

•Teachers Pages •Teachers Pages*

Dear Teachers,

I hope that you have found this magazine useful and enjoyable. The information presented in this magazine can be used to supplement your lesson plans or to create new lessons. The following activities are designed to help your class better understand the issues presented on pages 1-15 and to encourage young readers to become actively involved in learning about forests and the environment. The model activities outlined below are designed to be practical, thought provoking, flexible and fun. You may choose appropriate exercises and modify them to best suit your students' needs and local conditions. Many teachers use the sample activities to design new activities of their own. It is recommended that you review the magazine thoroughly with your class before conducting the exercises. If possible, make past issues of EarthBird available to your students as reference material.

Sample Activities

1) **Community survey.** See the Class Project on pages 18 and 19.

2) **Visit by a Forestry Officer.** A visit from the local forestry officer can help students learn more about forest resources in their area. Ask an officer from the government forestry department or a non-governmental organization to speak to your students. Your forest officer is a good source of information. Suggested themes that your visitor could present to the class include: a) The importance of forest resources in the community. b) Forest products produced in the area. c) Sustainable management of local forests and the success of a particular, sustainable forest project. d) Multipurpose trees that grow in the area and what they are used for. Encourage your students to ask questions.

3) **Mathematics exercise:** Math activities can be developed that help students learn about forest products and income generation. Please review the sample activity below and develop appropriate activities for your own class. To prepare for this exercise, ask your students to review pages 10-13 and answer any questions that they may have.

a) Sample activity: Bees! Tell your students that the math questions will be based on an imaginary income generating project that produces honey. The community project has 50 hives each holding 20,000 bees. 15 jars of honey are produced yearly, per hive. Honey is sold for 5 "shillings" per jar at the local market. Given this information, have students determine:

- 1) How many jars of honey are produced by the project each year?
- 2) If every jar of honey is sold, how many shillings will the community earn?
- 3) If the jars used for packaging cost 1 shilling each, and 150 shillings is spent on additional materials each year, how much profit is made?
- 4) The community wants to produce 250 jars of honey in 1995. How many hives will they need? How many bees will there be?
- 5) If each bee visits 200 flowers every day, how many does it visit in a year? How many flowers does a hive of bees visit in a year?

Note: Bees are responsible for pollinating food crops throughout the world.

b) Sample Activity: Green Iguana Ranching! Tell your students that they will be computing math questions based on an imaginary iguana ranching project! Suggest that the project has 300 green iguanas. 30% of the iguanas are sold each year. If more are sold, then the iguana population will not remain productive. The iguanas are sold at market for 100 "pesos" each. Given this information, have your students determine:

- 1) How much money does the community earn from the sale of iguanas each year?
- 2) If a chicken at the same market costs 120 pesos, how much money would a person save by buying 20 iguanas per year instead of 20 chickens?
- 3) If the community wanted to earn 10,000 pesos each year from the sale of iguanas, how many more iguanas would they need to sell?
- 4) If fewer iguanas are sold, and the iguana population is allowed to grow by 20% each year, how many iguanas would there be in 4 years? (622 iguanas) How much profit would be earned if 30% were sold at the end of the 4th year?

Design your own activity based on the examples. What type of forest product projects are there in your area? What types would your students be most interested in? Involve your students, ask them to help you select an appropriate project type for this exercise. Challenge your students to learn more about the project they choose and use that information to formulate more difficult problems. Be sure to account for such costs as labour, land and materials. These costs will have to be deducted from the earnings!

4) Science Demonstration. Practical science demonstrations can help students become more aware of local forest products, how they were first discovered and how they are used. Many forest products are ideal for class demonstration. Select a product that is found locally and is easily processed. Assemble the materials and tools necessary for your demonstration and provide your students with background information on the history and use of the product. Demonstrate how the product is made and encourage participation and questions from your students. Discuss with students how forest products are discovered and how many are processed on a large, industrial scale. You may want to join together with other classes in your school. Invite someone from your community who is knowledgeable about the processing of the product you choose. Or, take your students on a field trip to observe the processing of a forest product.

Sample demonstrations:

- Making hand-made paper.
- Processing soap.
 - The construction of simple items such as musical instruments, decoration and toys from wood, leaves and husks.
- Making simple dyes from wood or leaves.
- Extraction of oils from stems or leaves.
 - If appropriate, preparation of a local, plant-based medicinal product. (e.g. medicine for stomach pains).

5) Community or class drama. You may be interested in developing a play based on forest themes. Plays are an exciting way to learn more about the themes in the magazine and to pass on important information to others outside the classroom. Review the magazine with your students and select a theme that you all find interesting. Good themes may include: a) The history of forest product use in your area. b) A drama depicting shortages of forest resources. Or c) The story of a family that improved its quality of living by using forest products. For more information, see the Class Project on the next page.

a) Once a theme is selected, develop a script. Remember to keep the story simple. You may want to involve the students in the development of the dialog and encourage them to include their own opinions and humour. Assign roles and have the students rehearse their parts. Collect simple props to enhance the drama.

b) When the actors are ready, present the play for the class, the school or the community.

6) Forest products vocabulary list.

Students may have questions regarding some of the words used in the magazine and the class discussion. Encourage students to ask questions about words that they are unsure of. You may want to list those words and their definitions in a forest products vocabulary list; The list may also include local terms. If appropriate, display the list where it can be used as a reference tool.

• Sample entries:

Resin: a substance from plants used to make lacquers, varnishes, inks, plastics etc.

Cellulose: the principle, solid, component of plants. Used to make paper, explosives, textiles and many other products.

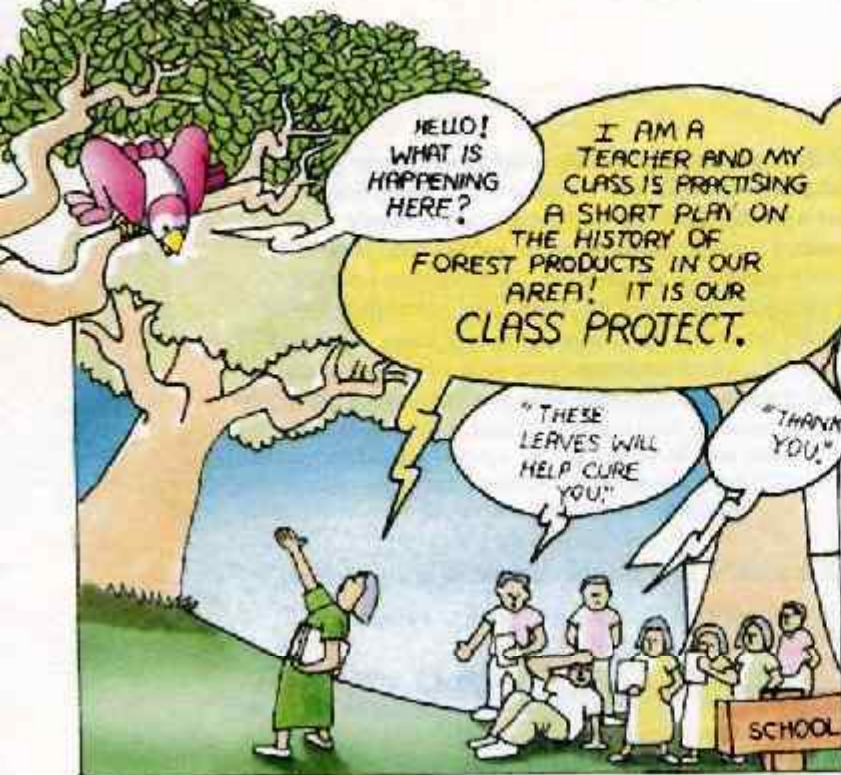
Sustainable management: management that ensures continued production and health.

7) Additional information and assistance.

You can obtain additional information you need on forests and forest products. Your local forest department should be a good source of information and advice. A representative of the department of agriculture may also be of assistance.

Non-governmental organizations will also be able to provide you with health and forestry information. Find out which ones operate in your area and what they do.

Elder members of your community may be a good resource. It may be beneficial to have knowledgeable elders demonstrate and discuss specific forest products. For example; a local bee keeper can demonstrate hive care and a healer can talk about traditional medicines. Encourage children to discuss forest products with their parents.



HELLO!
WHAT IS
HAPPENING
HERE?

I AM A
TEACHER AND MY
CLASS IS PRACTISING
A SHORT PLAY ON
THE HISTORY OF
FOREST PRODUCTS IN OUR
AREA! IT IS OUR
CLASS PROJECT.

"THESE
LEAVES WILL
HELP CURE
YOU!"

"THANK
YOU."

AFTER READING YOUR
MAGAZINE, MY STUDENTS WANTED
TO LEARN MORE ABOUT FOREST PRODUCTS.
WE CONDUCTED A SURVEY OF PEOPLE
IN OUR COMMUNITY TO DISCOVER HOW
FOREST PRODUCTS ARE USED.

PLEASE TELL ME
HOW YOU USE
FOREST PRODUCTS?
HOW DID OUR
ANCESTORS USE
THEM?

INFORMATION ABOUT
FOREST PRODUCTS
HAS BEEN PASSED DOWN
FROM GENERATION TO
GENERATION. LET ME
TELL YOU ABOUT
SOME GREAT
TREES.



WE MADE A RECORD OF HOW FOREST PRODUCTS ARE USED.

CLASS,
HOW DO WE
USE FIBERS
FROM THE
RATTAN VINE?

RATTAN
IS USED TO
MAKE
FURNITURE.

HOW IS TRADITIONAL
KNOWLEDGE OF FOREST
PRODUCTS IMPORTANT
TO US TODAY?

WE NEED
THE KNOWLEDGE
TO BE ABLE TO
IDENTIFY GOOD
FOREST PRODUCTS.
IT HELPS US TO
UNDERSTAND THE VALUE OF
FORESTS AND TREES AND
HOW TO CARE FOR
THEM.

PRODUCT	USES			
	FUEL	FOOD	CLOTHING	BUILDING
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓

AND
BASKETS.

AND
MATS.



THE STUDENTS
WANTED TO
SHARE WHAT
THEY LEARNED
WITH THE
OTHER STUDENTS
AND PEOPLE
IN THE
COMMUNITY.
WE DECIDED
ON A GOOD
WAY TO
DEMONSTRATE
OUR FINDINGS.

WE COULD
DISPLAY FOREST
PRODUCTS FROM
THE PAST AND
PRESENT.

LET'S
COMPOSE A
SONG ABOUT
FOREST
PRODUCTS.

WE COULD
CREATE ARTWORK THAT
SHOWS WHAT WE VALUE
MOST ABOUT FOREST
PRODUCTS.



WE TOOK A VOTE AND WE DECIDED TO PUT ON A PLAY.

WE DECIDED ON A THEME.

OUR PLAY CAN BE ABOUT FOREST PRODUCTS, HOW THEY WERE DISCOVERED AND HOW THEY HELPED OUR COMMUNITY DEVELOP AND GROW.

THERE ARE SO MANY WAYS THAT WE RELY ON FOREST PRODUCTS EVERY DAY. WE CAN GIVE EXAMPLES IN OUR PLAY.



WE WROTE A SIMPLE SCRIPT AND ASSIGNED ROLES.

I CAN TALK ABOUT PAPER AND HOW IT WAS INVENTED

THE SUNI COULD SHOW HOW IT CHANGED HISTORY.

WITHOUT PAPER WE WOULD HAVE NO BOOKS.



WE PRACTISED THE PLAY AND COLLECTED SIMPLE PROPS.



NOW, WE ARE PRESENTING THE PLAY FOR THE SCHOOL. EVERYONE SHOULD LEARN ABOUT THE IMPORTANCE OF FOREST PRODUCTS.

CLASS ACTIVITIES GET STUDENTS INVOLVED IN LEARNING. THEY ARE FUN AND EDUCATIONAL.

"THE FOREST WILL HELP PROVIDE FOOD UNTIL THE DROUGHT IS OVER."

"OH GOOD!"

