Exercises and Outdoor Education with the Nature School from Umeå, Sweden

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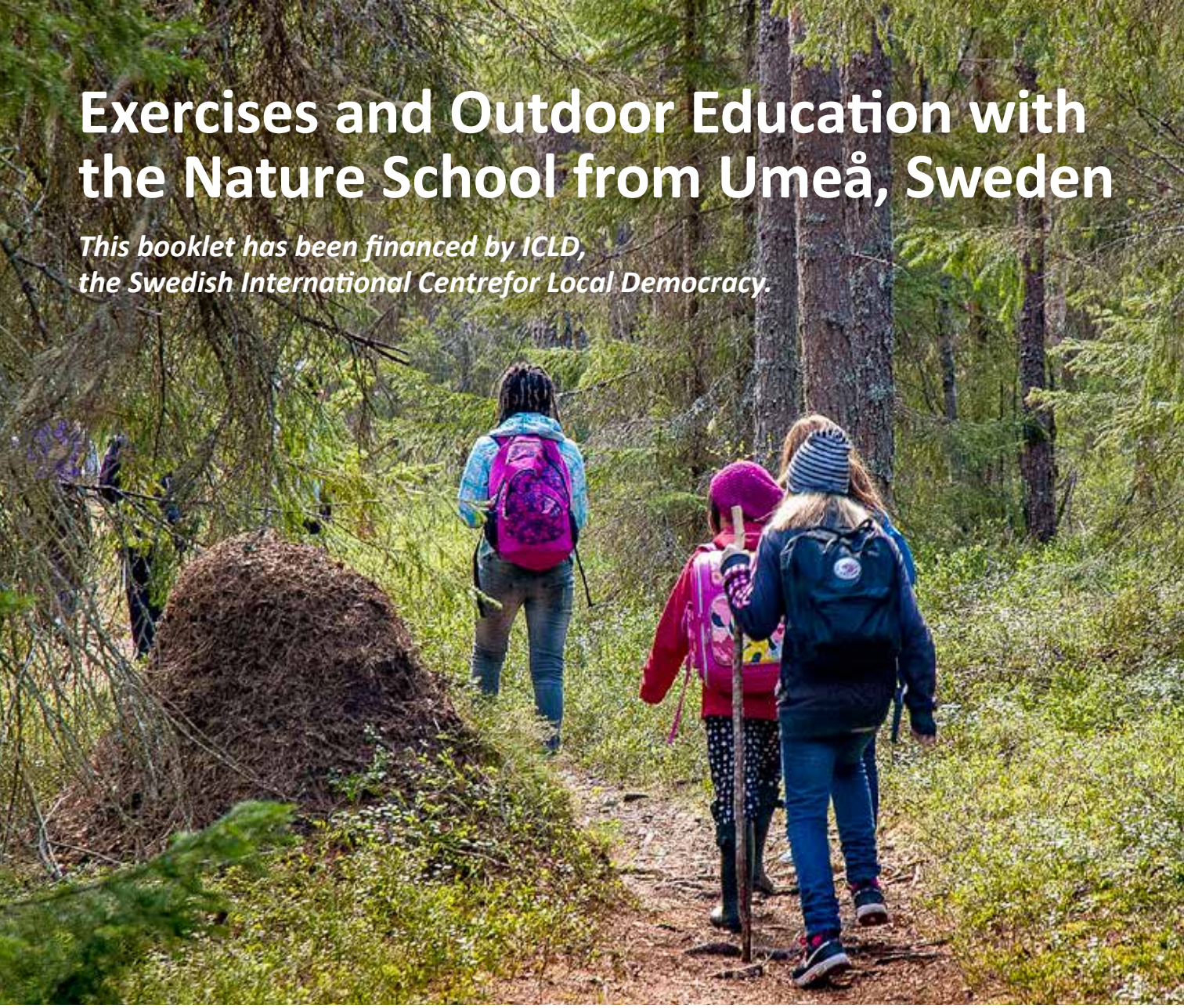


UMEÅ KOMMUN

Content

Greetings from the Nature School in Umeå.

We are a resource for preschool and 9-year compulsory school and are assigned to carry out competence development activities for teachers and leaders, with focus on sustainable development and outdoor education.

Teaching can take place in the classroom but also in other environments. Working with outdoor education involves using both nature and society as a source of knowledge and as a classroom. An understanding of nature and society gives our children and pupils important knowledge to enable them to contribute to sustainable development. In this respect, new abilities and proficiencies can also be learned.

It is our hope that this booklet will inspire you to work with outdoor education in all subjects. In the booklet you will find suggestions for exercises that can be very simply adapted to suit different ages and that we have modified and used in our work with children, pupils and staff.

The booklet was financed by ICLD, the Swedish International Centre for Local Democracy, and is part of a joint project between Umeå Municipality and Cau Giay District i Hanoi, Vietnam.

Would you like to know more about the Nature School in Umeå? **www.umea.se/naturskolan**

Group division exercises

1. The stick

Purpose: Cooperation and communication, practise body language. Good exercises for dividing into groups or teams.

Age: Any.

Each student picks up a stick. Compare the length of the sticks and form a line, in ascending order, according to the length of their stick. The teacher can now split the line and divide the students into even pairs or groups.

2. Describe in pairs

Purpose: Communication and language practice.

Age: Any (older pupils can do the exercise in a foreign language).

Work in pairs. One pupil picks up an object from nature and hides it in one hand. He or she describes it and the other pupil has to guess what it is. Then reverse roles.

3. Alphabetical order

Purpose: Practise the alphabet and communication. Good exercises for dividing into groups.

Age: 9 and over.

Ask the pupils to arrange themselves in alphabetical order by first name or last name. The pupils can speak to each other or do the exercise in silence. An alternative is to give the pupils sheets of paper with letters on and have them use those to arrange themselves in alphabetical order.

4. Compound words

Purpose: Practise compound words.

Age: 8 and over.

Write the two parts of some compound words on sheets of paper, e.g. arm & chair, white & board, foot & ball. Hand out the the words in random order and tell the pupils to form pairs by finding the other half to form the correct compound word.

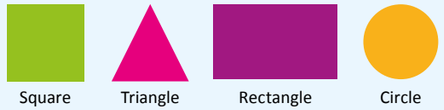
Mathematics

5. Geometry rope

Purpose: Practise geometry terms.

Age: 7–15.

Divide the class into groups of 6–10. Give each group a piece of rope at least 6 m long that is joined at the ends. Ask the groups to form different geometrical figures, e.g. a triangle, a rectangle, etc. Older pupils can do the exercise in silence or even blindfolded.



6. Secret picture

Purpose: Communication, practise telling the time, the points of the compass or other position words. Older pupils can do the exercise in a foreign language.

Age: 7 and over.

The pupils work in pairs. Each pupil has a one-metre long length of rope. They sit with their backs to each other and lay their ropes in front of themselves in the shape of a circle. One in the pair places out their objects and tells the other where he or she is putting them, e.g. “I’m putting a cone at 12 o’clock”. When all the objects have been put out, the results are compared. When both have tried leading the other, the rope can be used to look for items one metre in diameter or circumference.

7. Concept bingo

Purpose: Practise concepts.

Age: 6–9.

Work in pairs. Each pair has a bingo card with 3 x 3 squares. Each pair gathers nine different objects from nature that can fit in the squares. The teacher now tells the pupils to remove one object at a time, e.g. the longest, the heaviest, the oldest, etc. Every time a pair get three empty squares in a row they shout “Bingo”. Keep going until all squares are empty.

8. All numbers – go!

Purpose: Mental arithmetic.

Age: 7 and over.

Mark out a rectangle, for example with a rope, roughly the size of a volleyball pitch. The pupils stand along one of the short sides. Each one has a card with a figure from 1 to 9.

The teacher stands in the middle and calls out: “All numbers – go!”

The pupils respond: “Which number”.

The teacher replies, for example: “7”.

Pupils with cards with the number 7 on or who can form a group by adding their numbers together to make 7 (e.g. 3+1+3) can now cross to the other side holding up their cards for everyone to see. The ones who cannot make 7 can now try to run across without the teacher catching them. Difficulty can be increased by using other forms of arithmetic.

9. Number on the collar / Number on the forehead

Purpose: Practise understanding of numbers.

Age: 5 and over.

Pin a sheet of paper with a number on to each pupil’s collar with a clothes peg or let them hold them against their foreheads. They are not to see their own numbers. Everyone goes round asking each other questions to try to guess the number, e.g. “Is it more than 8”? “Is it less than 10”? Older pupils can have fractions, decimals, negative numbers, etc. End by getting the pupils to stand with their numbers in ascending or descending order.

10. A metre of rope

Purpose: Practice measuring, using mathematics in real situations.

Age: 5–15.

Work in pairs. Each pair has a piece of rope one metre long.

1. Guess how long a metre is by one pupil holding out his or her arms and then the other one using the rope to check.
2. Find something 1 metre long.
3. Find something half a metre long.
4. Find something 2 metres long.
5. Find a tree one metre in circumference.
6. Measure the fattest tree you can find.
7. Measure the circumference of your head.
8. Arrange four pieces of rope to form a square. Find out how many children can stand inside it.
9. Guess how long 10 metres is. Walk the distance. Use your rope to measure and see if you were right.

11. What is the volume of a standing tree?

Purpose: To learn how to measure volume and estimate how much timber can be obtained from a tree.

Age: 12 and over.

Using this formula you can make a rough calculation of the volume of a tree trunk. First use one of the methods in no. 13 to calculate the height of the tree.

The area of the base of the tree is a circle where the area is the square of the radius multiplied by pi ($r2 \cdot \pi$). Multiply the area by the height of the tree (h) and divide the result by 2 since the tree is narrower towards the top.

12. How many legs animals have

Purpose: Practice geometry and measuring and learn about animals.

Age: 3–9.

The pupils gather eight sticks each and then form themselves into a circle. They place their sticks in a single pile in the middle. The teacher asks the first pupil: How many legs does a fly have? The child enters the circle and picks up as many sticks as a fly has legs. Everyone in the circle can help count. The pupil returns to the circle and the teacher asks the next one: How many legs does a butterfly have?

When all the children have had a question and are standing holding their sticks, the teacher divides the class into smaller groups.

The groups are given tasks like: Make a circle with your sticks and see how many children can fit inside.

Look at your sticks and guess how long a line they would make if you put them one after the other. Put them out and see who guessed best. Guess how long the line would be if you used everyone’s sticks. Put them out and see who guessed best.

13. Simple methods to measure the height of a tree

If you don’t have a height measurer, you can still estimate the height of a tree using one of the following methods. Help each other to try different methods and compare the results. Two methods can be used to measure a distance by stepping. Either measure the length of your own step and multiply this by the number of steps or practice taking one-metre steps and step out the distance by walking it.

Method 1

Begin by measuring how long your own step is when you are walking normally. Stand about ten metres from the tree. Hold up a stick with your arm outstretched and mark the height of the tree with your thumb. Lay the stick down as if the tree had fallen aside and ask someone to stand at the end of the stick that is not at the base. Step out the distance from that person to the tree and multiply that by the length of your own steps.

Method 2

Ask a person to stand next to the tree. Stand about ten metres from the tree and hold up a stick with your arm outstretched. Measure the first person’s height by marking it on the stick with your thumb. Then, with your arm outstretched, measure how many times the person’s height the tree is. Multiply the result by the person’s actual height and this will tell you how high the tree is.

Method 3

Take a straight stick that is a little longer than your arm. Hold it with your arm outstretched as shown in the picture. Make sure your thumb is at the base of the tree and then move forwards or backwards so that the tip of the stick is at the top of the tree. Step out the

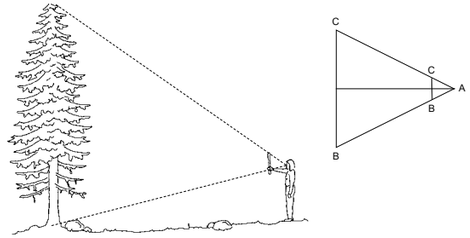
distance between yourself and the tree and multiply that by the length of your step.

Method 4

This method assumes that the sun is making distinct shadows. Stand so that you can measure the proportion of your shadow to your height. Measure the tree's shadow and calculate the height of the tree based on the same proportion.

Method 5

This method uses a height measurer that you can make yourself (you can find instructions for making one a little further down). Stand exactly 15 metres from the tree you want to measure. Hold up the height measurer and use the straw as a sight to find the top of the tree. Put your thumb on the string when it stops moving to lock it in the position it is in when you aim at the top of the tree. Read off the scale and note down the result. Then do the same again but this time aim at the base of the tree. Add the two results together.

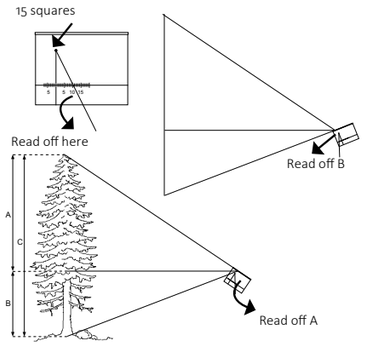


Pace out the height of the tree

Make your own height measurer

Materials: graph paper (5 mm squares), cardboard, ruler, pencil, tape, thumbtack, drinking straw, a length of thin string and a weight (e.g. a metal nut).

- Take a piece of graph paper. Mark a point 12 squares from the left-hand edge and 6 squares from the top (this is where you will put the thumb tack).
- Using the ruler, draw a horizontal line 15 squares below the point you marked earlier.
- Divide the line into metres, each square corresponding to 1 metre and with 0 directly below the point you marked. Mark metres both to the right and to the left.
- Cut out a piece of cardboard measuring 20 cm by 15 cm. Tape the graph paper to the cardboard so that its upper edge is parallel to the cardboard's upper edge.
- Take a piece of string about 35 cm long. Make a small loop at one end. Tie a metal nut on the other end. Place a thumbtack in the loop and attach the string at the point you marked earlier.
- Tape a straw along the upper edge of the cardboard.



14. Discover Pi π

Purpose: Purpose: investigate and understand mathematical concepts.

Age: 10 and over.

Divide the class into suitably sized groups. Each group must find and investigate circle-shaped things in the school yard. These might for example be a round table, a tree or a bicycle wheel. If it is difficult to found round objects, the group can draw a circle on the ground. (Use a piece of string and hold it at a centre point to draw the circumference.) Draw the circle with a stick or other suitable object. Then investigate how long the circumferences and diameters of the different circle-shaped objects are. Note down the figures with care so as not to mix them up.

When the groups return to the classroom, enter their figures in a table on the board (see below). Ask the pupils to work out what the circumference divided by the diameter is and enter the figures in the last column. If all the measurements have been made precisely enough, the value in the last column will be about the same for all the objects. You have discovered Pi π!

Object	**Circumference**	**Diameter**	**Circumference/Diameter (π)**
Table			
Tree			
Bicycle wheel			
.....			

15. Ball in the hole

Purpose: Practice team-work and for the youngest pupils learn to count from 1 to 10.

Age: 5 and over.

Use a sheet or a shower curtain. Cut out ten holes and number them from 1 to 10. The holes must be of the right size for the ball to fall into but not through. The pupils stand around the sheet/shower curtain and grab the edge. They now have to cooperate to get the ball from hole 1 to hole 10 in sequence. If the ball falls into the wrong hole, they have to start again. The exercise can be done with two teams competing.

16. Mathematic machine

Place a fabric over a table. Have two pupils crawl under the table with a calculator, flashlight and pen. They are now the “brain” of the machine. Mark where in and out are on the machine. The pupils in the machine are given a card with the mathematical expression the machine should perform. For example, × 3 + 6 or + 0.5 × 3.

Then have different pupils come up and put a number on a piece of paper in the machine. The pupils who act on the machine’s “brain” now perform the given counting operation and send out the answer written on the back of the paper that classmate sent in.

Then a new pupil is allowed to come in and insert his paper with a new number that the machine sends out after it has done the mathematical calculation.

All pupils in the class can then be helped to figure out what the machine does with the number that is stopped. When some pupils say they know what the machine is doing, they have to come forward and enter a number into the machine and also write on the back what they think should come out. The pupils who can give two numbers with correct answers have probably come up with what the machine does.

When it’s time to reveal what the machine is doing, ask the pupil to tell it. It can lead to several different explanations, which still mean the same thing, although they can sound completely different.
In the first challenge, one explanation could be that you multiply the number that is entered by three and then add by six,

$\times 3 + 6$

It could also be that you first add two to the number that is entered and then multiply by three,

$(\times + 2) \times 3$

How come both explanations give the same answer? An algebraic explanation is

$(\times + 2) \times 3 = 3 \times (\times + 2) = 3 \times + 6$

The pupils may not understand the formal way of writing, but after a few examples, the pupils are usually convinced that the same operation can be expressed in different ways.

Once the pupils understand what the challenge is, it is time to let them go on their own.

Then they work two and two with a cardboard box, calculator and cards with different mathematical operations.

Biology

17. Animals + follow-up

Purpose: Learn about animals, verbal communication, formulate questions. Older pupils can practice a foreign language.

Age: 8 and over.

Make small cards with pictures and names of different animals. Attach a card at the back of everyone's collar with a clothes peg. The pupils must ask their class mates yes-no questions to guess what animal is on their cards. Give some examples of useful questions to ask, e.g. Do I have 6 legs? Do I have fur? Do I eat plants? When they have correctly guessed their animals they can either get a new picture or turn to others to help finding out their animals. A follow-up to the game, when everyone knows what animal they have, can be to discuss for example, what the animals look like (number of legs, footprint, tail/rump, life cycle, food).

Frog

Hedgehog

18. Quiz

Purpose: Practise the names of plants and teamwork.

Age: 6 and over.

Divide the class into teams of five or six pupils, preferably the same number in every team. Each pupil is given a number, 1, 2, 3 etc. with the same numbers in all teams. Each team sits on the floor or on the ground in a close circle. The teacher holds up a plant and the pupils in each team have to agree on the answer. Remind them to whisper to prevent the different teams to hear each other. After about half a minute, the teacher says a number and all the pupils with that number raise their hands as qick as possible. The one who first raise his/her hand is allowed to give the answer. Correct answer gives the team one point. New questions are asked until a team has for example 5 points.

19. Species circle

Purpose: Practise the names of plants.

Age: 5 and over.

All the pupils stand in a circle. Give everyone a number from 1 to 4. Place some plants, pictures of animals or items from nature in the middle of the circle. Talk about them. Define their species. Make sure that everyone knows the names. Repeat. The teacher then calls out for example "grass, four". All pupils with number four run runclockwise around the outside of the circle. When they reach their places again they take one step into the circle and point at the correct item or picture. Either you are happy to see everybody point at the right item before you call out again, or the first pupil to do so wins a point.

20. Plant bingo

Purpose: Practise the names of plants.

Age: Any.

Work in teams of 2–3. Each team has a bingo card with 3x3 squares and the teacher has chosen 9 different plants to work with. Each team get a set of the 9 plants and put them in random order on the bingo card.
The teacher calls ot the names of the plants, one at the time, and the pupils remove that plant from their card. Every time a team gets three empty squares in a row, horizontally, vertically or diagonally, they shout “Bingo”. Keep going until all squares are empty.

BINGO!

Civics

21. Recycling

Purpose: To create understanding of why it is important to recycle materials from our waste.

Age: Any.

Taking the earth's resources and making products that later become waste is not sustainable in the long run. Partly because the resources will run out and partly because our mountains of waste will grow and grow. The alternative is to use the earth's resources sparingly and only manufacture products that can be recycled. What we use will then be able to be used as new material time and time again. We can then make sure that the earth's resources are sufficient and minimize our waste.

In Sweden today we have municipal recycling centres where we can take paper, newspapers, cardboard, plastic, glass and organic material. Materials that can be recycled are sorted out from the rest. Materials that can be burned are taken to a refuse incineration plant where the heat produced is used to heat homes and other buildings. Organic material is turned into biogas, which can be used as fuel for buses and cars. Biogas is a source of energy that is much better than petrol, which is a finite resource.

Paper, newspapers and cardboard
All paper can be recycled. This saves resources and energy since much less energy is needed to recycle used paper than to make new paper from forest resources.

Metal
All of 8 % of the earth's crust consists of aluminium, making it the most common metal. This means that of 100 kg of earth, 8 kg is aluminium! It can be found everywhere: in the earth, in the air and in the food we eat. Even if it is a plentiful resource, one big problem is that it takes a lot of energy to extract aluminium. But if we recycle aluminium instead, we save 95 % of the energy that is needed to extract aluminium from the earth directly.

We can save almost the same amount of energy if we recycle steel and since metal can be recycled over and over again every little piece of metal is very valuable.

Plastic
About 4 % of the world's oil consumption is used to make plastic. Since oil is not renewable it is not sustainable to use it at the rate we do today. We can recycle plastic instead and reduce our mountains of waste.

Glass
Another material that can be recycled several times is glass. Recycling glass saves 20 % of the energy that it takes to make new glass.

Organic material
All organic waste is valuable since it can be composted and transformed into nutrient-rich soil that can be used as an alternative to artificial fertiliser.

22. Study different materials.

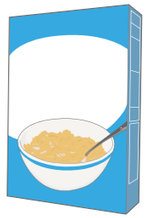
Purpose: To learn about different materials' properties and their place in the eco-cycle.

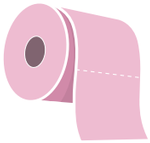
Age: Can be adapted to different ages.

Ask the pupils to collect some different materials from the rubbish bins. Go through the things they have collected and talk about where the materials come from and how they are made. Write the name of each material in a table (see below) and ask the pupils to guess what their properties are (magnetic, sinks/floats and degradable). Then ask the pupils to test these properties practically and enter the results in the table. To test degradability, you can nail the materials to a plank of wood which you then bury in the ground. After a couple of months, dig it up again to see what has happened.

	My guess	Result
Material		
Plastic		
Aluminium		
Metal		
Paper		
Cardboard		
Glass		
Organic material		

What can the things be recycled into?
Draw a line between a material and an object.

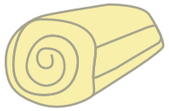




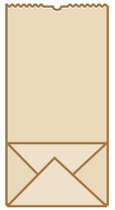
Toilet paper

New cars

Playground equipment



Fibreglass



Paper bags

23. Where does soil come from and what organisms can decompose materials?

Purpose: Understand nature's eco-cycles, the importance of insects and other small organisms/animals and the importance of an unpolluted world.

Age: Any.

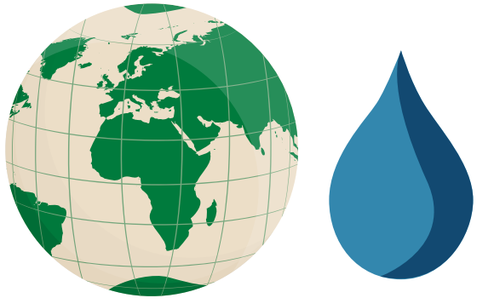
Study soil. Dig in the ground and see if you can find some worms or beetles. Gather them up and study them with a magnifying glass. How many legs do the animals have? What do they eat? What does their life cycle look like? In what way is the animal important to us? Try to find out what the animals are called.

Plant some large seeds or beans in small boxes. Study how they grow and how the leaves develop. Plant them in six different boxes and compare how they develop in different environments. Place one box in a light place and one box in a dark place; water one box and leave one without water; plant the seeds/beans in sand; plant the seeds/beans in nutritious soil. Have the children give their ideas about what will happen. Compare.

24. Counting in percent with a globe

Purpose: Practice percentages and geography.

Age: 9 and over.



How much of the earth is covered by water?
Test the proportion of land to water by having the pupils throw a beach ball in the form of an inflatable globe between themselves. Have them throw the ball 10 times and count out loud how many times someone's right thumb lands on water and on land. Then try 20 times, maybe 100 times. What percentages does this give? Does this agree with your theory?

*(Answers: About 71 % of the earth's surface is covered by sea with saline (salt) water; the remainder consists of **islands** and **continents**.)*

Planet Earth – the water planet
Almost ¾ of the earth's surface is covered by water. We often believe and behave as if there is an unlimited supply of water. To illustrate the scarce resource that fresh water is, fill a 10-litre bucket or aquarium with water.

10 litres = 640 tablespoons (tbsp) and represents all the water on the planet

1. The oceans	622 tbsp
2. Glaciers and polar ice	13 tbsp
3. Groundwater	4 tbsp
4. Freshwater lakes	0.8 ml
5. Inland seas and salt lakes	0.8 ml
6. The atmosphere	0.8 ml
7. Rivers	0.001 ml

Of this water, only approximately 17 tbsp make up what is not oceans. Have the pupils place 17 tbsp in a container and take out the amount that represents freshwater lakes and rivers (approx. 0.05 tbsp or 0.8 ml – less than a drop). This is the amount of water on earth that we can drink – if we do not pollute it.

25. Small eco-cycle in a bottle

Purpose: To understand different kinds of cycles, for example water and carbon. To understand photosynthesis and that all organisms are interdependent. What are basic human needs?

Age: The exercise can be modified to suit all ages.

Use a large demijohn made of glass or a large jar. Fill the bottom with coarsely crushed charcoal and cover with soil to fill approx. 1/4 of the jar. Using two long sticks, plant some small plants that can withstand high humidity. Put in 10 earthworms and add a cup of water. Seal tightly – there must be no evaporation – and do not open. Place the demijohn/jar somewhere light but not in direct sunlight. If you see any fungi, you have given your eco-cycle a little too much water. Open the container and leave it open for 24 hours. Then try again. Your little eco-cycle can now function for many years. The only question is: HOW?

Fantastic photosynthesis

water + carbon dioxide + solar energy

water + oxygen + carbohydrates

Language and communication

26. Gather colours from nature

Purpose: Learn the names of colours. Discover and be fascinated by nature, slow things down a little.

Ages 2–9.

Give everyone a piece of paper with a colour on. Try to find something in nature or the school yard with that colour. Or lay out the colour cards on a large piece of cloth. Have the children gather things from nature and place next to the correct card.

27. Find something…

Purpose: Practise adjectives, discover things in nature.

Age: Any.

Divide the class into groups/teams and give each group/team a bag of assignments as follows.

In this bag I want you all to collect:

- something green
- something red
- something brown
- something yellow
- something soft
- something hard
- something new
- something old
- something you can eat
- something alive
- something 1 cm long
- something beginning with the letter K
- something beginning with the letter G

The pupils have 5 minutes to find these objects in the school yard. Then put everything on display so that the pupils can compare what they found.

28. Half & double

Age: 3–9.

Purpose: Practise half and double.

Work in pairs. Give each pair an egg carton.

The children gather items and put them in one of the pockets. Then they change cartons with another pair, who have to put double as many things in the pocket directly opposite.

29. Opposites

Purpose: Learn adjectives and opposites. Communication.

Age: 7 and over.

Divide the class into groups of 2–3. Give each group an egg carton (for 6 eggs) or a box with compartments arranged in pairs. In each carton or box, place a piece of paper with two opposites which are different for all the groups, e.g. new – old, big – small, short – long, straight – crooked, dead - living. The pupils have to find objects in nature that the words describe and place them opposite each other in the carton. The groups then exchange cartons and have to guess what opposites the objects represent.

Use the objects in the cartons for the next exercise.

30. Age or place in the eco-cycle?

Purpose: Experience and analyse different materials in nature and their characteristics. Think about and discuss origins.

Age: Any.

Have the pupils work in pairs and collect objects from nature, perhaps parts of a tree, e.g. cones, shoots, dead twigs or branches. The objects from the previous exercise can also be used. The pupils have to arrange the objects on a timeline with the oldest at one end.

The pupils then tell each other about the objects and explain why they have put them in that position on the line. The discussion is often very rewarding.
Is a seed actually new or is it in fact quite old?

31. The camera

Purpose: Practise observation, language and communication.

Age: Any.

Pupils work in pairs. One closes their eyes (pretending to be a camera) and the other (the photographer) leads them to a position he or she has chosen. When the photographer tugs the “camera” by the ear, the shutter opens, i.e. the pupil opens his or her eyes and looks around. When the photographer once again tugs his classmate’s ear, he or she closes his or her eyes again. The pupil has now “taken a photo” and must describe it in as much detail as possible. They then take more photos in the same way and then switch roles.

History and technology

32. Inventions

Purpose: Understand what an invention is.
Discuss sustainability.

Age: 12 and over.

Give everyone a piece of paper with the name of an invention on. Their task is to arrange them in chronological order and then discuss which of them are sustainable and have contributed to make the world a better place.

Examples of inventions:

3000 BC	potter's wheel
1450	printing
1593	thermometer
1785	parachute
1876	telephone
1879	electric light bulb
1907	vacuum cleaner
1939	helicopter

Others: mobile phone, wheel, bag, stone axe, comb, dynamite, TV, antibiotics, bread, atom bomb, eye-glasses, watch, bicycle, razor blade, steam engine, coins, windmill, aeroplane, pacemaker, computer, compass, ceramics.

Collaboration exercises

33. The train

Purpose: Practise collaboration and trust.

Age: 9 and over.

Form a line of 3–15 pupils. Each places their hands on the shoulders of the pupil in front. Everyone closes their eyes except for the one at the back, who is the locomotive. The locomotive steers the train by patting the pupil in front on the right or left shoulder. The pupils are not allowed to say anything.

34. Valuation exercises in all subjects

Purpose: Learn to express one's opinion and listen and try to understand those of others. All value exercises are a way of expressing one's opinion with the whole body, opinions that one can change during the course of the exercise. It is important that the teacher allows everyone to express their opinion and that everyone respects that opinion.

Age: 7 and over.

- There is no right or wrong answer – no winners or losers.
- Everyone must think for themselves, listen and be allowed to give their opinion.
- Ask yourself – what do I think? Not "It is generally believed that…", "People think that…" or "This is the way it is… ".
- Try not to interrupt when someone else is talking.
- Pupils are allowed to change their minds during the exercise.

35. The snake

Purpose: Practise collaboration and trust.

Age: 3–9.

The pupils form a line as in the train exercise. The one at the front is allowed to look, the others close their eyes. The one at the front must now lead the others, the "snake", as carefully as possible and in silence.

36. Four corners

Purpose: Stimulate a discussion where no one is right or wrong.

Four statements, one in each corner. Pupils go to the corner where the statement best agrees with their own values. One corner must always contain "Other suggestion". When the pupils have gone to "their" corner, give them a few minutes to discuss among themselves and then the different groups can talk about their particular choices. Here are a few suggestions for statements.

Who decides what food shops sell?

1. The shop-owners
2. The growers
3. People like us who shop there
4. Other suggestion

When is the best time to learn about the state of the earth?

1. When you're young
2. When you're a grown-up
3. It doesn't matter – the earth has already been destroyed
4. Other suggestion

When I hear about the poor health of the earth...

1. I get scared
2. I want to do something for the environment
3. I don't really care
4. Other suggestion

37. The line – Agree, disagree

Put out sheets of paper on the floor numbered 1–6 (or 1–3). Like with questionnaires, pupils go to the most appropriate number; 1 = agree and 6 = disagree. When everyone has chosen a place, they can discuss with the person who is closest to them why they chose that particular position (number).

38. The circle

The pupils walk in two circles, a small inner circle and a larger outer circle, in opposite directions. The teacher says a statement and the pupils who agree change circles (and direction). A good exercise to begin a lesson with. The pupils push and shove each other, laugh, get to know each other and get warmed up.

Examples of statements
Metals can be recycled many times. Bananas taste good. Our oil reserves will never run out. I often take the bus. Insects have four legs.

39. Carousel Brainstorming

- Divide pupils into small groups, 3 or 4 pupils in each group around a table.
- Place a sheet of paper on each table with different questions or tasks.
- Each group should have a pen and an eraser.
- The pupils in the group will collaborate and write down as many suggestions or solutions as they can within a certain time.
- The teacher just wait.
- When the time ends, pupils move to the next table where they receive a new question / task.
- The teacher resets the time.
- Pupils read the question / task and what the previous group has written. Then they fill in their own suggestions / solutions or build on the answers that already exist.
- Continue until all groups have been working on all questions / tasks.
- When all groups have rotated in the classroom, all answers and solutions are offered in full class.

A structure that may be used:

Training the collaborative skills
Write down things you like, for example, food (table 1), sports (table 2) music (table 3), etc.

In mathematics
Come up with different solutions to a problem.
Describe a mathematical concept.

Within sustainable development
What can you do if you want to contribute to the Global Goals?

Illustrator: Martin Silfvast

Many of the exercises can be found in the book series "Learning outdoors" created by the Swedish Nature School Society. The material in question has been revised by the Nature School in Umeå, Sweden.

For more information on the books and society go to:
www.naturskola.se

For information on the ICLD project and the Nature School in Umeå see:
www.umea.se/naturskolan

Thank you

for your interest in our activities. Please feel free to contact us – we look forward to working with you.

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