

A detailed illustration of a forest scene. In the foreground, there are various types of green leaves and ferns. A small red squirrel is perched on a branch on the right side, looking towards the left. Two small birds are also visible: one with a red breast and blue back on a branch above the squirrel, and another with a red breast and black back on a branch below it. The background is a light, hazy green, suggesting a dense forest.

A HANDBOOK
WITH EXAMPLES OF
FOREST PEDAGOGY
PROGRAMMES

Project:

**"Forests educate and
connect
everything and everyone"**

Erasmus+ programme

September 2024

INTRODUCTION

The handbook brings together the forest pedagogy programmes developed in the framework of the project Forests educate and connect everyone and everything which is a part of the Erasmus+ programme, namely:

- two programmes for lower primary school (one of which is designed to allow nature lessons to run throughout the school year),
- a programme tailored to students with learning difficulties and adaptations,
- two programmes for high-school students,
- two school-to-school exchange programmes in nature.

The programmes are primarily aimed at children with fewer opportunities - those with various learning difficulties, as well as refugee or migrant children. They are designed to encourage learning and perception in nature through all senses, using a variety of materials, tools and demonstrations that do not require extensive explanations. These activities can also be followed by children who don't understand and speak Slovene language well. One of the programmes has been designed from the start to be delivered in Slovenian or English (HUNTING FOR EXTRAORDINARY TREES - a programme for lessons for secondary school). All the programmes are suitable, with minor adaptations, for all groups of pupils.

The programmes include innovative teaching methods, digital content and environmental content. They are suitable for implementation in the outdoor classroom and provide learning in a playful, fun and relaxing way.

The programmes developed were tested (some several times), evaluated, complemented and improved with experience and feedback during the project period. Each programme description is accompanied by photographs taken during the implementation, with a brief explanation and a link to the content of the programme.

Everyone involved, teachers, chaperones and pupils, had a very positive experience. All of us together became "different" during these activities, like "children of the forest", smiling, playful and curious. And always ready to do it again. This is also the reason why all of us will continue with forest pedagogy and try to inspire other teachers and schools to do the same.

The guide is available in electronic format, in three languages - Slovenian, English and Italian. It is published on the Erasmus+ platforms and partners' websites. Worksheets and a video produced during the testing of the forest pedagogy programmes are also a part of the handbook.

You are invited to read the programmes. And we would be especially pleased if you could implement one of these programmes yourself. You can tailor the programme to your students' needs or to the opportunities available for nature or forest-based lessons. It is important to make the most of nature and the forest and to use your imagination. Then the possibilities for lessons are endless ...

We are at your disposal for further information. You are welcome to join our activities as an observer at any time. We are happy to welcome you as one of our forest pupils.

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PROGRAMME NAME: FOREST CHILDREN - forest lessons for 2nd grade Primary school



TARGET GROUP:

pupils in 2nd grade, pupils with learning difficulties and adaptations



PERFORMER/CHAPERONE:

class teacher and one/two chaperones



EDUCATIONAL OBJECTIVES:

- They learn and observe forest etiquette.
- They develop a positive attitude towards nature and incorporate good environmental and sustainable practices into their daily activities.
- They overcome obstacles, develop perseverance and relax in a natural environment.
- Improves motor and functional skills.
- They move safely on forest and traffic routes.
- They learn about the potential dangers in the forest.
- They observe what is happening around them using their senses (smell, sight, touch, hearing). They analyse and compare what they observe.
- They learn from experience, using natural learning tools (materials) or practical examples.
- They apply what they have learned in different contexts and make connections between different content.
- They work in pairs and small groups to develop cooperation.
- They help each other and learn from each other.
- They develop tolerance and accept difference and diversity.



GENERAL OBJECTIVES:

- Learning in a natural environment, through practical examples and the use of natural learning tools.
- Children's holistic development, using all their senses.
- Developing children's motor, mental and social skills.
- Eliminating, reducing and mitigating the negative consequences of modern lifestyles (stress, various addictions, hyperactivity, lack of concentration, etc.).
- Learning about forests and nature and the ecosystem services of forests.
- Learn about different sustainable and environmentally friendly good practice examples.

Specific objectives linked to school subjects:



Learning about the environment:

- They learn about the (weather) calendar, the seasons, the movement of the sun and the time of day.
- They explore, identify and explain events and changes in the seasons.
- They identify, name and compare different living things, environments, aggregate states of water, weather conditions and phenomena. They can relate them to nature and changes in nature.
- They know that some phenomena are reversible and some are irreversible.
- They learn about life in the past.
- They know the characteristics of their home town or neighbourhood (institution).
- They know the basic geographical concepts: hill, mountain, mountain range, mountains, plain, valley, river, stream, sea, a road, railway, arable land (field, meadow, orchard, forest).
- They learn how to orient themselves in the environment - in relation to familiar objects and geographical concepts.
- They learn about ways of representing the geographical environment (sandbox, map, globe).ss



Slovenian:

- They make focused observations (plants, trees, weather phenomena, animals and their tracks, landscape features in different seasons, etc.). They describe what they observe orally and in writing.
- They use some basic terms to define events, such as: yesterday, today, tomorrow, week, days of the week, day, month, seasons, year. They can describe what they do at a particular time of day.
- They develop reading comprehension. Read texts aloud and silently. They summarise the theme and the essential information and how they are connected in meaning. Answer questions in writing and/or orally. Evaluate the interest, comprehensibility and truthfulness of a text. They argue their opinions.
- Recognise (folk) songs and rhymes related to nature, animals, plants and natural phenomena. They read, sing, recite and act out songs and rhymes.



Maths:

- Add and subtract quantities of equal units. They use natural materials to help them.
- They consolidate their knowledge of different lines (straight, crooked, curved, bent, unbent, broken). They shape them with different natural materials (e.g. sticks, branches), mark the intersection (e.g. with a stone, acorn cap).
- Consolidate knowledge of decimal numbers. Using natural materials (e.g. acorns, stones, cones, leaves, etc.), they make a representation of numbers.
- Identify the position of an object/animal/plant in relation to themselves or other objects and be able to express themselves correctly when describing positions.
- Formulate instructions for moving around the room and move according to the instructions. Orient themselves in a plane.
- They develop strategies for reading and orientation in grids, paths, mazes.
- Estimate, compare and measure length using non-standard and standard units. They use natural materials or tools found in nature.
- Know and use instruments for measuring length in nature.
- Correctly use the terms longer, shorter, taller, shorter, wider, narrower. They can find things in nature that correspond to these terms.



Sport:

- They improve their motor skills and psycho-physical well-being by walking and running in nature, on rough terrain, between obstacles, etc. Movement in nature has a positive impact on the child's overall development.
- They develop motor skills and imagination through various games.
- Through games and joint activities, they develop skills such as cooperation, mutual help, tolerance and the desire to progress.



Art:

- They make products from a variety of natural materials, which they collect, dry or prepare beforehand.
- They make animals, plants from natural materials.
- Through observation of nature, they consolidate their knowledge of colours and shades.



Music:

- They use sounds to imitate things, animals, sounds or events in their immediate and wider environment and in nature.
- They create their own musical ideas: completing rhythmic and melodic patterns and musical questions and answers, melodies to given text and vice versa.
- They learn and sing folk songs and nursery rhymes.
- They create a story about the forest, nature, animals.
- They make musical instruments from natural materials.



LEARNING FORMATS:

frontal, individual, pairs, group.



TEACHING METHODS:

discussion, explanation, demonstration, direct observation, movement, exploration, storytelling, own activity.



MATERIALS:

plants, animals, objects in the natural environment and whatever is needed that day according to the programme (pencil, crayons, markers, scissors, workbooks, worksheets, magnifying glasses, leaflets and brochures, cards, boxes, etc.). Use the "Google Lense" app to identify unfamiliar plants and animals.



DESCRIPTION OF THE ACTIVITY / METHOD OF IMPLEMENTATION:

Nature lessons take place in the woods, meadow or hill, usually twice a month. All the subjects on the timetable for that day are taught. The days of implementation vary. We make sure that all subjects are equally represented during the year.

A detailed programme (preparation) is prepared before each performance, usually linked to a specific theme (e.g. weather, animals, trees, numbers, etc.). The programme is adapted to the weather conditions, natural phenomena or the time of year.

Worksheets are also prepared for each performance. For pupils with learning difficulties and adaptations, the activity is adapted to their

needs. Pupils from other classes (e.g. pupils in Years 1 or 3 of the mainstream curriculum and pupils from lower educational standards and special education) may also join in a particular activity. In the preparation, it is determined which activities work together and which are tailored to the individual class.



PLACE OF IMPLEMENTATION:

outdoor classroom, forest, meadow on a farm or in the school surroundings, nearby hill.



NOTES:

Parents are instructed in advance to ensure that children wear shoes and clothing appropriate to outdoor activities (forest, meadow, etc.) and to the time of year and weather. Children need a small rucksack, spare clothes, a sitting mat, a (warm) drink, protection against ticks, sun.

The following are different examples of how to implement the FOREST CHILDREN programme.

Example 1: Theme - OBSERVING THE WEATHER



The pupils prepare their own rucksacks. They listen to the instructions and the presentation of the activities to be carried out in the forest. We discuss safe walking on village and forest paths and appropriate behaviour in the woods and meadows.

We go into the forest together. On the way, we stop occasionally and observe what is happening around us (weather, clouds, wind, dew/salt, puddles, etc.).

GETTING TO KNOW THE ENVIRONMENT

When we get to the table and bench at the edge of the forest (classroom in the nature), we talk to the pupils about the weather. We discuss the weather signs used to mark the weather, alongside the activities in the workbook. They have this task throughout the week - each day they use the weather signs and make a weather diary.

Activity: They draw a cloud of their choice and look up at the sky again after five minutes and draw it again after observing it. They find out that the clouds in the sky change. Through guided reflection, they work together to find out how clouds move.

Activity. They use them to investigate and solve the problems in the workbook or in the worksheet.

ENGLISH

Pupils are divided into groups. Each group is given a card with the words: CLOUD, WIND, SUN, RAIN, FROST, DEW, FOG, BORA, WEAK WIND. They are also given three blank cards on which they can write the word themselves. They choose four cards with words and make a short story or they make sentences. The groups then present the sentences/stories they have made.

ART

In groups, the pupils collect natural materials in their surroundings, which must include sticks. They first use the sticks to make a picture frame and the rest of the collected materials are used to make the picture. The resulting artwork is then viewed and described.

SPORTS

The whole way to the forest and back to the school is an observation walk. They observe and explore the weather and weather phenomena and overcome natural obstacles. Throughout the activity, pupils move around a lot.

On the way back to school, we summarise the observations and impressions of the activities.



Observation of different aggregate states of water. In the morning the water in the puddle was frozen. However, when we were heading back to school at noon, the ice melted and we were splashing around in the puddle.



In the forest we made fans and pinwheels and tested them in the natural environment.



We made sentences and imaginative stories about the weather using words that describe the weather.

Example 2: Theme - FOREST TREASURE



Pupils each prepare their own rucksack. They listen to instructions and a presentation of forest activities. We discuss safe walking in the city, on the hill and appropriate behaviour in the forest.

Together we walk to a nearby hill. On the way, stop occasionally to observe what is going on around and look for "forest treasure". We discuss what a "forest treasure" is.

MATHEMATICS - problem solving

Pupils move around 'stations'. Lay two ropes horizontally on the floor and another rope vertically over them to make a grid of six roughly equal squares. The squares are numbered 1 to 6. The pupil throws a pebble to choose a station number. In the forest, he/she finds an envelope with the chosen number, which contains a worksheet with a mathematical problem. The pupil solves the problem on the worksheet, signs his name and puts it back in the envelope. The pupil goes back to the grid and throws the pebble again. The teacher at school checks the solved problems and returns them to the pupils.

SLOVENE - A description of a person

Gather in a circle with pupils. The class teacher describes herself (e.g.: My name is Alenka. I live in Postojna. I am a teacher. In my free time I like cycling. My favourite dish is pancakes. I have green eyes and long brown hair.) Then discuss what needs to be said when describing the person. Write the important points of the person's description on a sheet of paper and attach it to the tree. In pairs, the pupils find the piece of paper and describe themselves to each other. They use the paper to check that they have covered everything they need to make a good description of the person.

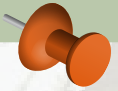
EXPLORING THE ENVIRONMENT - Forest Treasure Box

The pupils have 20 minutes to find as many interesting things as possible in the surrounding area. They bring them to the "Forest Treasure Box". We then look at the objects together and find out what it is and why it is a "treasure". For the plants we don't recognise, we use the "Google Lense" app.

Throughout the activity there is a lot of movement and overcoming natural obstacles. On the way back to school, we summarise the findings and impressions of the activities.



Grid - working by 'stations'. Pupils choose the number of the task to be done by throwing a pebble. The tasks with numbers are hidden in nature, in their immediate surrounding.



Pupils look for "interesting" things in nature on their way to the classroom. They put them in the prepared forest treasure box. They take a maximum of two things each. Then we look at the objects together and talk about them.



Pupils, divided into pairs, practise describing a person (they describe themselves to each other). They have key words that they have to take into account when describing themselves written. They give feedback to their classmate if he/she has taken all the points into account when describing him/herself.



Example 3: Topic - FOREST EXPLORERS



Pupils each prepare their own rucksack and dress and wear appropriate clothing and footwear for the weather. The pupils of the NIS and PPVI (Lower educational standard and Special Education) schools join the group, accompanied by their teachers/chaperones.

Stand in a circle and introduce yourselves. The 2nd grade pupils tell their forest names and the explanation of the names (super or special power, good quality, etc., that the animal, plant, object, etc. has). The NIS and PPVI pupils and their chaperones also choose their names and introduce themselves.

We discuss safe walking on village and forest paths and appropriate behaviour in the woods and meadows.

LEARNING ABOUT THE ENVIRONMENT

Together we walk towards the forest. Along the way, we stop occasionally and observe what is happening around us (weather, changes in nature - winter turning into spring, animals, plants, footprints, listening to the sounds around us, etc.).

When we get to the table and bench at the edge of the forest (nature classroom), the pupils get into pairs and fill each of their pots with natural materials and a lid - they make sound pots - "rattle pots" (e.g. two pebbles, cone scales, broken twigs, leaves, etc.). All the pots are collected and placed in the middle of the circle, and they are mixed. Then each pupil takes one pot, moves away from the circle, shakes it and listens to the sound it makes. Task: Find a pair/pupil who makes a similar sound with the rattle. When the two pupils find each other, they observe what they have in their pots.

MUSIC

Pupils make groups and sing a song or say a counting rhyme related to the forest, nature, animals, plants... They accompany the singing or counting rhythm with the sound pots.

SLOVENIAN

Pupils are divided into pairs. They find two objects in nature (e.g. a cone and a stone; a branch and a leaf...) and make up a short news story about what is happening between them (it can be real/fictional or imaginary). This is followed by a RADIO NEWS story in which the pairs introduce themselves. They report on what is happening in the forest.

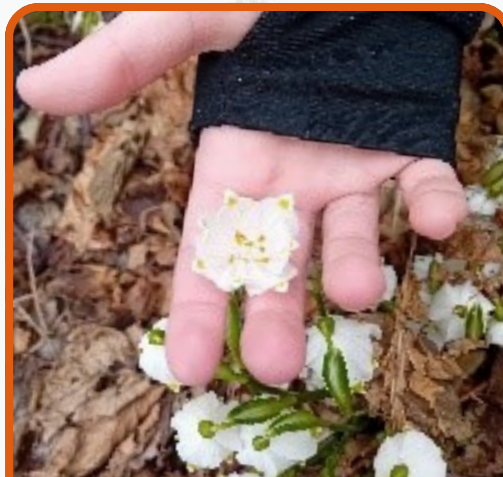
SPORT

While moving around in the natural environment pupils overcome natural obstacles. We make a bigger and a smaller pile of branches - two trampolines - and test them by jumping.

At the end of the activity, we summarise our findings and impressions.



We are gathered in the school playground. Second graders presented their forest names and then helped the PPVI students with their ideas.



We observed the changes in nature as we moved from winter to spring. We found the first signs of spring.



In pairs, we found different natural materials and filled pots with them - sound rattles. Two pots with the same material - e.g. a pebble, a stick... We mixed the pots and then tried to find out which part makes the same sound by shaking them. To finish, we sang songs about forest animals in groups to the sound of the rattles.

PROGRAMME TITLE: FOREST SCHOOL - lessons in the forest for pupils with learning difficulties and adaptations



TARGET GROUP:

pupils attending the PPVI programme



IMPLEMENTER/FACILITATOR:

class teacher and class attendants, according to the needs of the children



EDUCATIONAL OBJECTIVES:

- They learn about and observe forest etiquette.
- They develop a positive attitude towards nature and incorporate good environmental and sustainable practices into their daily activities.
- They explore the forest and its inhabitants.
- They broaden their experience and knowledge of nature - the forest.
- They learn about size ratios, develop quantitative concepts.
- They develop gross and fine motor skills and coordination.
- They meet their needs for exercise, social contact and play.
- They develop social skills and cooperation.
- They develop creativity.
- They help each other and learn from each other.
- They develop tolerance and acceptance of difference and diversity.



LEARNING FORMATS:

frontal, individual, group



TEACHING METHODS:

discussion, explanation, demonstration, direct observation, movement, exploration, pupils own activity



MATERIALS:

various objects from nature (fruits, leaves, pebbles, cones, etc.), empty leaves, wax sticks, weather-appropriate footwear and clothing, tick protection. A small backpack for snacks and a water bottle, a sitting mat.



DESCRIPTION OF THE ACTIVITY / METHOD OF IMPLEMENTATION:

In the morning circle, we explain to the pupils that this day's lesson will take place in a different way - in nature. We talk about where we are going, how we will get there (on foot) and warn them about the dangers on the way. Together we go to the Sovič area, which is wheelchair accessible. There, they are given instructions for their first task - the "entrance test" for admission to the Forest School (climb a tree or walk through a densely vegetated forest). After passing the test, the pupils wave.

This is followed by joint activities:

- collecting leaves for the forest lights: each pupil finds a thin stick, which must be as long as his/her arm. They must also find fallen leaves (they are specially instructed not to tear the leaves), as colourful as possible. They put the leaves on a branch and make forest lights. Later they use these lights to look for other objects in the forest.
- Making a 'leaf' in the forest clearing: collect sticks and make them into a leaf. Different small animals walk on the leaf, and when prompted, they name them.
- stretching (trees): stretch legs (roots), torso (trunk), arms (branches), etc.

Then the pupils divide into four groups ("forest classes") and visit the forest "classrooms". Each group chooses an animal (as a group name, e.g. bears, squirrels, foxes, etc.). Teachers distribute paper bags for collecting natural materials.

Work in groups - "forest classrooms":

- **Slovene:** they describe the characteristics of the animal representing the group. They draw a sign (paw print, hazelnut, claw, etc.) on a cardboard/small piece of paper and write their name on the other side (whoever knows, helps the others). They make the first letter of their name out of sticks/pebbles.

- **Art:** Making a forest drawing/mandala: in paper bags, collect 5 twigs, pebbles, cones, leaves, chestnuts, etc. each in a pre-determined place and make a forest drawing/mandala according to the template.
- **Learning about the environment:** Learning about trees: fold a piece of paper in half, place one half on the bark of a tree and make an impression with a crayon, make another impression of a leaf of the same tree on the other half, compare the different impressions, name the trees. Link to Art.
- **Mathematics:** Sorting natural fruits: sort collected natural materials by size, by number, by type, work out the order according to the template.

Groups circulate around the forest "classrooms". In each classroom, at least one teacher is waiting for them, each group has its own attendant.

Additional tasks for the quick ones: "zoomies" - learning about or guessing plants and animals through cards showing a magnified part of the plant or animal.

Finally, there is a joint game 'bear hunt'. This is a game that is played while singing or storytelling and moving around. The teacher demonstrates and the pupils repeat after him. The bear hunt starts with the question "Shall we go and find the bear?" and we continue:

What is it? - A trail.

Are you coming with me?- Well, let's go. (Walking)

Stop! (we signal with our hand for them to stop) What is that?- Tall grass.

Are you coming with me?- Come on, let's go. (With arms outstretched in front of the body, we "move" the grass in front of us, we can articulate the rustling noise with it.

Stop! (I point with my hand for them to stop) What is it?- Water(river, lake...)

Are you coming with me?-Stop! (I point with my hand) What is it?- Mud.

Are you coming with me?- Come on, let's go (lifting our legs slowly and high as if mud were sticking to them).

Stop! (pointing with my hand) What is it?- Mountain (looking up, you can point with your hand).

Are you coming with me?- Well, let's go (stretching from a squatting position to standing on tiptoe, arms outstretched, as high up in the air as possible - as if we were climbing).

Stop! (I point with my hand) What's that? - The precipice (I look down).

Are you coming with me? Okay, let's go (from the previous position, we go back to a squat).

Stop! (pointing with my hand) What is it?- A cave.

Are you coming with me? Well, let's go. (crawling on our knees, as close as possible, lower).

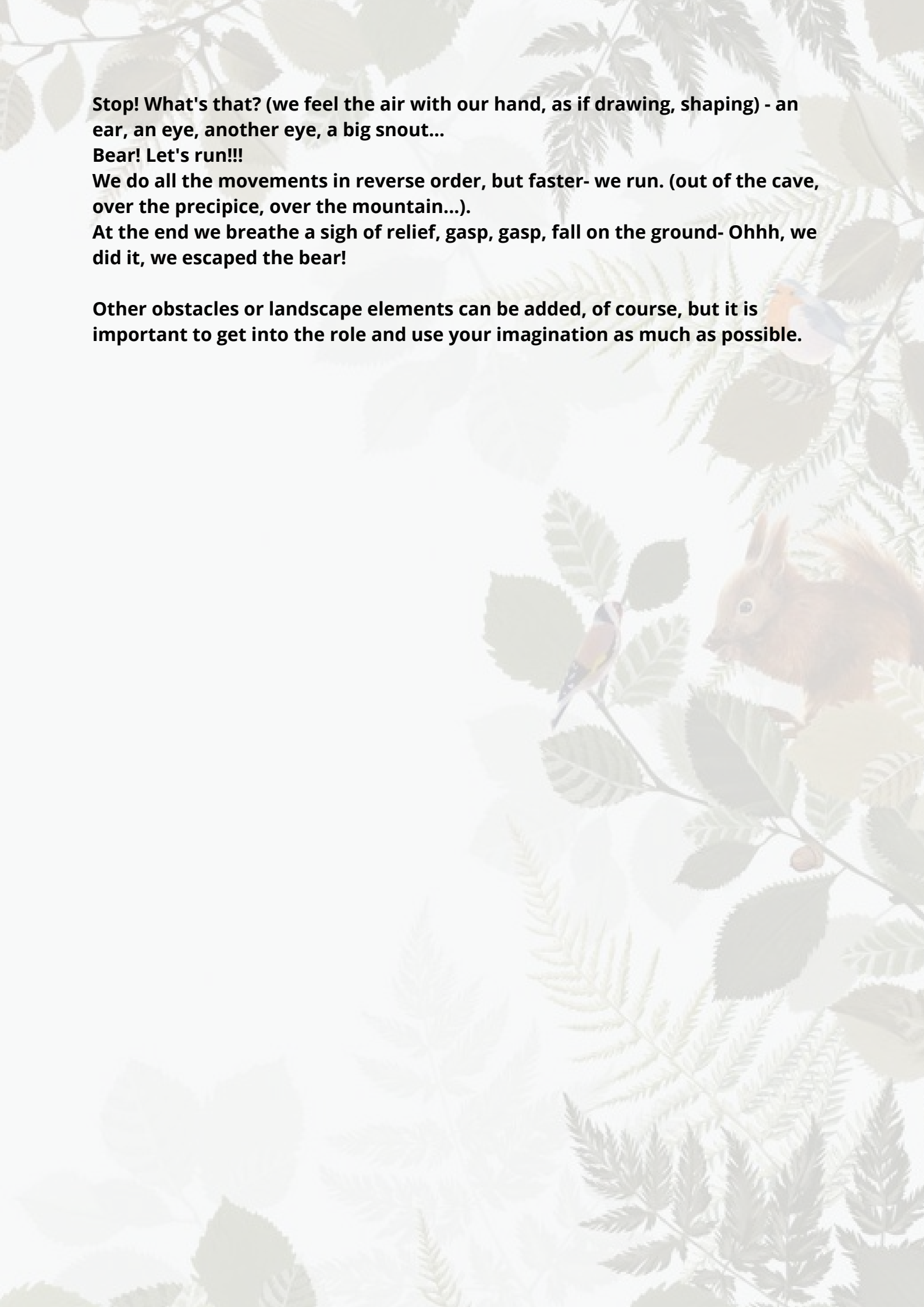
Stop! What's that? (we feel the air with our hand, as if drawing, shaping) - an ear, an eye, another eye, a big snout...

Bear! Let's run!!!

We do all the movements in reverse order, but faster- we run. (out of the cave, over the precipice, over the mountain...).

At the end we breathe a sigh of relief, gasp, gasp, fall on the ground- Ohhh, we did it, we escaped the bear!

Other obstacles or landscape elements can be added, of course, but it is important to get into the role and use your imagination as much as possible.





Forest lights. Sometimes it is a real challenge to find a suitable location to carry out forest pedagogy activities, as children and young people with physical disabilities are also included in the School's Special Programme.



Painting a tree trunk with wax crayons is fun because it makes a nice pattern, and we also learn about trees.



Assembling a picture from gathered forest materials. The pupils had to collect the correct number of pebbles, cones, acorns, etc. Some of them did it independently, others needed help. The result was a beautiful forest mandala.



Sticks are wonderful natural didactic materials. They can be counted, compared in size, added, subtracted or arranged in a pattern.

PROGRAMME TITLE: Autumn in the Woods - lessons for Grade 1 of a bilingual primary school



TARGET GROUP:

pupils in Grade 1 and pupils with special needs and adaptations



IMPLEMENTER/FACILITATOR:

class teacher



EDUCATIONAL OBJECTIVES:

To learn about the characteristics of the seasons (forest and animals).

- They learn about the characteristics of the home environment (forest) and life in the forest.
- They observe trees, animals and the characteristics of the seasons.
- They expand their vocabulary in Slovene and Italian.
- They develop reading, they spell words.
- They add and subtract up to 10, using natural materials.
- They develop a sense of quantity.
- They consolidate subject-specific knowledge.
- They identify the position of a classmate/animal/plant in relation to themselves and are able to position themselves correctly.
- Express themselves correctly when describing positions.
- They move according to instructions. Orient themselves in space.
- Improve their motor skills and psychophysical well-being by walking and running in nature, on rough terrain, between obstacles.

motor skills and psychophysical well-being.

- They develop motor skills and logic through playing.
- They develop the qualities of cooperation, mutual help, tolerance, etc.
- They listen to the silence of the forest.



LEARNING FORMATS:

frontal, individual, group



TEACHING METHODS:

interview method, observation, explanation, demonstration, direct observation, movement



MATERIALS:

natural materials, autumn fruits, wool balls, word cards, letter cards, tree leaves, sheets, chestnuts



DESCRIPTION OF THE ACTIVITY / METHOD OF IMPLEMENTATION:

The lessons in the forest are held once a week for 3 school periods in the morning or after lunch.

Examples of activities in the subjects:

SLOVENE AND ITALIAN: Activities include word reading and spelling in Slovenian and Italian. We use cards with words related to forest, nature, animals. Or vice versa, to name an object, a tree, an animal... that we see nearby. We spell the word. Repeat the same in both languages.

MATHS: The activity involves addition and subtraction to 10 and creating patterns.

Numbers to 10: the pupils read the number written on the ice-cream shaped cardboard. They placed as many circles (ice-cream balls) on the ice-cream as the number written on the cardboard. They then asked themselves how many more were missing to 10 and calculated. There were too many ice-cream balls on each ice-cream according to the number written. They took away the extra circles.

Pattern making: the pupils collected leaves of different colours, they collected chestnuts. They made a pattern (green leaf, yellow leaf, chestnut, brown leaf) and decorated the edge of the sheet on the floor with this pattern.

BIOLOGY: Autumn storm - we spread the sheet on the forest floor with the pupils. They collect fallen leaves from the trees and cover the sheet with them so that it is no longer visible. Then they stand around the sheet and grasp the edge of it. On cue, they lift the sheet into the air so that the leaves fly above the sheet. They repeat this a few times.

Your own tree - Each pupil walks around the forest in a limited space and looks at the trees. Then they choose a tree. They stand next to the tree. First he strokes it (what kind of bark is it, describe it - smooth, rough), then he hugs it (how wide is it, do you manage to hug it), then he lifts his gaze and looks at the canopy or branches of the tree (describe them). He rests her head on the trunk and closes his eyes (rests a little), then greets it.

SPORT: A game of hide and seek through which we develop motor skills and movement in a natural environment, speed, resourcefulness, group play, tolerance. Walking and movement in the natural environment and overcoming different obstacles (walking on logs).





Counting to 10 with the help of ice-cream. How many ice cream balls do I have to add or take away to get the number written on the card?

Use the pattern "green leaf, yellow leaf, chestnut, brown leaf" to decorate the edge of the sheet.



Making letters with natural materials.



Walking on logs to strengthen balance. First on all fours, then upright, backwards and forwards.

PROGRAMME TITLE: HUNTING FOR EXTRAORDINARY TREES - **Secondary school curriculum**



TARGET GROUP:

The activity is intended for students of the 2nd and 3rd year of the forestry technician programme at Secondary School Postojna. It is also suitable for students with special needs, physically handicapped persons and children with a refugee/migrant background, as it can be taught in both Slovenian and English.



IMPLEMENTER/FACILITATOR:

Teachers of Slovenian, English and vocational subjects in the Forestry Technician programme



EDUCATIONAL OBJECTIVES:

- Students freely explore and get to know the remarkable tree species, plants and products found in the centennial forest park of Forestry Woodwork and Medical Secondary School Postojna using the digital tool - the Actionbound app.
- Students learn about new tree species in Slovenian and English and classify them into the plant system.
- Students search/find the desired information and use non-literal illustrations accordingly.
- Students understand and use short/simple technical texts.
- Students distinguish between native and non-native tree species.
- Students develop digital competence.
- Pupils develop an awareness of the importance of the past for the future.
- Pupils reinforce the basics of orientation.
- Pupils develop the skills of self-initiative, creativity, innovation and problem solving in the environment, while also developing an awareness of (professional) responsibility.



LEARNING FORMATS:

learning in the natural environment - individually, in pairs or in groups using ICT.



TEACHING METHODS:

method of observation, perception and sensation, method of working with maps, method of discovery, learning through play , authentic learning



TOOLS:

Smartphone/GPS, Actionbound app



DESCRIPTION OF THE ACTIVITY / METHOD OF IMPLEMENTATION:

To start exploring, users receive a link/scan a QR code when entering the park. Users then use their mobile device to freely learn about the unusual trees in the park (nettle, red beech, tulip tree, mammoth tree, etc.) and learn about the descriptions of the trees or products in the park (stone watering can, wooden ant, etc.). At some points they have to listen to the description and then answer the questions correctly; at some points they have to find the next point using the map. Some points include tasks that they have to complete in order to continue their journey. Depending on the language chosen, users learn new names (expanding their vocabulary in Slovene and English) and get to know new tree species, reinforcing the awareness that someone is sitting in the shade today because someone once planted a tree.

When the activity is carried out as a group competition (e.g. in class 2a - forestry technician programme), students are told that the fastest group and the group with the most correct answers wins. Actionbound stores the user's answers and uploaded documents. All answers and products are uploaded to the app on the user's account at the end of the day, so we can see the answers, pictures, videos, discuss them, correct incorrect answers and, of course, announce the winners of the hunt for the remarkable trees.

PROGRAMME TITLE: KNIGHT CAMP - a cognitive camp programme for first year students_



TARGET GROUP:

the activity is aimed at first year students and also students with special needs.



IMPLEMENTER/FACILITATOR:

teachers of various subjects, educators in the student residence



EDUCATIONAL OBJECTIVES:

- Students establish friendship bonds that contribute to a supportive classroom climate.
- Students and teachers get to know each other in a different environment and through different activities.
- Students learn about specific subjects in science, social studies, sport, culture and life in nature through active involvement in activities.
- Students develop a positive and responsible attitude towards the environment.
- Pupils prepare meals independently.
- Pupils learn the basics of orientation and survival in nature.
- Pupils acquire practical life skills.



LEARNING FORMATS:

learning in a natural environment - individually, in pairs or in groups.



TEACHING METHODS:

observation, sensing and feeling method, map method, discovery method, learning through play, authentic learning, random grouping method.



MATERIALS:

map, flint, knife, axe



DESCRIPTION OF THE ACTIVITY / METHOD OF IMPLEMENTATION:

The three-day cognitive camp is held at the spring of the Obrh river in the village of Vrhnika near Lož, in the Old Sawmill, which is the heritage of Benjamin Žnidaršič, a tetraplegic artist and the director of the Ars Viva institute for cultural integration and socialisation.

We are accommodated in Žaga 'the Saw', where the students prepare their accommodation, and next to the Žaga there are fireplaces and sport areas. The students are divided into groups, where they prepare meals, complete assignments and take part in various activities.

The students spend the whole camping period without mobile phones, which help them to connect with each other. The camp is sustainable as they cook their own food and we make sure that we produce very little waste. The focus of the camp is the life of a knight, students learn about the rules of chivalry and try to become as chivalrous as possible themselves. Those who prove themselves through games, activities and throughout the camp are knighted at the end.

Activities at the camp:

- goulash cooking competition on an open fire (Each group has to collect wood and build a fire, prepare a fireplace and make tripods out of hazel. They must then cook potato goulash in the kettles),
- setting up a campfire,
- preparing meals,
- an orientation hike to Snežnik Castle with various forest pedagogy points (escape from the castle, knight dance, knight anthem, knight memory),
- a tour of Snežnik Castle,
- bathing in the Obrh stream,
- optional workshops: bow-making, knight's challenges, making wooden flutes, orientation in the labyrinth,
- sports games,
- visits to the summer theatre, the gallery and the Ars Viva youth hostel,
- a ride on the adapted bicycles for disabled people at the Ars Viva Youth Hostel,
- a fun evening by the fire.

PROGRAMME TITLE: FOREST SPORTS AND CULTURE DAY, exchange programme



TARGET GROUP:

lower primary school pupils from two different countries and pupils with learning difficulties and adaptations



PROMOTER/FACILITATOR:

class teacher, attendant



EDUCATIONAL OBJECTIVES:

- To learn about the characteristics of Trebče, the karst landscape and the animals and plants that live there.
- To develop and improve natural forms of movement - the motor alphabet (crawling, climbing, walking, running, falling, climbing, jumping, pushing and pulling, lifting and carrying, throwing and catching objects).
- To develop full-body coordination, strength and flexibility.
- To overcome obstacles, develop perseverance and move in a relaxed way in a natural environment.
- To develop and improve motor and functional skills.
- To learn about and observe forest or nature etiquette.
- To develop a positive attitude towards nature.
- To move safely along forest and traffic routes.
- To be aware of potential dangers in the forest.
- To observe what is going on around them, using their senses (smell, sight, touch, hearing) to analyse and compare what they observe.



GENERAL OBJECTIVES:

- To develop children's motor, mental and social skills.
- Integration of sports activities with learning of other subjects (history of the place, characteristics of the karst landscape, plants, animals, road links of the place, etc.).
- Learning in a natural environment, with practical examples and using natural teaching aids.
- Children's holistic development through the use of all senses.
- Eliminating, reducing or mitigating the negative effects of modern lifestyles (stress, various addictions, hyperactivity, lack of concentration, etc.).
- Socialising and getting to know peers from Slovenian schools and Slovenian schools abroad.
- Getting to know the way and process of classes, school, place.
- Involving children with special needs in exchange activities.
- Learning to accept different forms of difference, developing positive attitudes and tolerance towards difference.
- Following the teacher's instructions.



LEARNING FORMATS:

frontal, individual, group



TEACHING METHODS:

discussion, explanation, demonstration, direct observation, movement, exploration, storytelling, own activity.



MATERIALS:

plants, animals, objects in the natural environment, information/description cards.



DESCRIPTION OF THE ACTIVITY / METHOD OF IMPLEMENTATION:

The walk consists of several points (with stops) to introduce the school, the place, the landscape and the nature and animals. Below is an example of a programme that has been tested during the project and is related to the description of the Pinko Tomažič school in Trebče and its surroundings:

1. Introduction of the school: It is a small Slovenian school in Italy, named after Pinko Tomažič, whose monument is in the school yard. He was a national hero. He fought for the rights of Slovenians and against fascism.
2. The path over Trebenski vrh: Together we will go to Trebenski vrh. There is a road that used to connect Trebče with the town. The women of Trebče walked to the town, carrying jugs of milk on their heads, which they sold to housewives in Trieste. Every day they would walk down this road to go from house to house to sell the milk and then return home. Life in the Karst was not easy in the old days. When wide roads were built for cars and other vehicles, this route was abandoned. Under the bridge there is the main road link between Slovenia (direction Koper) and Italy (direction Venice). Today many trucks use this road. We are now on a footpath, which is also marked with signs.
3. Karst Stone: There are a lot of stones in the Karst. It was once used to build residences and pasture walls. Stone pasture walls were used to enclose the land and separate it from the areas that were the common property of the village community, called the JUS.
4. Karst Glade: The Karst Glade is home to a large number of plants. Among the grassland flowers, we can see 'the jesenček'. This plant is a sign that the glade is turning into a forest. We must be careful not to touch this plant in sunny weather because it will burn us. There are also typical bushes: smoke bush,

rose hip and juniper. There are animals that need open environments, but we can also find animals looking for food or nesting in the woods such as the hare, the roe deer, the boar, the lark, the buzzard and the great eagle.

There are also reptiles - snakes: a viper, a green snake and other snakes.

Typical karst trees are: hornbeam, oak and pine tree.

5. Pine forest and time for a snack: We are in a pine and mixed forest. It is time for a snack. Everyone should find a corner and have a snack. Let's have a break!

6. Trebče hill top: We are at Trebče hill top. From here the landscape descends towards the city of Trieste.

7. The shooting trenches: they date back to World War I, but they have never been used.

8. A village pond: is located on limestone soil, where there are no surface waters. There used to be a lot of it. Now they have mostly disappeared because people are no longer involved in livestock farming. Many animals and plants can be found in the pond. You can see frogs, toads, water snails, dragonflies and many more.

9. The wind flower: I am standing on 'a wind flower'. In front of us there is a magnificent view of the Gulf of Trieste, Piran, Savudrija. The view extends to Gradež (where the mouth of the Soca River is also located), the city of Trieste, Milje, Piran and Savudrija.

10. The Karst Edge: we are at the Karst Edge. We are on the edge of the surroundings of Trieste. The Karst Edge turns into a flysch landscape. It continues into Slovenia and Croatia.



The pupils of Trebče Primary School introduced their school and the national hero



Trebče top, a place with a beautiful view of the Gulf of Trieste, Piran, Savudrija, the view towards Grade (the mouth of the Soca River), the city of Trieste, Milje, Piran and Savudrija. At the same time, it is the perfect place to interpret the different borders - the national border between Slovenia and Italy, and the border between the Karst and the flysch landscape.



A snake attacked a frog, which grew so large that the snake could not get it into its mouth. It was an unusual scene that we will all remember, but it also brought us together to talk about animals and their defence mechanisms against predators.

PROGRAMME TITLE: THE FOREST AND HUMAN – A Nature Activity Day



TARGET GROUP:

lower primary school pupils from two different countries and pupils with learning difficulties and adaptations



PROMOTER/FACILITATOR:

teacher of the secondary forestry school, class teacher, chaperone



EDUCATIONAL OBJECTIVES:

- To observe and describe trees, plants and animals in the forest.
- They learn about the relationship between man and the forest and his activities.
- They learn about professions related to forestry.
- They learn about the equipment used in the forest and how to work safely with this equipment.
- Learning through play.
- They explore, observe and describe their observations of what happens in nature.
- They develop logical reasoning from what they observe.
- They learn about and observe forest etiquette.
- They develop cooperation by working in pairs and groups.
- They help each other and learn from each other.



GENERAL OBJECTIVES:

- To develop children's motor, mental and social skills in a natural environment.
- Learning in a natural environment, through practical examples and the use of natural teaching aids.
- The holistic development of children through the use of all senses.
- Eliminating, reducing or mitigating the negative effects of modern lifestyles (stress, various addictions, hyperactivity, lack of concentration, etc.).
- Socialising with students.
- Learning about the relationship between man and the forest and his activities.
- Involving children with special needs in the exchange activities.
- Learning to accept different forms of difference, developing positive attitudes and tolerance towards difference.
- Following the teacher's instructions.



LEARNING FORMATS:

frontal, individual, group



TEACHING METHODS:

discussion, explanation, demonstration, direct observation, movement, exploration, storytelling, own activity.



MATERIALS:

plants, animals, objects in the natural environment, cards with information/descriptions.



DESCRIPTION OF THE ACTIVITY / METHOD OF IMPLEMENTATION:

Students from the 3rd and 4th year of secondary forestry school participated in the activities.

Movement and skills activities: walking on a log, climbing (upright and squatting) on a giant ant and on a wooden house. Balance catching by walking forwards and backwards.

Learning about the different tree species in the park and describing their characteristics or peculiarities:

Ivy is not a parasitic plant, but an independent plant that climbs trees on its own. The leaves of ivy are wider or larger higher up the tree, while lower down the tree the leaves are narrower or smaller. This is because at the top the leaves catch more light and lower down the leaves are smaller so that all the leaves can get enough light.

The spike is named after the spines on the leaves. The lower leaves have more spines than the upper leaves to protect them from pests.

The yew tree is very poisonous to humans and ruminants (horses, cows). Interestingly, it does not harm goats.

Clone of a fir tree. We discussed what a clone is.

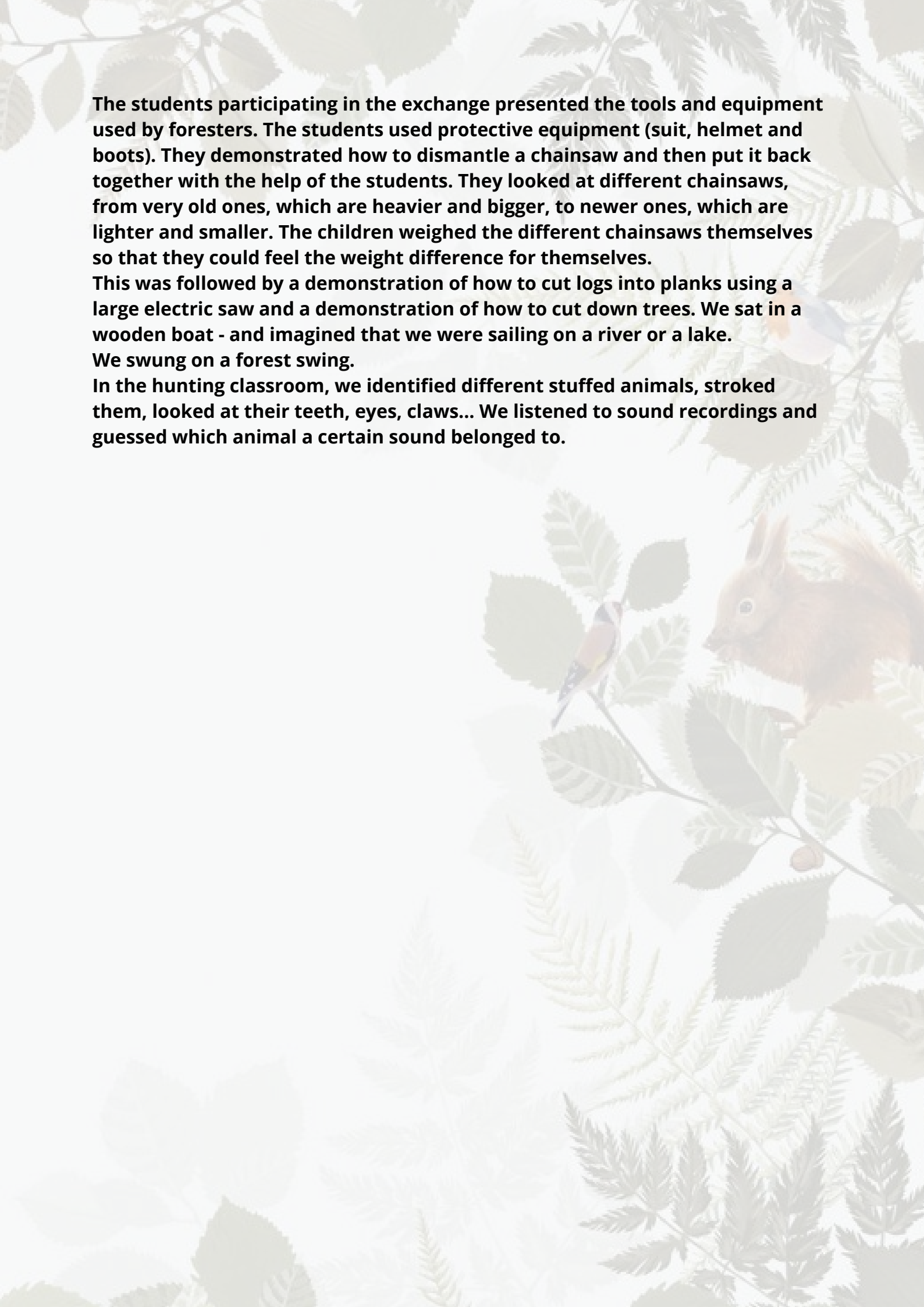
We also visited an insect hotel and a beehive. We talked about pollinators.

The students participating in the exchange presented the tools and equipment used by foresters. The students used protective equipment (suit, helmet and boots). They demonstrated how to dismantle a chainsaw and then put it back together with the help of the students. They looked at different chainsaws, from very old ones, which are heavier and bigger, to newer ones, which are lighter and smaller. The children weighed the different chainsaws themselves so that they could feel the weight difference for themselves.

This was followed by a demonstration of how to cut logs into planks using a large electric saw and a demonstration of how to cut down trees. We sat in a wooden boat - and imagined that we were sailing on a river or a lake.

We swung on a forest swing.

In the hunting classroom, we identified different stuffed animals, stroked them, looked at their teeth, eyes, claws... We listened to sound recordings and guessed which animal a certain sound belonged to.





We learn that ivy is not a parasitic plant, it just climbs up the tree and that the leaves higher up are bigger than those lower down because they get more light.



Imaginary boat ride - wooden boat made of a log. It was just big enough for us all to sit in.



'Look, look!' This girl is going to be a really good forester! She dismantled and reassembled the saw very quickly. And she did it even faster with our help.

The project "FORESTS EDUCATE AND CONNECT EVERYONE"

Learning difficulties, or rather learning challenges, are a topic addressed by teachers and professionals as well as parents. The main culprit for such challenges is our fast-paced lifestyle and time spent in front of screens. Time spent in nature has the opposite effect, with positive effects on children's cognitive development and health, among other things. Play in nature stimulates children's imagination, creativity, cognitive flexibility, problem-solving capacity, self-discipline and much more. The partnership of this project has been working on this topic or on the design of programmes for learning in nature, in the forest.

The main objective of the project was the design and implementation of didactic programmes to be implemented in the classroom in nature (forest) for children with fewer opportunities and behavioural challenges and the training of teachers to implement these programmes. The resulting programmes have just been presented in this handbook.

Project partners:

Secondary School of Forestry, Woodworking and Health Care Postojna, Slovenia, www.sglzs.si

Opčine Multilevel School - Istituto Comprensivo con lingua d'insegnamento, www.vsopcine.it

Consulting, education and design Zdenka Žakelj s.p., www.kmetija-jernejevi.si
Miroslav Vilhar Primary School Postojna, www.miroslav-vilhar.si

Project duration: 1 March 2023 - 1 December 2024

More about the project: www.kmetija-jernejevi.si
under "projects" + QR code.



The project partners responsible for the content of the project are Secondary School of Forestry, Woodworking and Healthcare Postojna, Consulting, Education and Design Zdenka Žakelj s.p., Miroslav Vilhar Primary School Postojna and the Multi-level School Općine - Istituto Comprensivo con lingua d'insegnamento.



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