



Learning About Forests

An international schools and forests programme



Learning about forests is a part of Foundation for Environmental Education (FEE). FEE is a non-governmental and non-profit organisation aiming to promote sustainable development through environmental education.

More about **Learning about forests** at
www.leaf-international.org

More about FEE at
www.fee-international.org



About Fee and Leaf programme

Foundation for Environmental Education (FEE) is a non-governmental and non-profit organisation aiming to promote sustainable development through environmental education (formal school education, training of staff and general awareness raising). FEE is mainly active through our five environmental education programmes: Blue Flag, Eco-Schools, Young Reporters for the Environment, Learning about Forests and Green Key.



The Learning About Forests programme aims to encourage school classes and teachers to use forests for educational activities. The aim is to support teachers and pupils to go to forests, learn from them and in them, and to further learn by sharing experiences internationally.

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Introduction

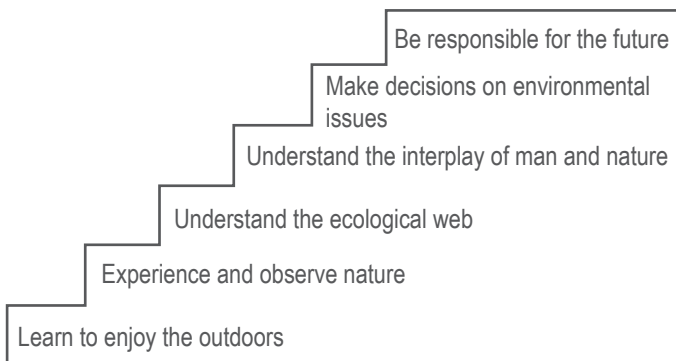
The Learning About Forests programme strives to adapt to the local conditions in each participating country, as it is recognised that the educational systems and the nature of forests differ widely from country to country. Each country is thus encouraged to implement a national Learning About Forests programme, appropriate to local traditions and the national curriculum. With this in mind it is also recognised that there is a need for a common framework of understanding between the various national programmes, to ensure that the various national programmes are able to communicate with each other.

Programme objective

The overall programme objective can be described as follows. The Learning about Forests programme should support learning about forests by encouraging teachers and pupils to:

1. Actually experience being in a forest.
2. Relate this experience to learning at school.
3. Through this experience and understanding of forests, develop an awareness of and respect for forests which will influence future choices and actions.

Pedagogic steps in environmental maturity



Pedagogic stairs describing the development of students' environmental maturity.

Criteria for participating schools

Forest Project

A school/class/group must work on at least one forest project. The topic of the project could be chosen from one of the Learning about the Forests project themes. The forest project must involve at least one field trip to a forest, as well as work in the classroom.



Picture: Bjørn Helge Bjørnstad

Projects must include

- An ecological understanding of forests or forest processes
- An economic dimension of forests
- A socio-cultural understanding of forests

International Interaction

The school, class or group must interact with at least one other school, class or group in another country. This international exchange can take place through contacts on the internet or through the network of national operators.

You will find more about the criteria's at the LEAF website:
www.leaf-international.org

The outdoor classroom

What is outdoor education?

Outdoor education is regular education situated in nature and the nearby surroundings of the school. In outdoor education, indoors and outdoors education is combined to complete learning based experiences, action and comprehension. All subjects can be brought into this context – either individually or in multidisciplinary courses.



Pictures: Bjørn Helge Bjørnstad

Principals about outdoor learning

Outdoor education shows new paths to health, learning, creativity and quality of life for children in school. The time is ripe and our children need both novel and existing qualifications and values in order to be able to develop into complete humans in a time with corpulence, consumption, digital life, stress and so on – and in order to be able to navigate and act in a future full of challenges. Outdoor education can be part of the solution.

Things to produce in forest with wood - Making a flute



Pictures: Jørn Kjersheim

Use a 2 cm thick stick of wood without knots.

Roe and maple are good species.

Do always cut the mouthpiece in the smallest end of the piece to avoid the bark cracking when you tear it off.

Keep as much of the piece that it makes a good grip.

Cut the sound hole with two straight cuts about 1,5 cm from the end.

Make a slope cut against the straight cut about 1 cm above.

Cut into the bark in a ring around the piece.

Then carefully twist the bark to loosen it.

Haul the bark off.

Cut a track in the end where the mouthpiece will be.

Cut out a thin stick approximately 2 mm. at the top of the piece.

Cut a ring around the piece in the end with the mouthpiece.

Cut loose the piece around the mouth piece.

When the piece is loose, put it into the bark slice again.

You now get sound in the flute when you block the end of the bark slice when you blow.

Put the rest of the piece into the other end of the bark slice.

Blow in the flute at the same time as you pull the piece in and out of the bark slice.

Bio energy from wood

Fuel wood has for centuries been used for heating and cooking.

This exercise can be used as a practical event in fuel wood production or as part of an exercise where you collect wood from 5 different tree species.

Different tree species have different quantity of energy per cubic meter.

1 kilo of wood (15% humidity) contents 4,4 kWh energy.



Picture: Katrine Noreng

Which species have you collected?

How much energy is in 1 cubic meter of the different tree species?

Sort the tree species by the level of energy per cubic meter

Calculate the amount of energy in the wood samples you have found.

Calculate the value of the energy compared to the price of electric energy when you have an effect level of 65% in a normal wood oven!

Produce your own paper

Paper is produced starting with timber. After being felled in the forest, pulpwood is transported to a paper mill. The wood raw material contains the cellulose fibres that become pulp. The production process is based on separating these cellulose fibres. Paper can be recycled.

For making your own recycled paper you need a blender, a plate, a frame, cloth and a sieve.

Put the newspaper in water for one hour. Mash newspaper in a blender with water. Put the frame on the sieve. Then put the mashed paper and water mix on the sieve. Let the water drip away. Remove the frame and put the sieve on to a cloth on a plate. Press more water out of the paper. Then let it dry and you have new self produced paper!



Pictures: Aud Kolltveit

Mathematics in forests

In this method we use two triangles with the same shape to find the height of the tree.

The sketch shows two triangles inside each other. The biggest triangle has the sides A, B and C. The smallest one has sides a, b and c. The angles in the small triangle are the same as in the big one.

In triangles with same shape the proportions between the sides will be constant.

When $a=b$ is also $A=B$. And from that we find that the distance from you to the tree is (A) = the height of the tree (B).

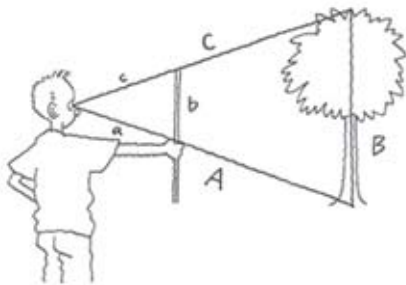


Illustration: Ewa Wulf



Picture: Bjørn Helge Bjørnstad

Food in nature - making an omelette

4 eggs
2 tablespoon water
2 tablespoon cream
1/4 teaspoon pepper
1 teaspoon butter
100 gram white cheese
1 tablespoon onion
1 sliced tomato
100 gram ham



Picture: melk.no

Blend eggs, cream, salt and pepper. Cut the vegetables and the cheese. Melt the butter in a frying pan and put the mixture into it. Loosen the omelette from the edges to ensure that all of the mixture gets fried. Before the surface stiffens put on the vegetables. Fry until light brown colour.

Serve the omelette with a good salad.

Toggle bread

5 dl wheat flour
2 teaspoons baking powder
2 teaspoons salt
2 dl water



Roll the dough around a toggle. Fry it over the campfire until it gets a golden brown colour. If you want you can roll bacon around the toggle bread.

Silviculture and tree planting

Silviculture is the science of controlling the establishment, growth, composition, health and quality of forests. Silviculture entails the manipulation of forest and woodland vegetation in stands and on landscapes to meet the diverse needs and values of landowners and society.

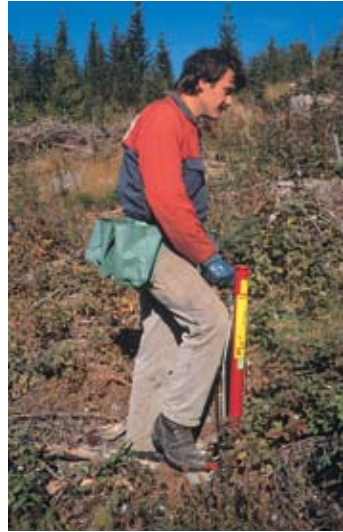
Common methods in silviculture include regeneration, intermediate stand treatments (release treatments, thinning, and pruning) and cuttings.

Tree planting is a good way to learn about forests. You can then follow up the development in your own forest for many years.

Make contact with local forest authorities to find suitable places and plants. Learn more about planting before you start the planting.

How do you plant the trees?

Remember that the plants are living!



Picture: SKI

Make a survey over wood product in school and at home

Make a survey about wood products you come into contact with during a week. What kind of products are they? Which tree species are the products made of?

For more information about **Learning About Forests** and how to be a member, please contact the international coordinator:

Bjørn Helge Bjørnstad
bhb@skogkurs.no



FORESTRY EXTENSION INSTITUTE

Honne, N-2836 Biri, Norway - telephone: (+47) 61 14 82 00 - telefax: (+47) 61 14 81 99
e-mail: ski@skogkurs.no - www.skogkurs.no



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