

# The Squirrel



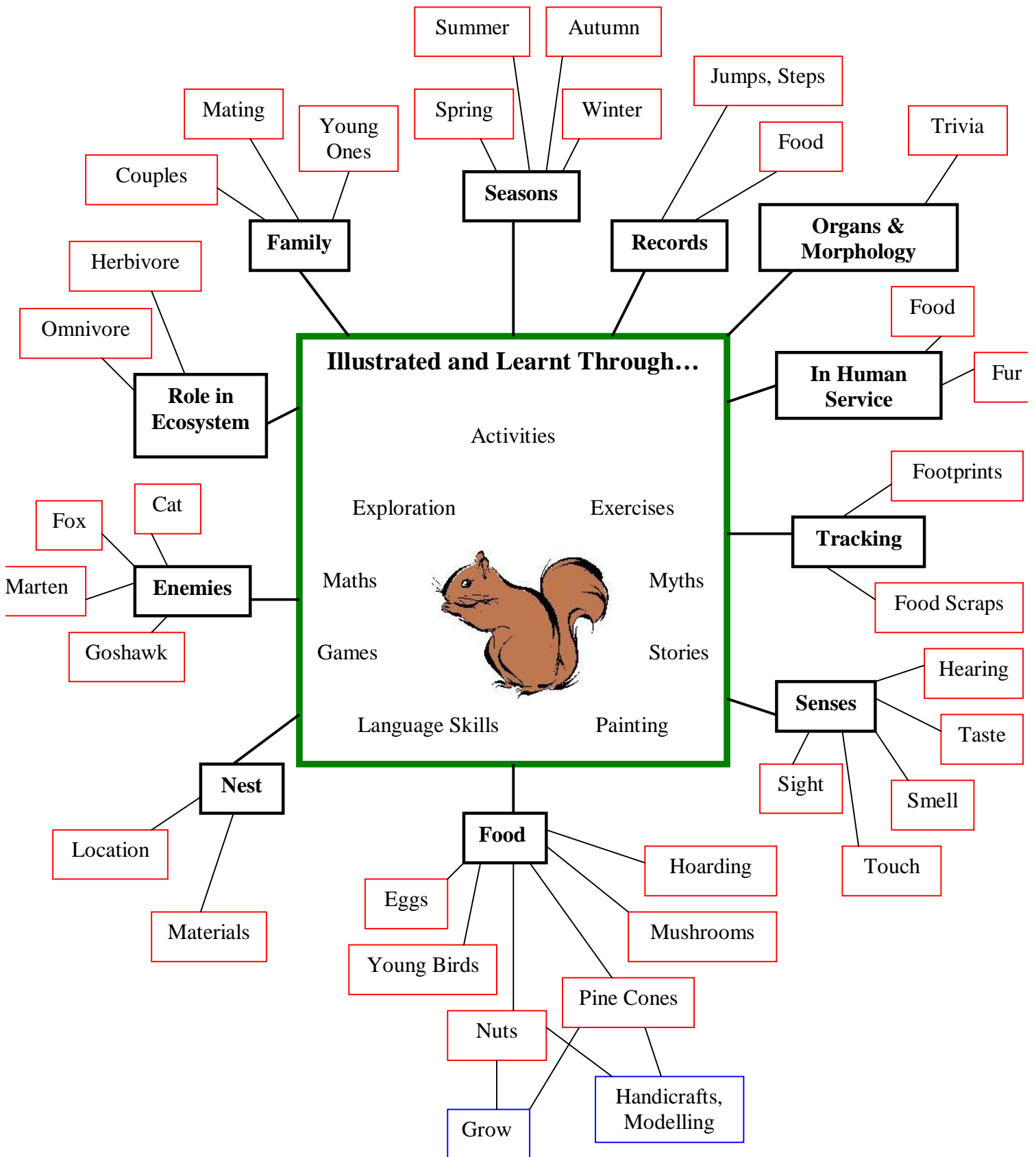
A Preschool Theme for Outdoor Learning



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# Mind-Map



## **Preface**

The distinguishing feature of this learning theme is the combination of learning and physical activity in an outdoor environment. Increased mobility improves all types of future learning and gross motor ability is especially important for learning to read.

Anyone who has ever worked with children will agree that they *want* to learn. This raises the question of *how* children learn. Most children intuitively know the answer to this question—they learn through play and games. Teachers must be able to make use of children’s inherent desire to play and learn.

By choosing appropriate games, grown-ups can influence what knowledge children acquire. Children are not fully aware of exactly how they learn which provides room for grown-ups to choose games that develop the right types of skills, knowledge, and values.

This instructor’s guide, using the squirrel as a common theme, presents ideas for games and exercises suitable for outdoor learning. The purpose of all these activities is to combine learning, physical activity, and spending time outdoors. Let working with the squirrel theme take its time, don’t hurry through the exercises. If you do one or two exercises each time you visit the forest, it will take five or six visits to work through all the activities.

## **The National Preschool Curriculum (Lpfö 98)**

It is vital that children are provided the opportunity to learn through playing. Thus, games and activities must be in harmony with the directives of the National Preschool Curriculum (Lpfö 98) which describes one of the preschool’s tasks as to:

*“Provide the foundation for a life-long learning. Preschool should be fun, safe and educational for all children who participate. The educational principles of the preschool curriculum build on care and education going hand in hand.”*

Paragraph 2.1, Norms and Values, states as goals that:

The pre-school should strive to ensure that each child develops:

- *the ability to take account of and empathise with the situation of others as well as a willingness to help others,*
- *respect for all forms of life as well as care for the surrounding environment.*

It has been shown that activities involving animals improve children’s general ability to empathise with others. This is hardly surprising since our first skills in empathy are often developed in the relationship child—stuffed animal. The stuffed animal is the first being with which a child can share thoughts and feelings unaltered and with no sense of obligation.

Paragraph 2.2, Development and Learning, states as goals that:

The preschool should try to ensure that children:

- *develop their motor skills, ability to co-ordinate, awareness of their own body, as well as an understanding of the importance of maintaining their own health and well-being.*
- *develop a rich and varied spoken language and the ability to communicate with others and to express their thoughts.*
- *develop their vocabulary and concepts, the ability to play with words, an interest in the written language and an understanding of symbols and their communicative functions.*
- *develop an understanding of their own involvement in the processes of nature and in simple scientific phenomena, such as knowledge of plants and animals.*

## The Squirrel

Does the name Ratatosk sound familiar? It is constructed from the words *rat* and *tusk*, so it literally means sharp-toothed rodent—a suiting description for a squirrel. In Norse mythology, Ratatosk was a squirrel who ran up and down the world tree Yggdrasil spreading gossip. In particular he carried insults between the dragon at the roots and the eagle at the top of Yggdrasil.

The above description of a mischievous and rather unpleasant character is in sharp contrast with the common notion of the squirrel as a cute and friendly creature. Perhaps this dual nature is why children find the squirrel so fascinating. The squirrel makes for adorable stuffed animals to hug when you are sad—but also behaves badly, plunders nests, and has dangerously sharp teeth.

### Distribution

The European red squirrel is common throughout all of Europe. In Sweden, squirrels can be found from Skåne in the south to the bare mountain regions in the north.

### Preparation Activities at the Preschool or on the Preschool Yard

*A suggested programme can be found at the end of the instructor's guide!*

### Music and Motion

In Sweden, the natural starting point for a learning theme on the squirrel is a well known children's song by Alicé Tegner. Translated (with emphasis on wording rather than rhythm) it reads:

*The squirrel sat in the spruce,  
stripping a spruce cone.  
He heard children coming,  
and dashed away in a hurry.  
He jumped from branch to branch,  
but he hurt his little leg,  
and his long fury tail.*

Was Alicé Tegner correct in her observations of the squirrel? Do squirrels like to sit in spruces? Do they scare easily, for instance when a preschool class comes barging through the forest? Are they often injured while jumping between branches? If you have the luck to come across a squirrel in the forest, study its behaviour for yourself!

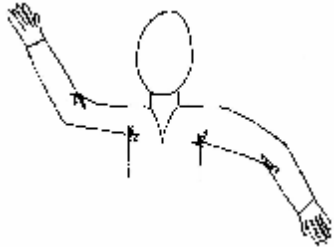
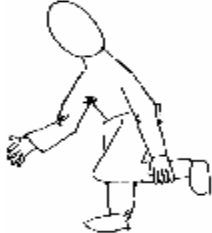
Irrespective of the truth value of Alice Tegnér's song, singing together is a good way to introduce the squirrel theme. Sing the song in the forest so that you can point to the spruce tree you are singing about. Also, try to use movements when singing. This gets the children warm, enhances mobility, and aids the mind in remembering the lyrics.

#### The Squirrel Sat in the Spruce (with movements)





The squirrel sat in the <i>spruce</i> ,	Let your arms hang diagonally out from your shoulders in the shape of a pine tree.
stripping a <i>pine-cone</i> .	Hold your arms out to your sides and let your hands dangle like pine cones in the wind.



*exercise*

He <i>heard</i> children coming,	Place one hand behind your ear. Alternate between left and right in time with the music.
and <i>dashed</i> away in a hurry.	Run on the spot.
He <i>jumped</i> from <i>branch to branch</i> ,	 <p>First jump once and then stretch your arms out like branches.</p>
but he hurt his little <i>leg</i> ,	<p>Stand on one leg and hold the other leg with your hand.</p> 
and his long furry <i>tail</i> .	Move your rear back and forth.

Here's a rhyme to read with the children. Either use the movements or clap the rhythm while reading.

<b>Squirrel Rhyme</b>	
<b>Squirrel</b> there, squirrel there, <b>wag your tail</b> most everywhere 	Move your rear back and forth.
<b>Picks up nuts</b> there at your toes 	Pick up something from the ground.
Little face and <b>wrinkled nose</b> 	Wrinkle your nose.
<b>Squirrel</b> there, squirrel there, <b>wag your tail</b> most everywhere 	Move your rear back and forth.

Reading rhymes, songs, and poems enhances the children's sense of rhythm which is a prerequisite for distinguishing syllables. Clapping the syllables/rhythm at the same time as reading the rhyme also helps the separate halves of the brain to work together.

### ***Squirrel Facts and Outdoor Exercises***

#### **Weight**

A squirrel weighs about four hectograms (4 hg). One decilitre (1 dl) of water weighs almost exactly one hectogram. When speaking of weight with the children, make sure to use full words, e.g. say kilograms instead of kilos. Simply saying kilo or hecto—which come from the Greek words for a thousand and a hundred—leaves out the essential unit of weight, the gram.

Prepare a stuffed animal squirrel so that it weighs 4 hg. Let the children hold and pat the squirrel. If you don't have a stuffed animal squirrel, use a bottle with 4 dl of water instead.

## Exercise

- Let the children look for objects in the forest of the same weight as the squirrel/bottle. Each time a child brings back an object, let him or her compare the weights by holding the object in one hand and the squirrel/bottle in the other. If the weights differ, the child must find another object, this time using the first object as a reference point.
- After completing the above exercise you will have a number of different objects that all weigh 4 hg; use them to play burr. Line up 5 to 10 of the collected objects on a row. One of the children turns around and shuts his or her eyes. The others agree on one of the objects to be the “burr-object”. The child who up to this point has had his or her eyes shut now turns around and points to the objects on the line one by one. As long as he or she doesn’t point to the burr-object, the other children simply say; “The pinecone is fine”, “the juniper berry is fine”, etc. Alternatively, the children could say; “the *long* stick is fine”, or “the *thin* pinecone is fine”, if you want to practice words used for comparisons. When the child points to the object that is the Burr-object, everyone shouts “brrrrrrr”, and the game is over. Now someone else gets to turn around and the game starts over again.

## Keeping Your Balance

The squirrel uses its tail to keep its balance in much the same way as a tight rope walker uses a balancing pole. The squirrel’s big eyes are used for identifying both food and enemies, but the eyes also help the squirrel to keep its balance. The brain uses images of the surroundings support itself. The brain is exceptionally good at calculating distances and angles in your surroundings to aid your movement.

## Exercise

- For this exercise you will need a log. Let the children improve their balance by walking along the log. Let the children compare the difficulty of balancing when holding their arms tightly down their sides as opposed to stretching their arms out in the air (equivalent to the squirrel’s use of its tail). Remember that a wet log and boots makes this exercise extra slippery.
- Let the children stand on one leg and try to keep their balance. After a while, let the children close their eyes and see if the task becomes easier or harder. Both of these exercises can be used in “follow the leader” type games.

## Food



The most important food for the squirrel is conifer seeds, mainly from spruces but also from pines. The squirrel holds the fir cone at its tip and always begins stripping the fir cone from the thick end. Finally, only the top part of the fir cone is left at which point the squirrel throws away the fir cone and finds a new one. The reason is that there are no seeds at the top of the fir cone. When there is a shortage of seeds, the squirrel often eats spruce buds (right image). The buds are found at the base of the previous summer’s shoots. This



is why you sometimes find a whole layer of green shoots under a spruce tree.

During the summer, the squirrel also eats berries, fruits, mushrooms, and insects. The squirrel also hoards hazel nuts, acorns, and beechnuts in different places. Come winter, the squirrel has plenty of food in stock. If necessary, the squirrel can dig through snow to find its hidden stock. Grown squirrels can detect the smell of pine cones buried 30 cm deep. Sometimes, squirrels forget where they have hidden their food. This can lead to an oak or hazel sprouting in the most unlikely of places.

The squirrel is very good at stripping spruce and pine cones and can get through 200 cones a day. However, it only eats the actual seeds inside the cone. A squirrel needs to eat about 4 000 seeds a day from conifer trees (it also eats other things). So the daily ration of cones is about 30 spruce cones (1 cone in 6 min) or 90 pine or larch cones (3 cones in 6 min).

## Exercise

- Let the children gather as many fir cones as they can carry. Use the combined supply of cones to calculate how many days the “food” will feed a squirrel.

## Footprints

The squirrel only leaves one type of track which is easily recognizable. When jumping, the squirrel lands his front paws slightly before of the larger outward pointing back paws. If the snow is thick, all four paw-prints can lie in parallel.



The squirrel spends most of its time in trees and can move considerable distances without touching ground. Thus, to track the squirrel we also need to observe other signs of the squirrel’s movement.

## Exercise

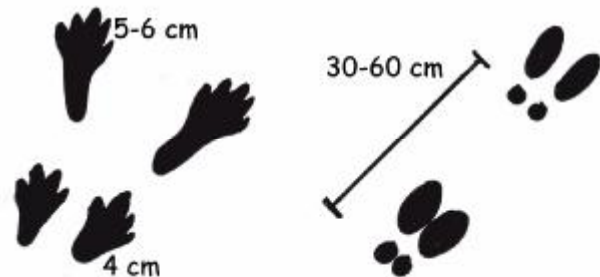
- During the winter, let the children tread up squirrel tracks in the snow.

## Jumping

When on ground level, the squirrel typically moves in 30-60 cm jumps. To flee from enemies, the squirrel can jump 130 cm from a standing start. When in the trees, the squirrel can make 5 m leaps. If you bring a walking cane on your forest excursions, it can be used for measuring distances. Prepare the cane by making 50 cm and 1 m markings using carvings or similar.

## Exercise

- Put the cane on the ground and let the children try to jump the length of the cane from a standing start.
- Also let the children jump with a run up to compare to the squirrel’s five metre jump.
- Find out how far other animals can jump. Which animals can jump further than the children?



- Let the children measure the lengths of their jumps using pine cones. They can also measure the squirrel’s jump using pine cones. Let the children fetch as many pine cones as they believe will be needed. Each child places his or her pine cones on a row. Compare with the hiking staff. You can also measure other objects, such as the height of children, teachers, etc.

## Tracking

Tracking can be done using other signs than footprints. Signs of squirrel activity could be a half eaten pine cone, marks on chewed off branches, pieces of eggshell near birds' nests, balls of vomit, spilling, etc. Try searching for these signs and you will find that the forest is full of life.

### Exercise

- To become a good squirrel tracker you have to find and identify different signs. Bring an empty egg-carton to collect your signs in. Ask help of your teacher if something needs to be depicted, e.g. a footprint.



## Appearance

The squirrel sheds its coat twice a year. The long tail and the tufts of fur on the ears do not change colour. The winter coat is greyer and thicker in order to keep the squirrel both warm and camouflaged. The squirrel also has sharp front teeth. Just like human teeth, the squirrel's teeth are covered with a protective layer of hard, white enamel. The back of the squirrel's teeth get worn out because they chew on hard nuts. However, the teeth grow out with time so that they are always the right length.

The squirrel has sharp claws on its feet. It is an able climber and can descend vertically down a tree trunk by stretching out the claws of its back feet so that it doesn't slip.



## Enemies



Have you noticed that the squirrel has large eyes placed at the top of its head? This helps the squirrel survey its surroundings and avoid animals who want to eat it.

The pine marten, the northern goshawk, the owl, and the fox are some of the squirrel's enemies. It deals with these threats various ways. When chased by a pine marten, the squirrel flees to a tree's outer branches which are too frail to support the heavier pine marten. Squirrels can also sit completely still for half an hour to fool a bird of prey.





## Pine Marten Tag

Place some sturdy sticks on the ground. Each stick represents one of the thin, outer branches of a tree top. One child plays the pine marten and the other children play squirrels that must avoid being tagged by the pine marten. A squirrel standing on a stick can not be tagged. Only one person per stick is allowed and there are always fewer sticks than children. This way there is always movement in the group. When the pine marten is far away, the squirrels run about the tree. When the pine marten is close, the squirrels scream to warn their friends.

## Squirrel Nest Swapping

Divide the children into groups of three. Two of the children stand opposite each other holding hands creating a squirrel's nest. The third child in the group is a squirrel living in the nest. Any children not playing squirrels or nests play owls that want to catch the squirrels. On a given signal, all squirrels have to swap nests giving the owls a chance to catch the squirrels. A squirrel may not use the same nest twice.

## Foxes and Squirrels

This game is played on a rectangular playing field. Most children play squirrels and must run from one end of the field to the other, pick up one of the pine cones lying there, and run back to where they started. However, some children play foxes who try to catch the squirrels as they cross the playing field. Squirrels that are caught are out or play foxes in the next round. Each round starts by the foxes shouting "we want food" and a round is complete when all squirrels have either been caught or made it back to the starting point with a pine cone.

## Nesting and Reproduction

The squirrel is active during the day. At night, the squirrel returns to its dome-shaped nest built in a branch-fork, a hollow, a nesting box, or an old woodpecker's nest. The outside of the nest is built using twigs and strips of bark. The inner walls of the nest are lined with softer materials such as moss, lichens, or fur from the squirrel's own tail. The nest provides a warm and safe home for the young. Squirrels also build additional nests to which it can move if need be.

For squirrels, gestation is 35 days. Females usually produce two litters per year but some individuals produce three litters. Each litter contains three to six young and the first litter is usually produced in March or April. Availability of food is the dominant factor affecting the number of litters and young produced.

### Discussion Topics

- How many days are there in a week at preschool? How many days are there in the month in which the child has his or her birthday? How many days are there in a year? How many hours are there in a day? How many minutes are there in an hour? How many seconds are there in a minute?

The above are good questions to discuss to learn time related words and get a feeling for time. Naturally, the children's age determines how many of these of these questions can be brought up. Remember that the primary purpose is to teach what each word means. With children that are a little older you can do minute exercises:

### Exercise

- Let the children close their eyes and raise their hands when they believe that one minute has passed.
- After a couple of tries, give them the trick to slowly count to sixty. Count together and let the children compare with their watches to see if you count too quickly or too slowly.

game

- Play moss-memory in the forest. Collect two specimens of each moss. Let the children turn around and count to thirty (half a minute) while you move the mosses around and cover each one with a mug or a white paper plate. Let the first child turn over two mugs. If the mosses are identical, he or she can continue. If the mosses are different, the turn passes to the next player. This game can also be played with lichens. Start by telling the children the story of Josephine Moss or Lisa Lichen below. Use the mosses or the lichens in the story.

The mosses in the story of Josephine Moss are the most common mosses in conifer forests. The lichens in the story of Lisa Lichen are the most common lichens found in spruce forests.

## The Story of Josephine Moss

The following short story was written to be both entertaining and educational. Learn the story by heart and practice it well so that you can bring it up naturally when guiding friends and children in the forest.

A conifer forest with plenty of blueberry shrubs is the most common nature type in Sweden and also hosts some of the most common mosses. The story of Josephine Moss will help you remember the names of at least the six of these. The images on page 12 can also be used to play memory. Print the images, cut out, and coat with adhesive plastic to make the playing cards last longer.

### Step-moss

Common in spruce forests throughout Sweden. Used for filling the gaps between logs when building houses. Current year's shoot arises from near the middle of last year's branch.



### Red Stem Moss

The most common moss in pine forests. Occurs in all of Sweden. Used for filling the gaps between logs when building houses.



Now we are going to visit a Josephine who lives in the forest. The steps leading up to her house are made of *step-moss*; a new step grows each year. Josephine has used *red stem moss* to make the banisters for her stair-case. She also likes to keep her front porch clean so you can often see her sweeping away with her *broom moss*. Josephine likes to look nice and often combs her *hair-cap moss*. She also decorates her hair with some *plume moss*. When she is expecting visitors, Josephine makes a fire in the fireplace using old decomposed *white moss*, i.e. peat which is a great fuel.

### Broom Moss

Often grows together with other mosses but can also grow in separate, 3-10 cm high, tufts.



### Hair-cap Moss

Common throughout Sweden. Often found in damp soil. Sweden's largest moss; tufts can grow to 60-70 cm. Used for filling the gaps between logs when building houses. Used by bears as a soft material for their dens.



### Plume Moss

Found in damp, shaded forest soil throughout all of Sweden apart from Gotland. Small but beautiful moss somewhat similar to a fern.



### White Moss

Found in damp soil, bogs, and fens throughout all of Sweden. Forty or so different species exist. White mosses can store water through long draughts. Some of the white mosses are Sweden's most important peat creators. The moss turns white when dried.





**Red Stem Moss**



**White Moss**



**Broom Moss**



**Plume Moss**



**Hair-cap Moss**



**Step-moss**

## The Story of Lisa Lichen

The following short story was written to be both entertaining and educational. Learn the story by heart and practice it well so that you can bring it up naturally while guiding friends and children in the forest.

The spruce forest is a great place to examine our most common lichens. The story of Lisa Lichen will help you remember the names of the six most common lichens. The images on page 14 can also be used to play memory. Print the images, cut out, and coat with adhesive plastic to make the playing cards last longer.



### Horsehair Lichen

Similar to a horse's mane. Usually black, dark brown, or grey.



### Cockleshell Lichen

Grows on the bark of trees. Usually a greyish green or brown.

Josephine's friend Lisa Lichen lives in an old hollow tree covered with *ragged lichen*. To keep her feet warm, Lisa has filled the cracks in her floorboards with *horsehair lichen* because she likes how the lichen reminds her of a horse's mane. Lisa's walls are decorated with *cockleshell lichen* which gives the home a greyish green colour. Today, Lisa has been invited over to Josephine's for dinner. While getting ready she puts on some perfume made from *tree moss*, it smells slightly of the sea. Lisa also decides to bring some flowers for Josephine and uses some *tube lichen* as a vase. Before she leaves, Lisa decides to play a trick on Josephine and uses some *beard lichen* to disguise herself as an old man. Lisa is quite hungry and hopes that Josephine will serve her a lichen soup with lichen bread. Josephine knows that this is Lisa's favourite food.



### Beard Lichen

Easily confused with Nadvornik's horsehair lichen. Pulling the beard lichen exposes the inner, darker wood of a branch. Often a greyish green.

### Ragged Lichen

Has ragged lobes, reminiscent of leaves. Grows on bark or twigs, usually on the shaded side. Sensitive to air pollution.



### Tube Lichen

Sweden's most common lichen. Prefers stems and branches of trees.



### Tree Moss

Sensitive to air pollution, just as beard lichen and horsehair lichen. Used as base for perfumes.



**Cockleshell Lichen**



**Tube Lichen**



**Ragged Lichen**



**Beard Lichen**



**Horsehair Lichen**



**Tree Moss**

## **Follow-up Activities at the Preschool**

ame

- Let the children play moss or lichen memory at the preschool. Use the images found on page 12 and 14. Simply print, cut out, and coat with adhesive plastic to make the playing cards last longer.

## **Getting through the Winter**

Apart from providing a safe haven for the young, the squirrel's nest is used for resting through the winter. The squirrel rests for long periods, its body temperature decreases a few degrees, and the squirrel is very easily roused. At regular intervals, the squirrel wakes up to eat. Other animals that rest through the winter are bears and badgers.

Hedgehogs, bats, and the hazel dormouse sleep through the winter. They lower their body temperature to about 15 C, sometimes lower. They only wake up a few times during the winter to defecate.

Cold-blooded animals, i.e. animals that have the same body temperature as the immediate environment, hibernate. Such animals are snakes, toads, frogs, and lizards. Their body temperature during the winter is close to the limits of survival and they wake only from the warmth of the sun.

ame

- Let the children play bingo memory. Print two copies of the three bingo cards below and coat with adhesive plastic. Cut out the images from one set of each card and place the pictures upside down on the table. Now let the children turn one card at a time. If the child has the image on his or her bingo card, the child gets to continue. If not, you put down the card again and it is the next players turn.

*Bingo memory*

# Rest





# Sleep



# Hiber- nate



## The Squirrel's Favourite Trees

### Beech

The beech migrated to Sweden from Denmark about 3 500 years ago. Only the southernmost parts of Sweden provide a climate suitably mild for the beech. The tree is found mainly south of Småland and Halland although it can occasionally be found farther north. Torö in Södertörn, for instance, has a very beautiful beech forest. Beech nuts are a popular food for both mammals and birds. In olden days, pigs were often let out into beech forests to grow fat on beech nuts.



Beech wood is used for floors, furniture, and toys. During the summer, most people will come in contact with beech wood since it is used for ice-cream sticks.

### Activity

- Let the children make decorative items using beech leaves and cupules.

### Oak

In Norse mythology, the oak was the tree of Thor the thunder god. When the oak has felled all its leaves, the similarity of how the tree branches out and a bolt of lightning is obvious. Sweden hosts two different oak species (three counting the cultivated Red Oak imported from eastern North America). The two indigenous oak species are the Pedunculate Oak and the Sessile Oak. In Sweden, the Pedunculate Oak is also known under the names summer oak, stem oak, or just oak for short. The pedunculate oak is the most common oak in Sweden and grows south of Dalälven. The Sessile Oak, also known as winter oak or grape oak, grows only in the southwest parts of Sweden and in Skåne.

Oak wood is used for floors, veneer, furniture, and boats. The last use is one of the reasons that the oak is still a protected species in Sweden. An old law stipulates that all oaks belong to the crown for building warships.

### Activity

- Let the children use a paintbrush to paint on the back of an oak leaf (the veins are typically more prominent there) and press the leaf against a paper to make patterns.
- Let the children place an oak leaf on a piece of paper and paint from the middle of the leaf onto the paper using short strokes. When the leaf is lifted from the paper, there is a perfect contour of the leaf on the paper. Alternatively, let the children trace the contour of the leaf using sticky crayons and pulling the colour outwards using a finger.
- Plant acorns. Bring acorns in during the winter, preferably acorns that have already begun to burst open. You can always help the acorn to get started by sandpapering down one side of the acorn so that the shell is thinner there. Place the acorn in a little water with its base facing downward.



Gall wasps lay their eggs on oak leaves. The eggs then develop to larvae. The gall wasps secrete a substance that causes unnatural cell division. The extra cells produced create a protective shell which also provides plenty of food for the larvae until it is fully grown and leaves the gall. Galls are especially common on oaks. Galls have an insignificant effect on the growth of the oak and therefore do not need to be fought off.

## Spruce

50% of all trees in Sweden are spruces, mainly due to the climate and soil in Sweden being very well suited for conifer forests. The spruce migrated to Sweden from the north about 3 500 year ago. This makes the spruce one of Sweden's youngest tree species.

The spruce is mainly used for paper pulp and as building material. Some chemical products such as artificial silk and vanillin sugar are also made partly from spruce.



### Activity

- Let the children calculate the age of a spruce tree (works for young trees). Add one year for every whorl of branches, one year for the top of the tree, and two years for the root.
- Let the children collect closed spruce cones and wrap them in textile strips before letting them dry slowly. Remove the textile and see what has happened!
- Let the children collect spruces cones and let them dry without first wrapping them up. What happens? Are there seeds? Can the seeds be planted?
- After the pine cones have been dried, they can be used to make pine cone dolls or decorations.

## Hazel

When the hazel migrated to Sweden 9 500 years ago there were whole forests of large hazel trees. In Sweden today, the hazel is mostly found as a bush or shrub. The flowers are produced very early in spring before the leaves, sometimes as early as in January or February. This is a problem for people with allergies. The fruit, which is a nut, contains 60% fat. The high energy content makes it a sought-after food for the squirrel. In olden times, hazel was used to tie barrels together because of its flexibility and toughness. Today we only use the nuts.



### Activity

- Let the children examine how hazel nuts grow. Is it most common to find single nuts or are they grouped together in twos or threes? What number of nuts is most common?

## European Larch

The European larch is common in southern Europe and is not well adapted to Sweden's harsh climate. This explains why its pine needles are not very durable and are shed each autumn. The European larch was introduced to Sweden as a cultivated tree in the late 19<sup>th</sup> century and its cones have been a popular food among squirrels ever since.

Larch wood is resistant to rot and is used for boats, windows, and water buildings. Since the trunk is very straight it was also a good choice for boat masts. In more modern times, the beautiful red-brown wood has been used for interior decoration. It has also become an alternative for impregnated wood when making gratings. Lesser pieces of wood are used for paper pulp.



## Pine

Pines were one of the first trees to migrate north when the ice sheet of the last ice age left Sweden. As the pine grows older, the top branches form a kind of roof. Branches under this roof are felled by the pine. Pines with this appearance can with certainty be said to be at least a hundred years old. Such pine trees are used by the golden eagle for nesting.

Pine wood is used for furniture and veneer. A lot of pine wood is used for building houses and lesser wood is used for paper pulp.



## Activity

- Let the children make pine needle tea. Most pine needles will suffice but for a fresher taste, use only the pine shoots. A cup of this tea contains the same amount of C-vitamin as six glasses of orange juice.

## The Tree Song

If the world did not have trees:  
What would we do with all the leaves?  
Where would the bird build its nest?  
Where would the squirrel go to rest?

Without the trees, there is no wood.  
For tree-houses they're really good!  
And birds and squirrels build their nests,  
Among the trees where they can rest.

For more songs on environmental themes, contact Gerd Strandberg +46 (0)18 25 14 74. She has produced a booklet of songs and an accompanying CD. The booklet contains lyrics, sheet music, and activities for each song.

## References

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## **Suggested Programme**

### **Day 1**

09.00 Assembly in the forest

09.10 Songs, rhymes, and rhythm

09.30 Morning snack

10.00 Forest walk with a story and exercises

*Once upon a time there was a little squirrel girl called Corrie. She very much enjoyed jumping around in the tree tops. However, today she had decided to climb the highest spruce in the forest and was a little afraid she would fall down and hurt herself. To avoid this, Corrie took extra care to use her tail and her big eyes to help her keep her balance.*

- For this exercise you will need a log. Let the children compare the difficulty of balancing when holding their arms tightly down their sides as opposed to stretching their arms out in the air (equivalent to the squirrel's use of its tail). Remember that a wet log and boots makes this exercise extra slippery

*After climbing the spruce, Corrie felt a little dizzy and wanted to return to ground level. But this would give her enemies a chance to catch her. At first, the forest seemed still and peaceful, but as Corrie was catching her breath from the long climb down the spruce, she suddenly saw a pine marten! She quickly jumped towards the nearest tree and fled to the frail outer branches where the pine marten could not follow.*

- Put your walking cane on the ground and let the children try to jump the length of the cane from a standing start.

*After her encounter with the pine marten, Corrie was feeling hungry. She set out to search for some berries, fruits, nuts, mushrooms, pine cones, or perhaps a bird's egg. On this particular day, Corrie found a lot of spruce cones.*

- Let the children gather as many spruce cones as they can carry. Use the combined supply of cones to calculate how many days the "food" will feed a squirrel.

*After eating, Corrie feels a bit heavy. She wonders if she weighs more or less than a carton of milk.*

- Bring a stuffed squirrel or a bottle that weight 4 hg, the usual weight of a squirrel. Let the children look for objects in the forest of the same weight as the squirrel/bottle. Each time a child brings back an object, let him or her compare the weights by holding the object in one hand and the squirrel/bottle in the other. If the weights differ, the child must find another object, this time using the first object as a reference point.
- After completing the above exercise you will have a number of different objects that all weigh 4 hg; use them to play burr. Line up 5 to 10 of the collected objects on a row. One of the children turns around and shuts his or her eyes. The others agree on one of the objects to be the "burr-object". The child who up to this point has had his or her eyes shut now turns around and points to the objects on the line one by one. As long as he or she doesn't point to the burr-object, the other children simply say; "The pinecone is fine", "the juniper berry is fine", etc. Alternatively, the children could say; "the *long* stick is fine", or "the *thin* pinecone is fine", if you want to practice words used for comparisons. When the child points to the object that is the Burr-object, everyone shouts "brrrrrr", and the game is over. Now someone else gets to turn around and the game starts over again.

*Tired from the day's adventures, Corrie returned home to her nest. It only took a minute before she had fallen asleep.*

- Let the children close their eyes and raise their hands when they believe that one minute has passed.

*Now we must tiptoe away quietly so that we don't wake Corrie up!*

11.00 Return to the preschool for lunch

The programme for the following days is not as intense as day 1. This provides time for repeating exercises or spontaneous play. Remember that all children learn at different rates.

## **Day 2**

09.00 Assembly in the forest

09.10 Repetition of songs, rhymes, and rhythm exercise

09.30 Morning snack

10.00 Discuss the exercises you did on day 1

*Corrie's tail is not her only aid in keeping her balance, her eyes help to. Apart from being a great balancing tool, Corrie's eyes also help her to spot approaching owls.*

- Let the children stand on one leg and try to keep their balance. After a while, let the children close their eyes and see if the task becomes easier or harder.

Finish the day off with **Squirrel Nest Swapping**. Divide the children into groups of three. Two of the children stand opposite each other holding hands creating a squirrel's nest. The third child in the group is a squirrel living in the nest. Any children not playing squirrels or nests play owls that want to catch the squirrels. On a given signal, all squirrels have to swap nests giving the owls a chance to catch the squirrels. A squirrel may not use the same nest twice.

## **Day 3**

09.00 Assembly in the forest

09.10 Repetition of songs, rhymes, and rhythm exercise

09.30 Morning snack

10.00 Discuss the exercises you did on day 1

*If the pine marten comes while Corrie is out looking for food, she must quickly flee through the tree tops.*

- Let the children jump with a run up to compare to the squirrel's five metre jump.
- Let the children measure the lengths of their jumps using pine cones. They can also measure the squirrel's jump using pine cones. Let the children fetch as many pine cones as they believe will be needed. Each child places his or her pine cones on a row. Compare with the hiking staff. You can also measure other objects, such as the height of children, teachers, etc.

Finish the day off with **Pine Marten Tag**. Place some sturdy sticks on the ground. Each stick represents one of the thin, outer branches of a tree top. One child plays the pine marten and the other children play squirrels that must avoid being tagged by the pine marten. A squirrel standing on a stick can not be tagged. Only one person per stick is allowed and there are always fewer sticks than children. This way there is always movement in the group. When the

pine marten is far away, the squirrels run about the tree. When the pine marten is close, the squirrels scream to warn their friends.

## Day 4

09.00 Assembly in the forest

09.10 Repetition of songs, rhymes, and rhythm exercise

09.30 Morning snack

10.00 Discuss the exercises you did on day 1

*There is one more animal that Corrie has to look out for: the fox. If the fox comes, Corrie quickly retreats to her nest.*

Play **Foxes and Squirrels**. The game is played on a rectangular playing field. Most children play squirrels and must run from one end of the field to the other, pick up one of the pine cones lying there, and run back to where they started. However, some children play foxes who try to catch the squirrels as they cross the playing field. Squirrels that are caught are out or play foxes in the next round. Each round starts by the foxes shouting “we want food” and a round is complete when all squirrels have either been caught or made it back to the starting point with a pine cone.

Finish the day of with **moss or lichen memory**. Collect two specimens of each moss to be used. Let the children turn around and count to thirty (half a minute) while you move the mosses around and cover each one with a mug or a white paper plate. Let the first child turn over two mugs. If the mosses are identical, he or she can continue. If the mosses are different, the turn passes to the next player. This can game can also be played with lichens. Start by telling the children the story of Josephine Moss or Lisa Lichen. Use the mosses or the lichens in the story.