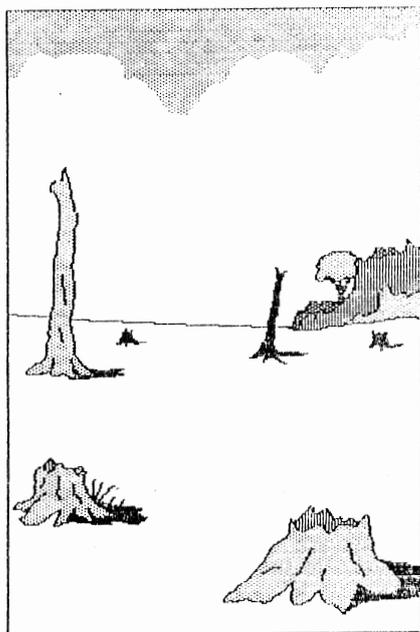
BACKGROUNDS



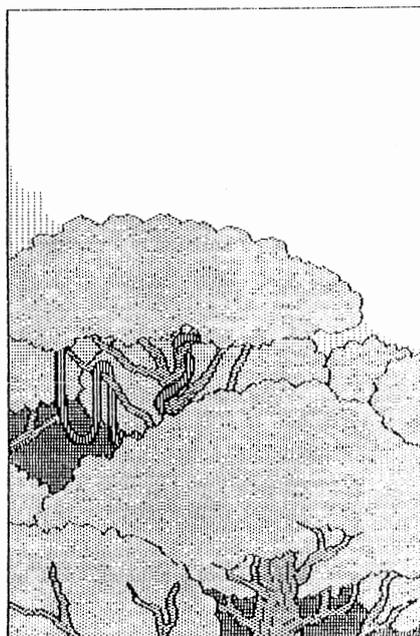
Fallen.Tree



Flowers

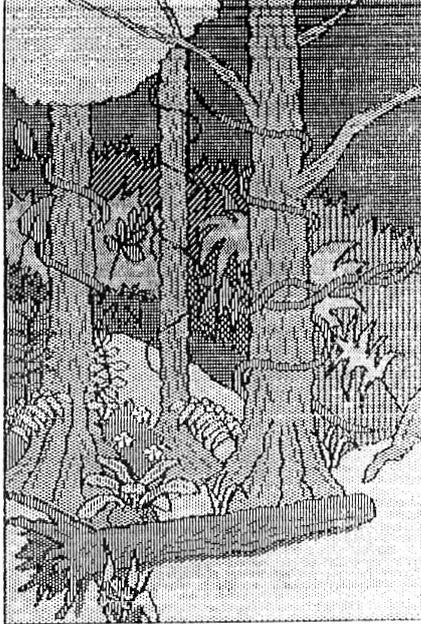


Forest.Cut.Down



Forest.Left.1

BACKGROUNDS



Forest.Left.2



Forest.Right.1

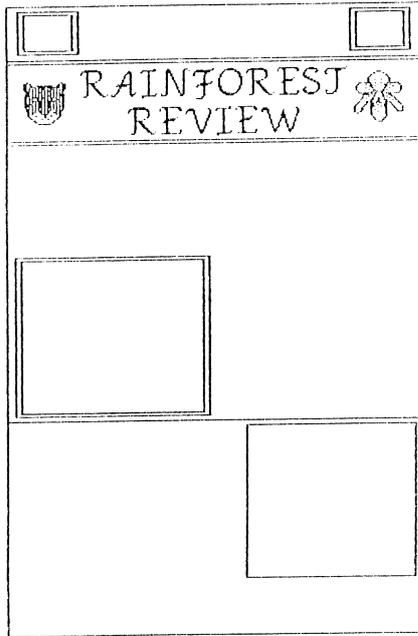


Forest.Right.2



Lilypond

BACKGROUNDS



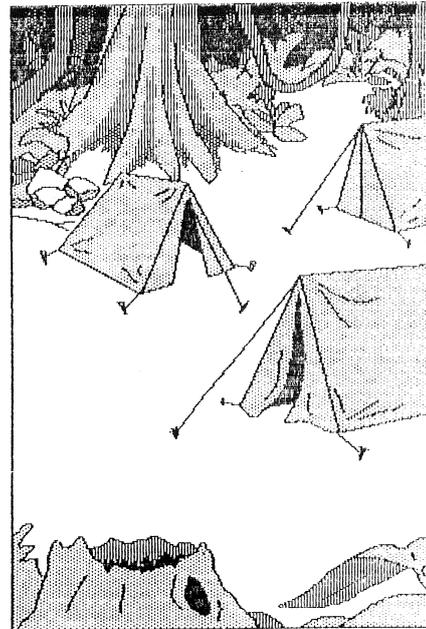
Newsletter



River

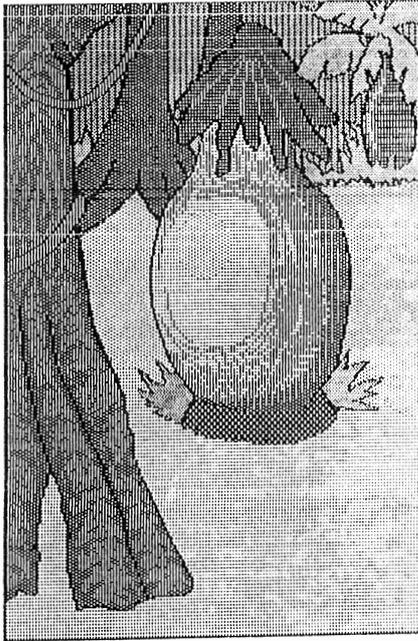


Roots

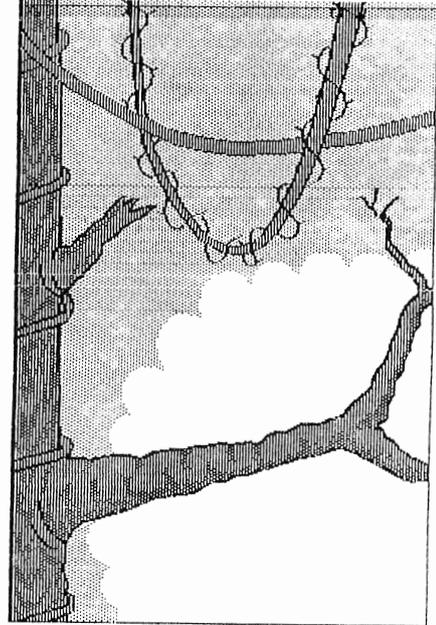


Tents

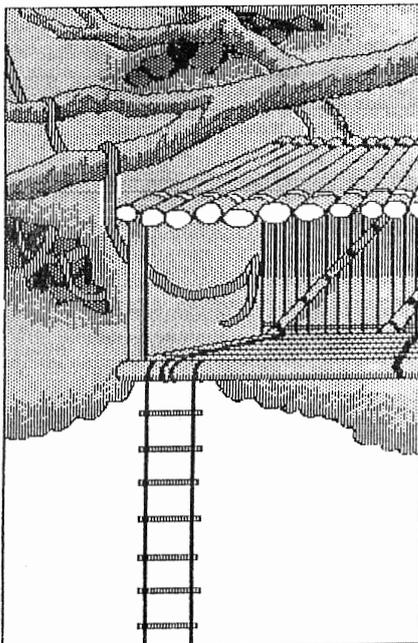
BACKGROUNDS



Termite.Nest



Tree.Branch

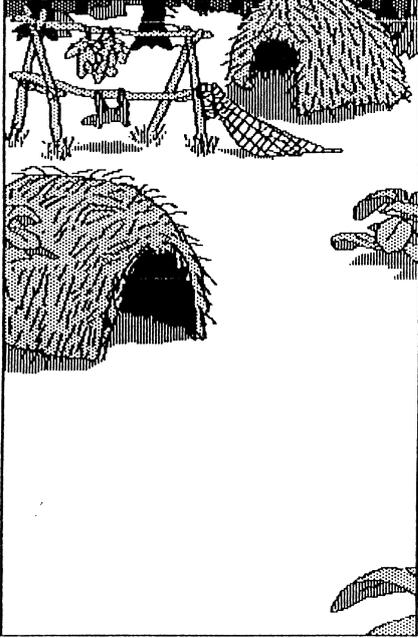


Tree.House

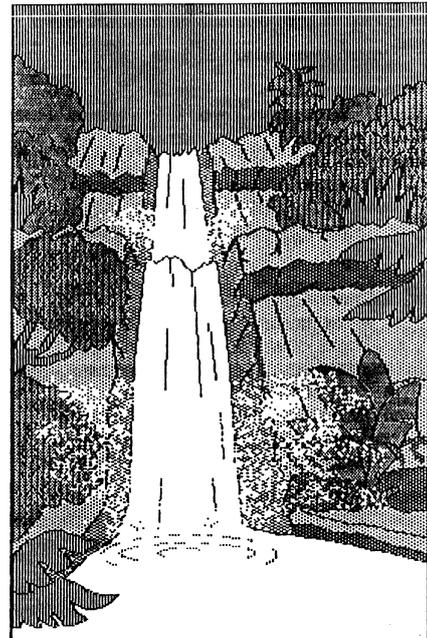


Tree.Trunk

BACKGROUNDS

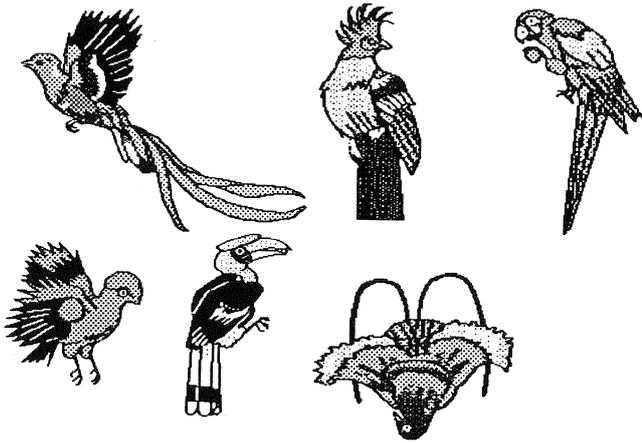


Village

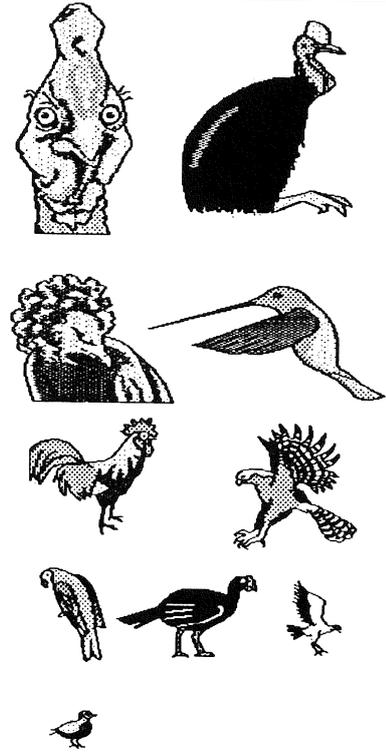


Waterfall

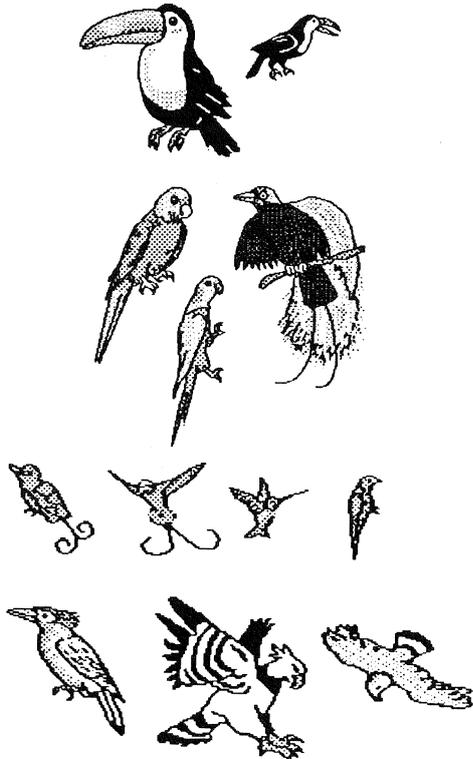
Clip Art



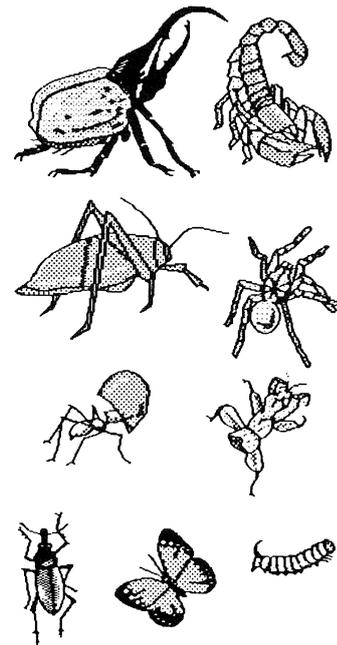
Birds.1



Birds.2



Birds.3

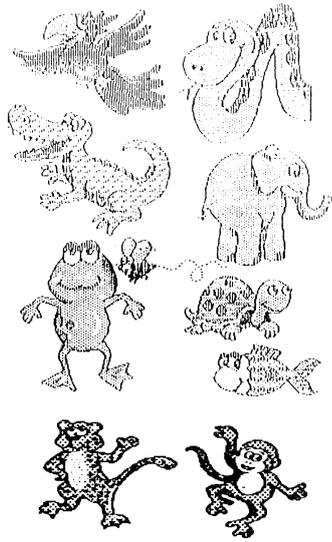


Bugs.1

Clip Art



Bugs.2



Forest.Friends



Kids.1

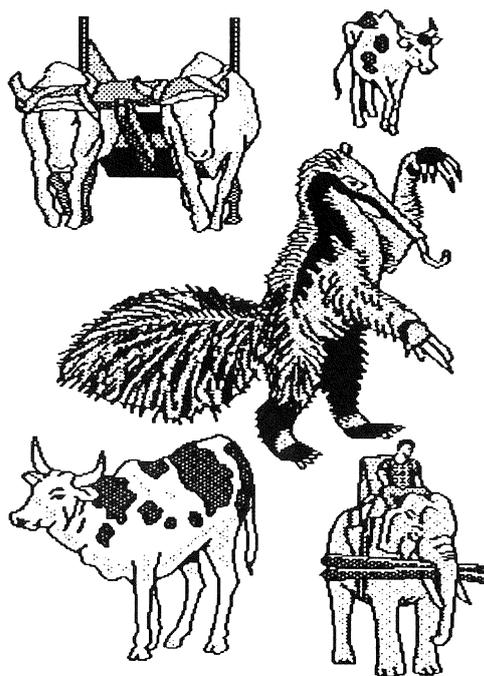


Kids.2

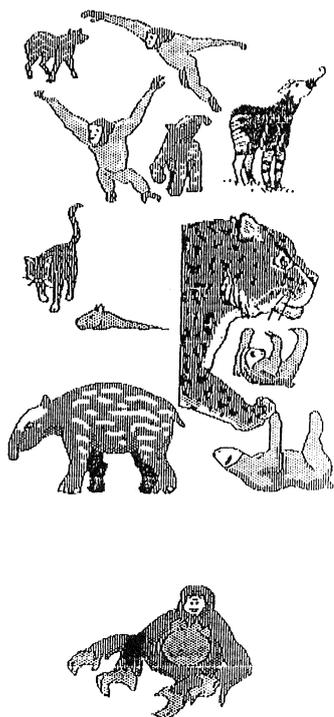
Clip Art



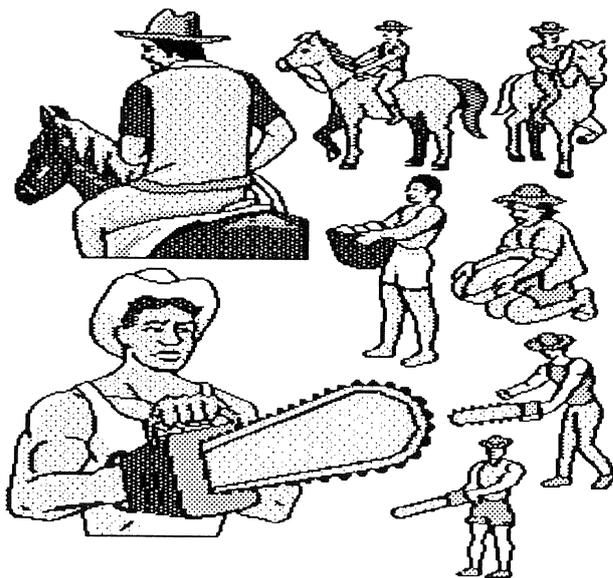
Mammals.1



Mammals.2



Mammals.3



People.1

Clip Art



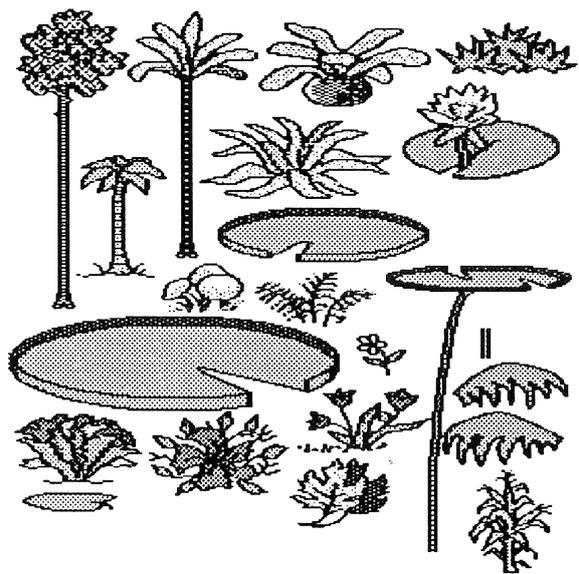
People.2



People.3

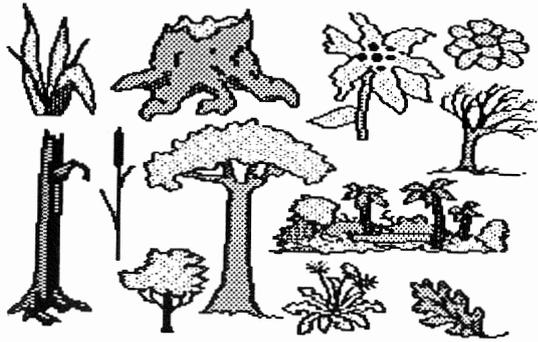


People.4



Plants.1

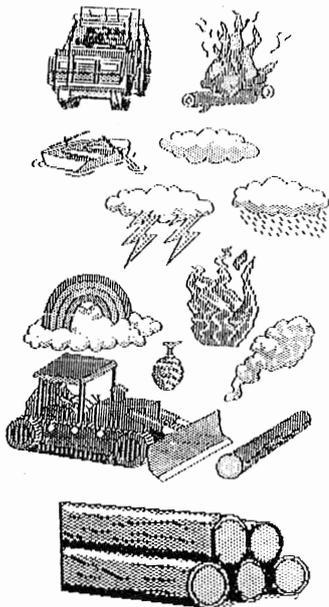
Clip Art



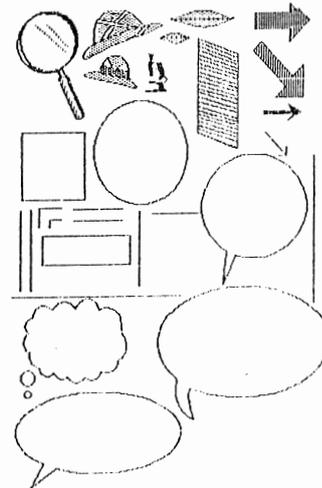
Plants.2



Products

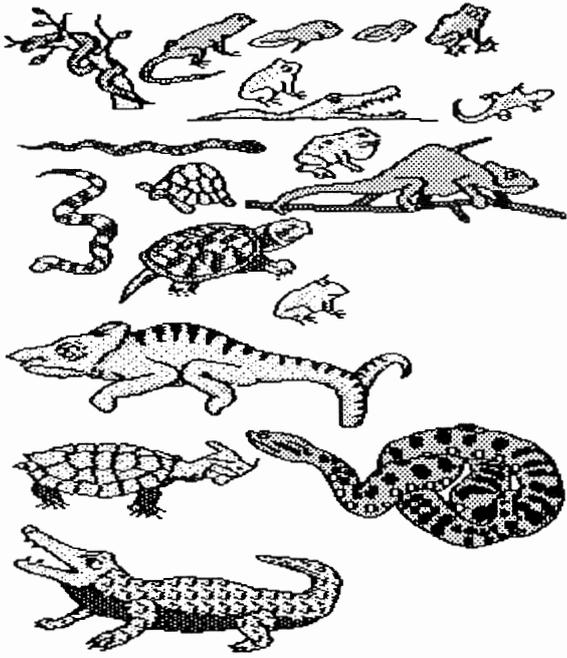


Props.1

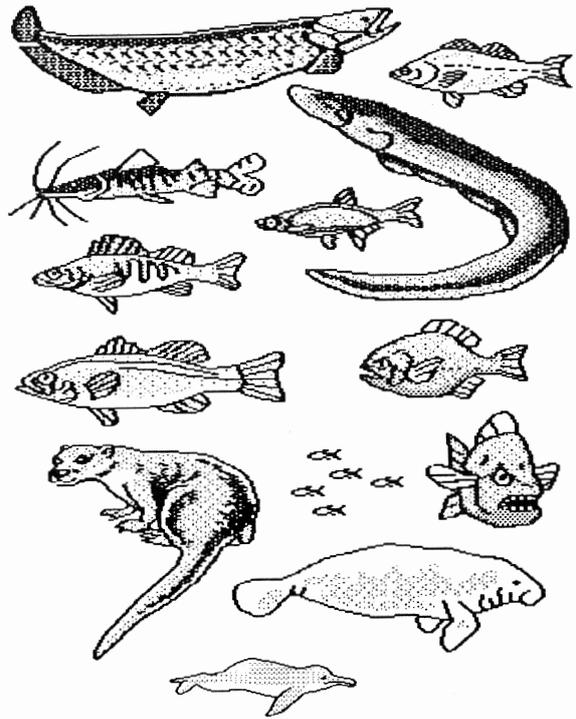


Props.2

Clip Art

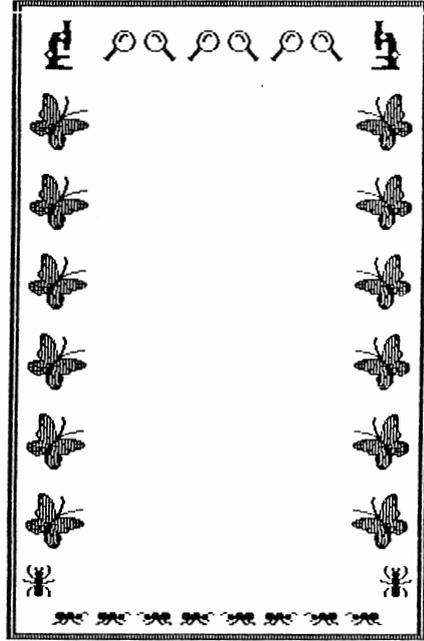
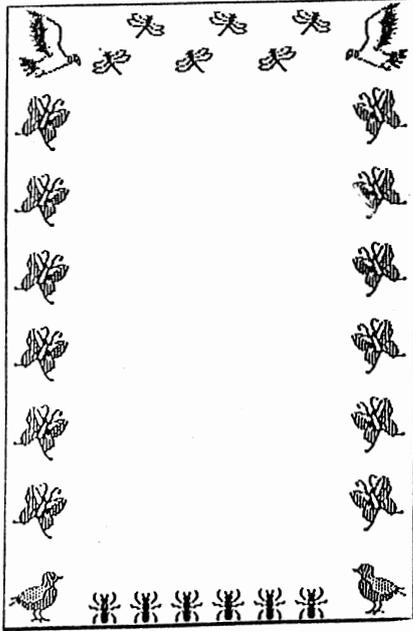


Reptiles

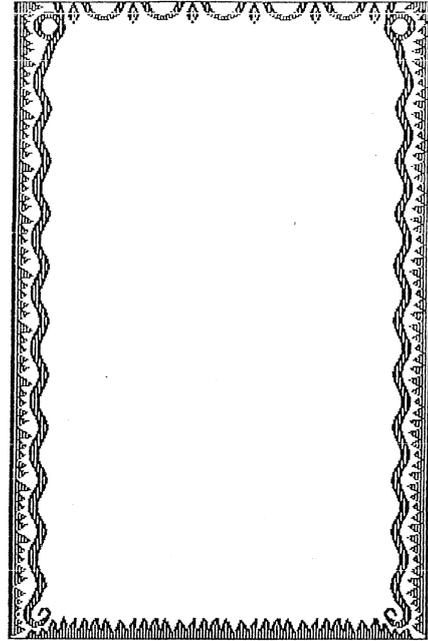
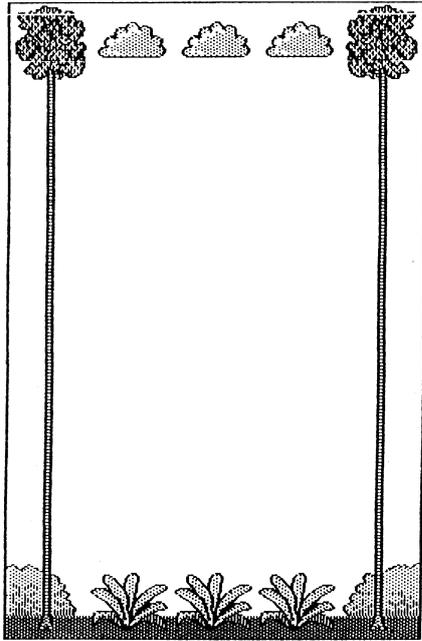


River Life

Frames.1



Frames.2



Fonts

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

BIG

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Medium

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Small

ABCDEFGHIJKLMNOPQRSTUVWXYZ
ábcdefghijklmñóqrstúv wxyz

Spanish

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Stick

ABCDEFGHIJKLMNOPQRSTUVWXYZ
vwxyz abcdefghijklmno
pqrstuvwxyz **Thick**

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