



Nature into School

Erasmus + Project

How to connect School to Nature

Methodological Guide



“Nature into School”

Erasmus + Project

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Author: Maria Bezerra

Co-authors: Ana Brito, Bruno Torcal, Cristiana Leocádio, Fátima Nogueira, Helena Coutinho, Inês Mendes, Konstantinos Fyssas, Maria Baptista, Maria Klein, Marina Rodrigues, Mónica Pérez-Solero, Patrícia Matias, Rain Guo.

Reviewed by: Ana Bezerra, Sara Tomé and Dimitra Kalpogianni

Editing and Design: Maria Bezerra



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Partners



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Introduction

The Project

The “Nature into School” project aims to promote equal opportunities in terms of learning through free play in nature or outdoors with natural elements, for all children, especially those with fewer opportunities.

The project had inclusive direct action by involving educators and employees from social institutions with children with fewer opportunities, contributing to goal 4 of the Sustainable Development Goals.



The development of environmental awareness through environmental education activities and reconnection with nature was an essential focus of this project, contributing to goals 12 and 13 of the SDGs.

The Guide

This guide serves to raise awareness and disseminate the importance of free play in nature or outdoors with natural elements, as well as to support education professionals, young educators, homeschool parents, and other caregivers, whether individually or associated with an educational establishment, to the implementation of free play in nature, daily with their children.

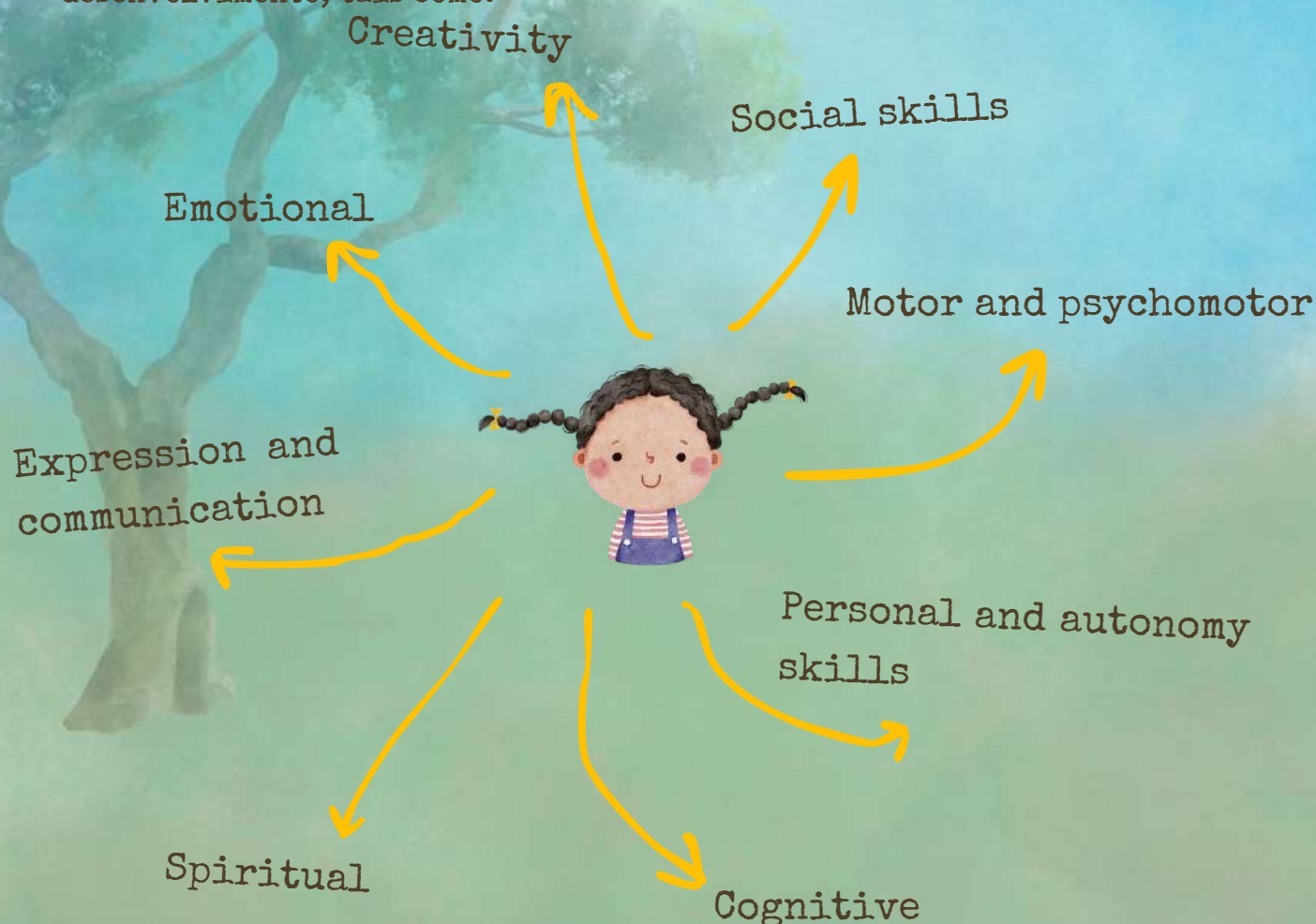
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The Approach

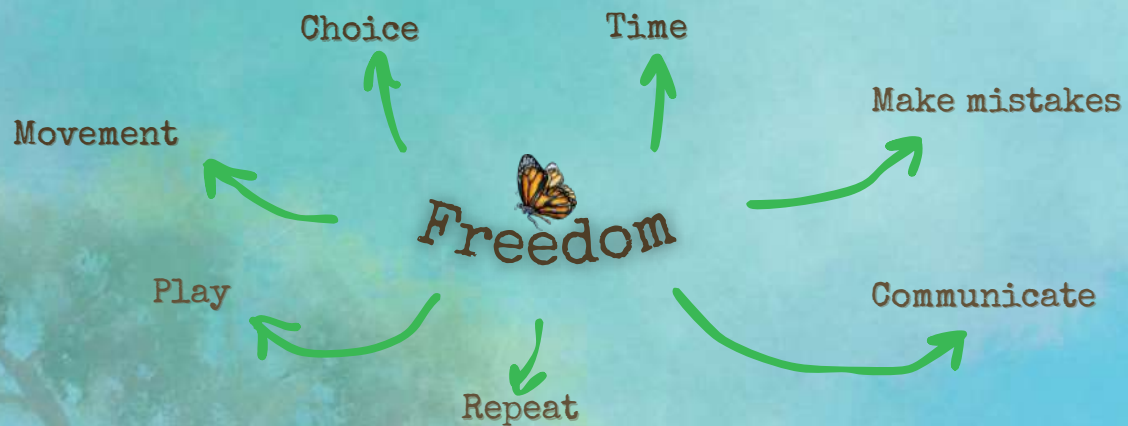
In this project, an integrative approach was developed that recognizes the child as a whole.

Through this, each child is supported to develop all aspects that constitute him/her: communication, mental skills, physical skills, spiritual, creativity, personal care, emotional, relationships.

De acordo com esta abordagem as vivências/aprendizagens são promovidas de forma a ser considerado o desenvolvimento integral da criança, não dissociando ou desvalorizando qualquer uma das suas áreas de desenvolvimento, tais como:



4 Pillars that support this integrative approach:



"The child learns naturally through activity and his character develops through freedom"

Maria Montessori

"Playing is fun, but it is anything but trivial. It is a basic biological drive as essential to our health as sleep or nutrition... Play... is the most significant factor in determining our success and happiness"

Stuart Brown



"Let us walk together on this path of life, as all things are part of the universe and are connected to each other, to form a whole unit"

Maria Montessori

"Children are like little flowers; They are varied and need care, but each is beautiful alone and glorious when seen in a community of peers"

Friedrich Froebel

Relationship



Between human beings in the community

“Without connection, there is no learning. No student learns if they do not establish a relationship of empathy, affection, and respect”

José Pacheco

“In value-based education, learning is located neither in the teacher nor in the student, but in the relationship between them”

José Pacheco

Connection



Between humans and nature

“Reconnecting with the natural world is fundamental to human health, well-being, spirit and survival”

Richard Louv

“Every child must be provided with contact with nature, so that they understand and appreciate the order, harmony and beauty of nature”

Maria Montessori

The Problem

For most children, their Early Childhood is spent in institutions from a very early age (3 months) and for a long time per day. Many of these institutions are in apartments, where contact with the outside world is limited or even non-existent! Others have outdoor spaces, but most of them are inert, cemented, and padded, all elements that castrate creativity, autonomy, self-esteem, capacity for initiative, and imagination.

In Portugal, in recent decades, there has been a dramatic decline in time and space for physical activity and children's play, in family, school, and community contexts, particularly in outdoor spaces in Nature (1). This has consequences for developing children's motor, cognitive, emotional, and social skills (1). On the other hand, it causes a significant increase in mental disorders, which include anxiety, depression, hyperactivity, attention deficit, and thoughts of suicide in the transition from adolescence to adulthood, in addition to the growing tendency to be overweight, obese, diabetes, heart and respiratory diseases (1).

NATURE DEFICIT DISORDER (2)

Nature Deficit Disorder consists of the fact that humans, especially children, spend less and less time outdoors, and this results in a wide range of physical and behavioral problems derived from a life disconnected from the natural world.

(1) Neto, Carlos, 2020. Libertem as Crianças. A urgência de brincar e ser ativo.

(2) Louv, Richard, 2005. Last child in the woods: saving our children from nature-deficit disorder.



The lack of contact with nature and free play is notable in educational establishments in Portugal, and is often related to the excessive protection of parents and the establishments themselves.



The demystification of fears, instigators of this excessive protection, is essential within the community, through the transmission of information about safety measures and risk assessment, used by safe, appropriate and experienced approaches to outdoor teaching, and free play, practiced for decades in other countries both at European and global level.

It is relevant to change teaching approaches in Portugal and take actions identical to those developed in this project, as Early Childhood is a critical period for the intellectual, emotional, social, physical, and moral development of children and is influenced by the environment and relationships that surround the child (3).

It is up to us as parents, educators, caregivers to

ACT! ✨

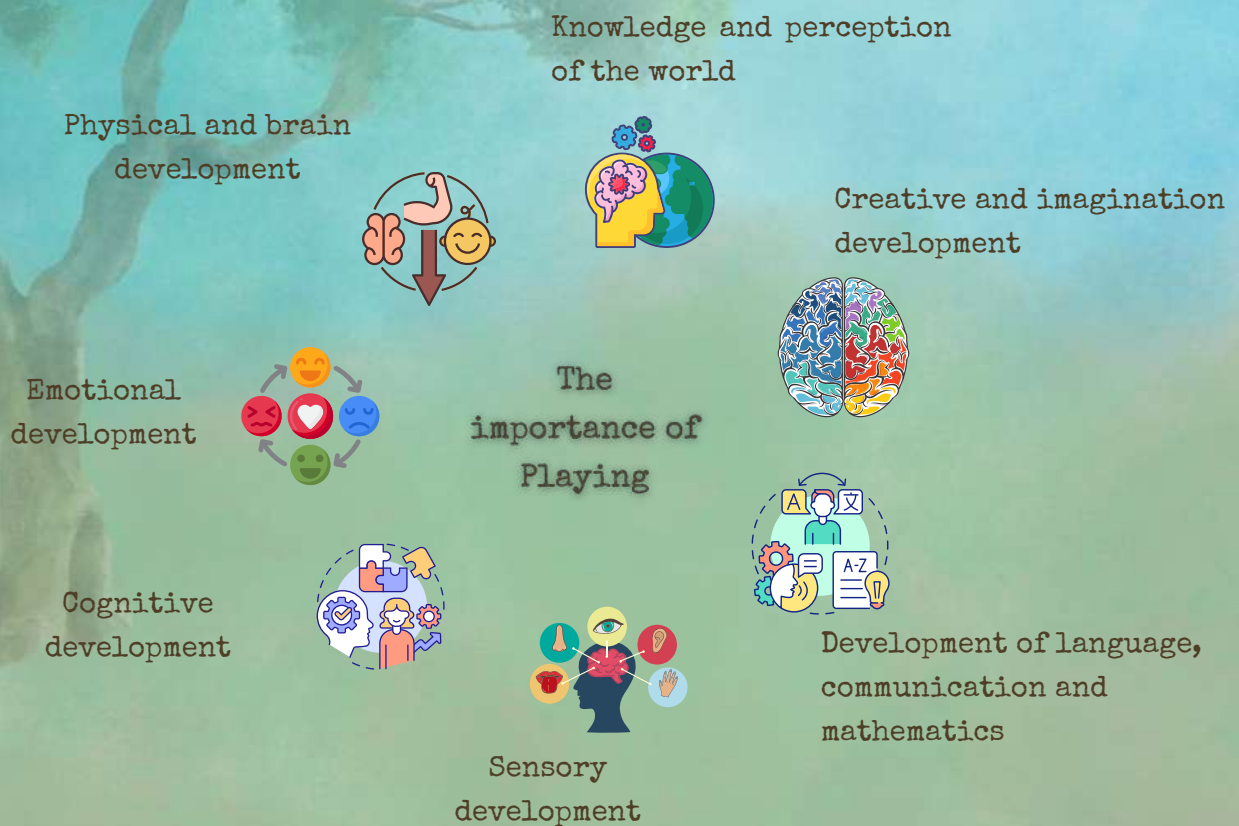
(3) UNICEF, 2006. The State of the World's Children. Reaching the excluded and the invisible children of the world; e Likhar. Akanksha; Baghel, Prerna; Patil, Manoj. (2022). Early Childhood Development and Social Determinants.

Play in nature

Playing is a right for all children, as play is considered crucial for a child's development (4).

Why play? (5)

- Playing is the moment when we feel most alive and is a necessity for everyone
- It's a child's way of making sense of the world - a learning tool that engages, motivates, challenges, and delights
- Play connects us to each other and the world around us
- Learning is more effective and productive when you play



(4) European Union Convention on the Rights of the Child, 1989.

(5) Neto, Carlos, 2020. *Libertem as Crianças. A urgência de brincar e ser ativo.*

Playing in Nature offers infinite ways to support children's development.

The ability to learn and retain new knowledge and information is greater when multiple senses are involved in an activity.

Nature offers this!

Time spent in contact with the natural world is not just an activity, but a fundamental element for a child's healthy development (6).

Why does being in nature support learning? (7)

- More time and space for discovery, imaginary play, exploration.
- Encourages more descriptive language.
- Much more immersive than indoor environments.
- Instills big questions and doubts.
- Supports motor, cognitive and sensory development.
- Makes human beings more skilled, creative and proactive.
- Provides opportunities for teamwork, cooperation, problem solving and risk management.

Connection with nature is essential for developing a sense of human belonging to the natural world so that today's children become adults with environmental awareness and sensitivity.



“No one will protect what they don’t care about, and no one will worry about what they have never experienced.”

David Attenborough

(6) Neto, Carlos, 2020. Libertem as Crianças. A urgência de brincar e ser ativo.

(7) Cree, Jon and Robb, Marina, 2021. The Essential Guide to Forest School and Nature Pedagogy.

Connection between humans and nature (8)



Physical well-being

- Improves heart functions
- Reduces hypertension
- Balances hormonal regulation
- Improves respiratory function
- Improves vision
- Healthy body = Healthy mind

Psychological well-being

- Emotional regulation
- Greater attention
- Positive thinking
- Better stress management
- Resilience, mood elevation

Spiritual well-being

- Deeper sense of self
- More gratitude
- Self-improvement
- Increases awareness of the positive and negative aspects of life

Social well-being

- Effective interpersonal communication
- Stronger bonds
- Empathy
- Less conflicts and aggression at home
- Deeper emotional bond

Community involvement

“The school is not a building, it is the people”

José Pacheco



Community involvement is essential to demystify fears that limit opportunities for free play in nature or outdoors with natural elements, in educational establishments in Portugal.



It is advisable to hold social meetings between families and employees of educational establishments, to celebrate, strengthen bonds, and transmit knowledge about the importance and benefits of playing freely in nature.

These meetings will also be a way of providing family members with opportunities to experience the same activities that their children enjoy on a daily basis, enjoying the benefits of being in nature and playing freely together with their children and in the community.

“The only source of knowledge is experience”

Albert Einstein



On the other hand, these social meetings can also be used to raise funds, to acquire materials to improve the conditions of the natural spaces of the educational establishments themselves, or to help disadvantaged families, who have difficulties in acquiring material so that their children can enjoy nature's space with comfort and safety.

“Look deep into nature and then you will
understand everything better”

Albert Einstein

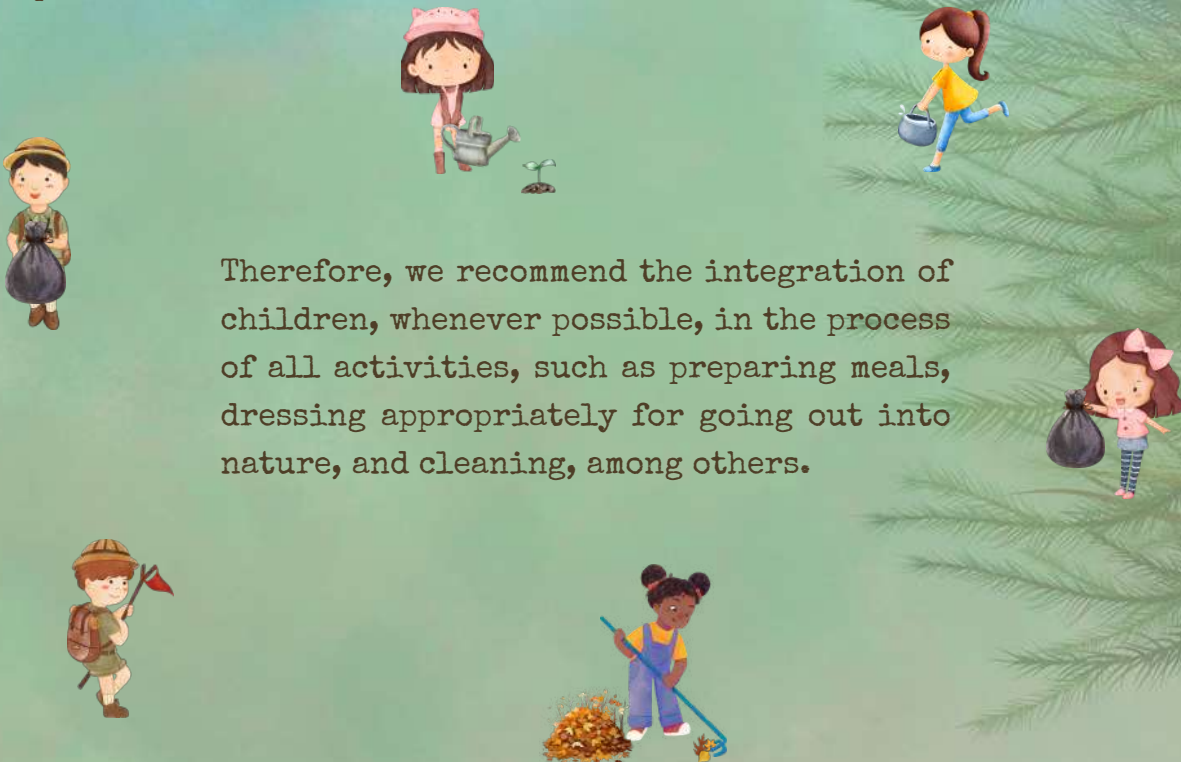
Recommendations

Educational establishment

Educational establishments are children's second home. In addition to being welcoming and safe, they should help children learn how to live in a community, with respect for all beings.



Children's involvement in daily tasks and chores gives them responsibility and autonomy, and conveys to them their importance, as an individual, to the community. This is essential for their integration and sense of belonging in the educational establishment and later in society, making them proactive citizens.



Therefore, we recommend the integration of children, whenever possible, in the process of all activities, such as preparing meals, dressing appropriately for going out into nature, and cleaning, among others.

We also recommend putting up posters illustrating good practices for preserving natural resources, to be practiced in the educational establishment. These posters also serve as an incentive to develop environmental awareness and respect for nature, among children and adults.

The suggestions are illustrative posters with the following indications:



Moderate water consumption

- Turn off the tap while soaping your hands, brushing your teeth or washing the dishes
- Reduce the flow of water into the toilet cistern
- Water plants early in the morning or at the end of the day
- Harvest rainwater for activities or to water plants



Moderate electrical energy use

- Turn off appliances, sockets, and switches when they are not in use
- Open the window to cool the room and wear appropriate clothing instead of using the air conditioning



Use of organic waste

- Invest in composting and/or vermicomposting
- Build a worm farm – education about the worm development cycle and the important role of worms in composting



Reuse and recycling of materials

- Use open-ended materials for activities whenever possible
- Create recycling bins with children, to place in classrooms and outside the educational establishment, and encourage children to separate packaging through games

Adult *

The adult's behavior must be exemplary. It is through example that children learn.



Adult's role as mentor:

- Co-learner and collaborator of the child, guiding and not instructing
- Encourage play and free-thinking
- Facilitate access to outdoor spaces in nature
- Focused on the child's needs and the learning process, not results or performance
- See children as active co-builders
- Promote assessment as an active process of discovering and recognizing shared understanding

For trips out into nature, adults must prepare their own backpack, with some essential items, such as:



Documents: Local emergency contacts; Form with information on all participants (name, age, parent/guardian contact, allergies/health conditions, other relevant information); Activity evaluation form: Activity risk management, Observation + Recording + Analysis.



First aid kit: Hot/cold gel, thermal blanket, disinfectant, band-aids, bandages, adhesive tape, tweezers, scissors, and healing ointment, among others, are necessary according to the location or activities.



Materials: Tarp, String, Switchblade, Canteen with water, Fier starter flint, and Appropriate clothing, among others, are necessary, depending on weather conditions, location or activities.

*Throughout this guide, the term adult refers to education professionals, parents, homeschool parents, and other caregivers.

Preparing space in nature

Space in nature must be a place that provides safety for both children and adults. Below are some tips to follow, before carrying out activities in nature:

Create shade/shelter

- Use a tarp, attached to two tree trunks, as shade/shelter.
- Use a tree for shade/shelter. Select a healthy tree, with no dry branches ready to fall. If there are dry branches stuck to the tree, they must be removed. Know the fruiting season of trees in nature, avoiding staying under them at that time.



Prepare the floor in the space introduction area

- “Clear” a suitable perimeter, removing natural elements that may be uncomfortable or dangerous, e.g. ex. leaves or branches with spikes, and sharp stones.
- It is advisable to use a tarp or blanket, to offer a more comfortable first contact with nature, especially for children with less mobility.
- Pay attention to the tree roots that protrude from the ground, mark them, and alert children to their presence.





Flora and Fauna Care

- The example set by adults is essential in transmitting the concept of respect for nature to children. Therefore, the adult must know the flora and fauna of the space in nature and carry out a practice that is always conscious and respectful of nature. Transmitting from the first session the importance of respecting the flora and fauna of space in nature;
- Some recommendations for rules to be followed to respect flora and fauna are all beings must be seen with the eyes and not with the hands; avoid touching wild animals, especially young ones, as their mothers may reject them; harvest flowers or plants sparingly and only from abundant species; If you see an injured animal, call the adult and contact the appropriate entities;
- Prefer to choose a space in nature, where there are no toxic plants. If there is no other option, initially, when you are introducing children to nature, you must remove them beforehand. Some species to pay attention to: Hemlock - *Conium Maculatum*; Embude - *Oenanthe crocata*; Nightshade - *Solanum nigrum*; Stramonium - *Datura stramonium*; Foxglove - *Digitalis purpurea*; Aconite - *Aconitum napellus*;
- Choose a space in nature, where fauna is not harmed, avoiding areas with nests, dens, and other animal shelters.
- If there is an animal with dangerous characteristics for humans, it is essential to know the possible places where they den and stay, avoiding them.
- With the increase in frequency in nature, children should be introduced to flora and fauna that present dangers. In a safe environment, you must warn of danger, and explain the appropriate behavior to take, transmitting responsibility to the children themselves. However, as an adult, it is essential to be aware that this learning process is different from child to child. Therefore, it is the adult's responsibility to always ensure the safety of all children.



Create a sharing circle

- In a space preferably in a semi-shade, create a circle with benches made from logs, tires, large stones, or other suitable materials.
- This circle will serve as a place for sharing, opening and closing sessions, and meetings in case of an emergency.
- This circle must be created with a suitable diameter (at least 6 meters) so that, if it is permitted and safe to build fires, there is a space in the center for them.
- The inner space of the circle must be as flat and clean as possible, without herbs, roots or sticks.



Perimeter and security rules

- If the space in nature is within a large property and is not delimited, it is advisable to stipulate, together with the children, the imaginary limit of the space in nature within which everyone can play and explore freely. The limit must be within the adult's vision range when they are in a central area of space in nature. Establish this limit based on the location of trees or other fixed elements on the site.
- Establish a calling sound (e.g.: wolf sound) in case of emergency, with which everyone must return to the circle.
- If there are places that could pose a danger to children (e.g. riverbanks, riverbanks, among others), establish a space in nature far away from these places and communicate the consequences that these dangers may entail. In the case of watercourses that can be frequented, establish the rule that they will only be used in the presence of an adult and with appropriate resources.

Nature adventure routine

Preparation

Involve children in tasks. Encourage them to dress according to the weather conditions and prepare their backpacks with the necessary belongings to take to space in nature.

Responsibility ⇔ Autonomy

Route

Adapt the trip to the nature space appropriately to the age group of each group and incorporate songs depending on the activities that will be carried out in the nature space.

Magical entry from space into nature:

If there is a gate/fence to enter the space in nature, the adult states that it is a special entrance to the magical world of nature. If it doesn't exist, the suggestion would be to imagine a special entrance. For example, passing under a tree or between two boulders, something that symbolizes the passage to the magical world of nature. This magical entrance can only be opened with a magical key when used by a child. This magical key can be a natural element or something that children build themselves (be creative).



Session in space in nature

- Opening circle:
 - Present the safety rules to the group and the limits of the space;
 - Define together with the children which sound is used (e.g. wolf) so that everyone returns to the circle;
 - Present activity suggestions, always giving children a voice to express their needs;
 - Introduction to the activity through a story, role play, music or other.
- Activity and/or free play;
- Lunch;
- Rest and snack;
- Free play;
- Taking care of the space:
 - Leave everything as we found it or even better;
 - Get the garbage;
 - Return the natural elements used in activities to nature.
- Closing circle:
 - Thanks;
 - Shares.
- Close the magic entrance and keep the key.



Preparing children for contact with the natural world

3 months to 1 year - To feel!



1 to 2 years - To explore!



2 to 3 years - Adventure!



3 to 6 years - Overcome!



Depending on the age group of the children, we recommend visiting
3 etapas diferentes

Children **up to 2 years** of age
who do not regularly have
contact with the natural world



We always recommend starting by introducing the activities of the **1st Stage** and progressing to the activities of the following stages, as suggested in the attached schedule.

Children aged **3 years or more**



We recommend starting at **2nd Stage** and progressing as suggested in the attached schedule.

1st and 2nd Stages

- Introduction of natural elements, safely and comfortably for everyone, to create a bond of trust, satisfaction, and connection with the natural world, both for children and adults.

3rd Stage

- Progress towards the introduction of targeted activities that instigate curiosity about the natural world and strengthen the connection between human beings and nature.

1st stage – Introduction of natural elements into the room

Goal: Free exploration and development of familiarity with the natural world, in a safe and supervised way.

Frequency: 10 a 20 min, várias vezes ao dia, diariamente.

Groups: 5 to 6 children per adult.

Adult intervention only occurs if necessary or requested by the child

1.Sensory bottles | 3 months to 2 years

Learning:

- Promotes the exercise of arm and hand muscles;
- Provides improvement of the pincer movement;
- Promote the development of attention and concentration;
- Leads to the improvement of the senses of vision, hearing, and touch;
- It works as an excellent relaxation strategy.

Materials:

- Natural elements of different shapes, colors, weights, and composition (e.g. leaves, pebbles, shells, acorns, sand, water, clay);
- Plastic bottles, with different sizes, appropriate to the age group;
- Hot glue or tape.

Preparation:

- Fill plastic bottles with natural elements. Close the bottles and seal well with hot glue or adhesive tape.

Procedure:

- Arrange several bottles per group and let the children explore freely.

2.Basket of treasures | 3 months to 2 years

Learning:

- Sensory development;
- Psychomotor development;
- Hands-eyes-mouth coordination;
- Development of concentration;
- Explore the 5 senses: touch, vision, smell, hearing and taste.

Materials:

- Wicker baskets or other natural material;
- Natural elements of different shapes, colors, weights and composition (e.g. pine cones, sticks, leaves, nuts, shells, sand). These must be safe, appropriately sized, non-toxic, and without sharp edges and not sharp. Adapt natural elements depending on the season;
- Everyday elements from natural materials (wool, fabric, wood or metal), e.g. ex. pompom, wooden spoon, hand whisk.

Preparation:

- Arrange the different selected elements within the baskets.

Procedure:

- Make the baskets available to children so they can explore freely.

3.Sensory mats | 3 months to 2 years

Learning:

- Development of fine and motor coordination;
- Recognize contact with new textures;
- Encourage autonomy of movement in the surrounding environment;
- Decision-making;
- Explore touch and vision.

Materials:

- Hard card
- Natural materials (e.g. stones, sand, corks, fabrics, wool, ropes)
- Hot glue

Preparation:

- Prepare the card in the shape of a long rug (3mx0.5m).
- Glue the materials, arranged in different ways (e.g. in a line, spiral, random) in different sections (0.5x0.5), along the card.

Procedure:

- Make the carpet available for free exploration.

4. Sensory stimulation box | 1 to 2 years

Learning:

- Sensory development;
- Psychomotor development;
- Encourages the expansion of language;
- Develops imagination and creativity;
- Develops fine motor skills;
- Exploration of the senses.

Materials:

- Cardboard box or other suitable container;
- Main natural element, to fill the box. E.g., sand, water, pebbles, leaves, beans, rice, mud;
- Natural elements, with appropriate sizes, to hide. E.g., shells, acorns, pine cones, flowers, soaps, rattles;
- Optional: Natural dyes, to color the main natural element.

Preparation:

- Fill the box with the main natural element. You can choose to present the main element in its natural color in the first introduction to the activity and, later, present it in different tones, using natural dyes;
- Hide the natural elements within the main element.

Procedure:

- Make the box available for free exploration.

5. Sensory stimulation box | 1 to 2 years

Learning:

- Sensory development
- Psychomotor development
- Encourages the expansion of language.
- Develops imagination and creativity,
- Develops fine motor skills
- Exploration of the senses

Materials:

- Cardboard box;
- Scissors;
- Natural elements. E.g., shells, acorns, pine cones, flowers, stones, sticks, leaves, pods, rattles, rattles;
- Optional: use edible natural elements (e.g. flowers, fruits, vegetables), appropriate for age. In this case, it is recommended to make an entire box with ONLY edible elements!

Preparation:

- Cut two circles at the bottom of the cardboard box, with a suitable diameter, so that a child can insert their hands and arms;
- The top of the box must remain open;
- Place the box on a table, lying on its side, with the side of the circles facing the children and the open top facing the adult;
- Place natural elements inside the box.

Procedure:

- Make the box available to each child and encourage each one to discover natural elements through touch and verbalize what element it is;
- If you have chosen edible elements, after the child discovers the element, and if it is of interest to the child, they can taste it.

6. Sensory arcs | 3 months to 2 years

Learning:

- Sensory development;
- Psychomotor development;
- Motor coordination;
- Awakens curiosity;
- Develops imagination and creativity;
- Exploration of the senses.

Materials:

- Colorful bows;
- Various materials for hanging: colored ribbons (made from old sheets colored by children) and natural elements (e.g. shells, acorns, pine cones, feathers, seeds);
- Scissors;
- Drill or nail and hammer.

Preparation:

- Making holes in the natural elements;
- Hang the different materials on each arch.

Procedure:

- Introduce children to the arcs so they can explore freely.



2nd Stage - Introduction to a space in nature

Goal: Free exploration, develop familiarity with the natural world and confidence in nature, in a safe and supervised way.

Frequency: 20 to 60 minutes, once or twice a day, daily.

Groups: 2 or 3 children (from 3 months to 1 year) per adult or 5 to 6 children (from 1 to 2 years) per adult.

Adult intervention only occurs if necessary or requested by the child

7. Earth Element | 3 months – 2 years

Learning:

- Development of fine and gross motor skills;
- Sensory development;
- Cognitive development;
- Linguistic development.

Materials:

- Safe natural elements, previously selected by the adult (e.g. stones, sticks, earth, plants...);
- Story and/or song;
- Tarpaulin or blanket;
- String.

Preparation:

- Select natural elements existing in the space in nature with appropriate sizes, non-toxic, without sharp edges and not sharp, e.g. e.g., acorns, pine cones, flowers, seeds, stones.

Procedure:

- As motivation for the activity, tell a story or sing a song, adapted to the context. Place the natural elements on the tarp or blanket available to children to explore freely. The adult can try to stimulate the child(ren), carefully touching them with natural elements, and observing what arouses their most curiosity.
- With children's increased mobility and confidence development in the environment, provide opportunities for them to feel comfortable exploring nature, outside of the canvas or blanket.

Variations:

- Use natural elements according to the season.

8. Water Element | 1 – 6 years

Learning:

- Sensory development;
- Language development;
- Development of fine and gross motor coordination;
- Development of concentration;
- Color learning.

Materials:

- Ice cubes with treasures (prepare ice cube trays, with suitable natural elements inside, e.g. shells, pine cones, edible flowers..., fill with water and freeze);
- Sensory bottles with water (see activity 1.);
- Bottle with water and bowl;
- Waterproof clothing or change of clothes for each child;
- Transport car;
- Different containers and sponges to transfer water;
- Different utensils for handling ice and/or mud.

Preparation:

- Prepare the ice cubes with treasures.

Procedure:

- Introduce motivation to the activity in a circle through a song, while the adult touches water and/or ice;
- Place the child(ren) who still has limited mobility in a comfortable position, on top of a tarp, to freely explore the ice cubes with treasures while they melt;
- Make sensory water bottles available for free exploration (different sounds, colors, weights);
- For children who are already more mobile, let them explore the ice cubes in different environments (inside containers or directly on the ground). Discovering the treasures with different tools and exploring the mud that forms with the water from the melted cubes in contact with the ground. Also, provide different containers and sponges so they can explore water transfer.

Variations:

- Color the ice cubes with colorings and spices.

9. Picnics outside | all ages

Learning:

- Sensory development;
- Fine motor development;
- Development of the sharing concept;
- Language development, expands vocabulary;
- Strengthening the child/adult and child/child bond;
- Increased receptivity to the appreciation of new flavors.

Materials:

- Tarp or blanket;
- Food prepared and stored in Tupperware. Give preference to fruit and healthy homemade foods;
- Basket to transport food;
- Reusable plates, cups and cutlery (never single-use disposable);
- Individual containers or bottles with drinking water;
- Bottle with water and soap for hand hygiene;
- Trolley to transport all materials.

Preparation:

- Arrange the tarp or blanket on the floor and place all the necessary utensils available and the food in the center;
- Sit in a circle.

Procedure:

- We suggest that the adult thank nature for the moment and the food, together with the children. They can make up a song;
- Transmit to children the sense of fair sharing;
- Suggest that each child can reach their utensils and choose their food. Offer help only if necessary or if the child requests.

Suggestion:

- Start with snacks and progress to the lunch meal.

3rd Stage - Free exploration of space in nature

Goal: Free exploration in a safe and supervised way, connection with the natural world, autonomy, overcoming, responsibility.

Frequency:

- Start with 20 to 60 minutes daily and progress to the full morning or afternoon period daily;
- 1 full day per week, if there are conditions for the rest period to take place in nature.

Groups: 6 to 8 children per adult.

Adult intervention only occurs if necessary or requested by the child

10. Play and explore freely | All ages

11. Outdoor sensory mat | 1 – 6 years

Learning:

- Motor coordination;
- Recognize contact with different textures;
- Encourage autonomy of movement in the surrounding environment;
- Decision-making;
- Explore touch, vision, hearing, and smell.

Materials:

- Logs, wooden beams, pallets, or other materials to make the partitions;
- Natural materials exist in the space in nature (e.g. stones, sand, leaves, seeds) to fill the dividers.

Preparation:

- The carpet must be built in a place in nature that is always accessible to children, preferably in partial shade;
- Prepare the selected material to make the dividers. The recommended size will be 3mx0.5m;
- Place the materials in different sections (0.5mx0.5m).

Procedure:

- Free exploration.

12. Experimentation tables | 1 – 6 years

Learning:

- Sensory development;
- Psychomotor development;
- Encourages the expansion of language;
- Develops imagination and creativity;
- Develops fine motor skills;
- Exploration of the senses.

Materials:

- Wooden tables or any other support structure (e.g. pallets, easels, tires), with heights appropriate to the age group;
- Deep trays, strong plastic boxes, bowls, or large old pans;
- Main natural element, e.g. water, sand, earth, mud;
- Different utensils, e.g., wooden and metal spoons of different sizes, pipettes, glasses, bowls, and watering cans;
- Containers/supports to place/hang utensils.

Preparation:

- The table must be placed in a place in nature that is always accessible to children, preferably in partial shade;
- Make the main natural element available directly on one of the trays and all the utensils.

Procedure:

- Make the table available for free exploration, experimenting, handling, transferring, and creating.

13. Feet in the mud | 1 – 6 years

Learning:

- Sensory development;
- Psychomotor development;
- Develops imagination, creativity, and expression;
- Develops spatial intelligence;
- Development of balance, coordination, and stability;
- Development of problem-solving skills;
- Exploration of the senses.

Materials:

- Tarp;
- Mud;
- Large cards or old sheets;
- Appropriate clothing or swimwear for children;
- Optional: natural dyes, e.g. e.g., clays, condiments.

Preparation:

- Place the tarp in a relatively flat area of nature;
- Arrange the mud along the tarp;
- Place the cards or sheets next to the tarp.

Procedure:

- Make it available for exploration and free creation with your feet, hands, or body.
- Variation: Make natural dyes available to explore other shades.

14. Natural art | 1 – 6 years

Learning:

- Sensory development;
- Psychomotor development;
- Develops imagination, creativity, and expression.

Materials:

- Baskets or other containers;
- Natural elements;
- Glue, threads, cards, and other office materials that may be useful;
- Tarp.

Preparation:

- Place office supplies on the tarp.

Procedure:

- Suggest collecting natural elements that exist in nature, into baskets, to make “works of art”, to offer to family members or the community, on special occasions;
- Free creation.

15. Sensory stations | 1 – 6 years

Learning:

- Sensory development;
- Psychomotor development;
- Motor coordination;
- Awakens curiosity;
- Develops imagination and creativity;
- Exploration of the senses.

Materials:

- Colorful bows;
- Various materials for hanging: colored ribbons (made from old sheets colored by children) and natural elements (e.g. shells, acorns, pine cones, feathers, seeds);
- Scissors;
- Drill or nail and hammer;
- String.

Preparation:

- Cut the ribbons;
- Stick to natural elements;
- Decorate the arches with different materials;
- Choose a healthy tree to make the sensory station;
- Hang the created arches on a strong and stable branch of the same tree;
- Decorate other branches with the elements.

Procedure:

- Free exploration.

16. Fire Dragon | 2 – 6 years

Learning:

- Cognitive development;
- Fine and gross motor skills;
- Development of language, concentration and gross motor coordination;
- Emotion management;
- Promotion of imagination, creativity, responsibility, awareness, attention;
- Learning about safety with the fire element, understanding healthy limits.

Materials:

- Fire dragon masks (made with recycled materials such as cardboard, lids, colored threads, and fabric);
- Colorful scarves (reused from old, colorful sheets by children);
- Rocks/tree trunks.

Preparation:

- Make the dragon mask and scarves.

Procedure:

- Introduce a small role play to motivate the activity in the circle. The adult puts on the fire dragon mask and breathes fire, warning that the fire is hot! He suggests that the children join him in creating the dragon's body with colorful scarves in their hands. They walk, making grunts, to the dragon's "cave", where the dragon goes to sleep (the adult removes the mask and places it on the floor);
- Explain that while the dragon is sleeping (adult without mask) everyone is safe, but when the dragon wakes up (adult puts on the mask) he breathes fire and each child has to look for a safe rock/tree trunk and remain calm until the dragon falls asleep again. Establish the limits of the activity space and indicate which rocks/tree trunks are the safe place, where the dragon's fire has no power.

Variations:

- Choose other animals and natural elements to approach.

17. Magic soup on the fire | 2 – 6 years

Learning:

- Development of fine motor skills;
- Promotion of concentration, responsibility;
- Learning about safety with the fire element, and understanding healthy limits.

Materials:

- Vegetables for soup;
- Wooden planks;
- Knives suitable for children;
- Table/bench;
- Pan;

- Water;
- Campfire utensils;
- Bucket with water;
- Leather gloves;
- Metal tweezers.

Preparation:

- Make the fire in the center of the circle, in the appropriate place for it, with the security perimeter ensured;
- Place the pan with water on the heat;
- Place the vegetables and boards on a table/counter.

Procedure:

- Carefully introduce children to the circle with the bonfire. Alert to the dangers of fire and mention the safety rules, such as the security perimeter that is not safe to exceed. Highlight and exemplify how adults handle fire, safely with gloves and metal tongs;
- A bucket of water must be in an accessible area and close to the fire area, in case of emergency and if it is necessary to put it out.
- Model how to use a knife to cut vegetables and allow all children to be involved in the task. Children must be seated at a table at a considerable safe distance from each other. Each child will have a wooden board in front of them to use to cut the vegetables. Before giving knives to each child, the adult must show them how to hold the knife safely. The adult then demonstrates how to cut food safely and effectively. It is recommended to start with soft foods such as courgette.
- The adult places the cut vegetables in the pan;
- Enjoy the soup.
- Don't forget to put out the fire properly at the end.

18. Magical Kitchen | 2 – 6 years

Learning:

- Development of fine motor skills, language, and sensory skills;
- Promotion of responsibility, creativity, and imagination;
- Learning about quantities, fair sharing, colors;
- Emotion management.

Materials:

- Pans and other kitchen utensils of varying sizes;
- Bowl;
- Kitchen bench/table;
- Aprons;
- Boss hats in sizes for adults and children;
- 2 pieces of dark fabric;
- Clay, water, and natural elements.

Preparation:

- Create the kitchen structure;
- Make chef hats from leaves and aprons from old fabrics.

Procedure:

- Introduce the activity motivation guessing game into the circle. The adult says enthusiastically: "Shall we play guess what?" The adult hides an object under the dark cloth and each child, one by one, tries to guess what object it is, just by touching it. In the end, after all the kitchen utensils have been unveiled, the adult asks the activity's introductory question: "With these kitchen utensils, what can we do?" While the children give their answers, the adult puts on the chef's apron and hat. According to the children's answers, the adult suggests: "Let's put on our apron and chef's hats, to go to the magic kitchen and cook... (could you mention something specific here, e.g. pizza)?";
- In the magic kitchen, the adult introduces clay and water and gets involved in the game. Start cooking what was chosen (e.g. pizza). He makes a ball of clay, flattens the ball, and, with the rolling pin, stretches the "pizza dough". Then he decorates his pizza with magical ingredients (natural elements available in space in nature, e.g. Flowers, leaves...). He puts the pizza in the oven and at the end, he shares the pizza with everyone;
- Suggest to leave some food next to the trees or magical holes, as an offering to fairies and nature creatures.
- Variations: cooking different foods, e.g. ex. cakes, soups...; use clays with different pigmentations or use natural dyes (e.g. spices) to give different colors to the clay.

19. Cake for fairies and elves | 3 – 6 years

Learning:

- Development of fine and gross motor skills, linguistic, sensory and observation skills;
- Promotion of musicality, coordination, rhythm, creativity and imagination;
- Learning colors and associating the image with its designation;
- Encouraging teamwork and cooperation
- Learning about quantities and fair sharing;
- Emotion management.

Materials:

- Illustrative sheets* each with six images of natural elements and below each image place the respective descriptive word (suggestion: use words in Portuguese and English, for example, or other languages);
- Cartons of half a dozen eggs*;
- Clay or mud (earth+water);
- Kitchen utensils (bowls of different sizes, wooden spoons...).
- The number of illustrative sheets and egg cartons will depend on the total number of children.

Preparation:

- Create the kitchen structure;
- Make chef hats from leaves and aprons from old fabrics.

Procedure:

- Introduce the motivation story for the activity in the circle. The adult asks in a curious tone: "Do you know what special day it is?" and develops the story with excitement: "It's the birthday of fairies and elves from the nature space. They told me that they needed our help to find the magical ingredients for their delicious cake. And they handed me these sheets with images of the necessary ingredients. Lets help?";
- The adult introduces the illustrative sheets, making sure that all children understand what each image represents. The adult forms groups of 4 to 5 children, distributes an illustrative sheet and a box of eggs to each group, and begins collecting the magical ingredients;

- After all groups have collected the magical ingredients, they will all make cakes with clay/mud. At the end, you can place the delicious cakes near the trees and holes so that the fairies and elves can find them, and sing Happy Birthday.

Variations:

- Adapt images according to the seasons; also associate the learning of quantities, adding a number to each image, this way children have to place the respective quantity of each element in the box. As the children's age progresses, the images will also be adapted to increase the challenge, e.g. e.g., placing an image of a geometric shape, with the aim of finding a natural element that symbolizes it.

20. Magical Music | 2 – 6 years

Learning:

- Development of fine and gross motor skills, linguistic and sensory skills;
- Promotion of musicality, coordination, rhythm, and observation skills;
- Learning colors and associating the image with its designation, teamwork, cooperation, fair sharing, and managing emotions.

Materials:

- Boxes of half a dozen eggs, with the places to place each egg painted in six different colors;
- Small bottles (upcycling of juice bottles);
- Scotch tape.

*The number of egg cartons and bottles will depend on the total number of children.

Preparation:

- Paint the egg cartons.

Procedure:

- Introduce the motivation story for the activity into the circle. The adult says with magic: "An elf, my friend, gave me these little boxes and said to me: For magical music to be made, these little boxes you will have to fill. Let's go to space in nature, fill the boxes and make music?";

- The adult introduces the activity: "These little boxes that the elf gave me are painted on the inside in different colors. We will have to find several elements of nature with the same colors and place each one in the corresponding room. Then, we gather in the circle to show each other what we have caught and to place the elements of nature inside little bottles (the adult shows a bottle), to make magical music rattles. Let's do it!";
- The adult forms groups of 4 children, gives each group a box, and begins the activity;
- After everyone presents what they have caught in the circle, the adult distributes a bottle to each child to make rattles and the adult seals the bottles with adhesive tape;
- Create music freely.

Variations:

- Change the background colors of the box, according to the natural elements available in the space in nature in each season of the year. Rattles can be decorated.

21. Treasure Hunt | 3 – 6 years

Learning:

- Development of fine and gross motor skills, linguistic, sensory and observation skills;
- Promotion of creativity;
- Learning colors and associating the image with its designation;
- Encouragement of teamwork, cooperation and fair sharing;
- Emotion management.

Materials:

- Five* treasure maps, with different routes to the treasure. Along the route, there are six stopping points, each with a challenge that must be overcome. There is one more last point (the 7th) where the treasure will be hidden. It is necessary to change the route order of each map so that the groups are not at different points at the same time. The 7th point must be different on all maps;

- Six* illustrative images, to be attached to the stopping points of the challenges, e.g., an image of a natural element to find and harvest. Below each image, place the respective descriptive word (suggestion: use words in Portuguese and English, for example, or other languages);
- Five* boxes of half a dozen decorated eggs;
- Five* boxes of wood, cardboard or other suitable material for the treasures. Treasures are something symbolic, e.g., materials to create something creative in a group or individually, fruit, cake/healthy cookies, to share or in sufficient quantity according to the number of children;
- Five* chains and five padlocks, with their respective keys, or rope and padlocks and keys made, e.g. on cardboard.
- Pirate costumes for adults and children, e.g., a headscarf made from a piece of reused fabric and an eye patch made from cardboard and ribbon (upcycling).

*Quantities will depend on the total number of children per session. The suggestion presented represents the maximum recommended, which corresponds to 5 groups of 5 children.

Preparation:

- Make treasure maps and illustrative images;
- Decorate the egg cartons;
- Prepare the treasures;
- Make chains, padlocks and keys;
- Make the disguises;
- Place the illustrative images and treasures in their respective locations.

Procedure:

- Introduce the motivation story for the activity into the circle. The adult, disguised as a pirate, says with suspense: "Did you know that a long time ago, a pirate from distant lands came to space in nature to hide a treasure? And, did you know, we have the map to find this treasure and the key to open it? Shall we find him?" Here the children wear disguises;

- The adult introduces the activity. He shows one of the maps and explains that, for each challenge to be considered overcome, they must place the evidence (elements from the illustrative images) in the challenge box (egg box). When you complete all the challenges, you reach the treasure. They must return to the circle with the treasure and wait for all groups to finish. The keys to the treasures will be handed out when all groups return to the circle. After the explanation, the adult forms groups of five children, and gives each group a map and a challenge box. All groups leave the circle in search of the treasure;
- After all the groups have finished, the adult says in a tone of conquest: "Hurray, hurray, the treasures have been discovered, hurray, hurrah!" Then, the adult gives the keys to the treasures to each group and they discover the treasures together. Highlight the importance of sharing treasure among all pirates in the group!

Variations:

- Increase the complexity of challenges according to age group, e.g. ex. add quantities of elements to collect, elements with different geometric shapes, different textures, puzzles...

22. Unravel the mystery | 4 – 6 years

Learning:

- Development of fine and gross motor skills, linguistic, sensory and observation skills;
- Promotion of creativity;
- Learning colors and associating the image with its designation;
- Encouragement of teamwork, cooperation and fair sharing;
- Emotion management.

Materials:

- Thirty* tubes to put the clues inside. These can be made from cane and have a cork lid, or reuse photographic roll boxes or something similar. The pipes must be painted in bright colors so that they are clearly visible in nature. For each group there must be six tubes of the same color, so that each group only follows the clues of their group's color;

- Thirty* pieces of paper to draw and/or write the clues. There should be 10 tracks that are different from each other. The five initial clues will be the same for all groups, however their sequence differs for all groups. The last clue for each group is different for all groups, as it will be where each group will find the “piece” of the puzzle to solve the mystery;
- Puzzle of five* pieces that will be the “pieces” of each group. On a hard card, paste an A4 sheet with an image that solves the mystery. Cut the card into five different pieces to form the puzzle. Laminate or protect each piece with transparent tape to make them more resistant.

*Quantities will depend on the total number of children per session. The suggestion presented represents the maximum recommended, which corresponds to 5 groups of 5 children.

Preparation:

- Make the tubes, tracks and puzzle;
- Place the tubes with the clues and puzzle pieces in the appropriate places.

Procedure:

- Introduce the motivational role-play of the activity in the circle. The adult in a worried tone says: “You don’t even know what happened! Our snack disappeared! I’ve looked everywhere and there’s no sign of him. A fairy told me that in space in nature, there are some clues that will help us find our snack. Who will help me unravel this mystery?”;
- The adult introduces the activity: “The fairy gave me these tubes. Inside these tubes there are clues. Each clue will help you get to the next clue and so on until you reach the last clue, where you will find a “piece” of a puzzle. In total, each group has to solve 6 clues. At the end, they must return to the circle to, with the “pieces” from each group, build the puzzle that will solve the mystery of the missing snack”;
- The adult forms groups of 5 children, assigning each group 1 color (Blue, Red, Purple, Orange, Pink) and stating that each group only solves the clues with the color of their group;
- End the activity by sharing a snack.

23. Flutter Like Butterflies | 2 – 6 years

Learning:

- Development of fine and gross motor skills, language;
- Promotion of creativity, imagination and observation skills;
- Environmental awareness and awareness;
- Development of knowledge of the butterfly cycle.

Materials:

- Natural elements (e.g. leaves of different colors, stones, seeds, among others);
- Glue;
- Scissors;
- Guide to butterflies and/or printed sheets with examples of butterflies;
- Malleable but resistant cardboard/cardboard (reuse packaging);
- Butterfly molds where appropriate;
- A long, thin and malleable stick (e.g. willow).

Preparation:

- If necessary, print sheets with examples of butterflies;
- If necessary, make butterfly molds;
- Prepare the sticks in sufficient quantities.

Procedure:

- Introduce the story “Butterflies. Secret Life” by Roger Vila as motivation for the activity;
- Suggest collecting natural elements to later decorate the butterflies.
- Suggest that each child choose a butterfly and draw it on a card/cardboard.
- Cut out the butterfly.
- Decorate the butterflies by gluing natural elements.
- Make two small holes where the butterfly's body is. Insert the stick into the holes so that the butterfly is attached to the end of the stick.
- Flutter like a butterfly.

Variations:

- Do it with birds.

24. Sculpture of miniature nature beings | 2 – 6 years

Learning:

- Development of fine and gross motor skills, sensory and linguistic skills;
- Promoting creativity, curiosity, observation skills and imagination
- Environmental awareness.

Materials:

- Clay;
- Natural elements existing in space in nature;
- Water;
- 2 bowls;

Preparation:

- Make the clay and water available inside the bowls.

Procedure:

- Introduce motivation to the activity in the circle. The adult asks: “Have you ever thought about the busy lives of miniature beings in nature? How do they live? Where will your little houses be? What do they eat?...”;
- The adult suggests: “Shall we explore the world of miniature nature beings?” And give each child a magnifying glass. The adult, together with the children, begins to explore, and interacts with the children, encouraging them to share their discoveries with everyone;
- After some time of free exploration, the adult leads the children to the place where the clay bowls are and suggests: “What if we made friends with the beings of nature?”. The adult takes a piece of clay/clay and starts creating. Let children freely create their miniature beings;
- At the end, in a circle, the adult begins to present the being he created, being able to give him a name and say what he likes to do most. Suggest that everyone presents their creations, saying the name and any characteristics of their miniature beings;
- They can leave the creatures in nature in places they like or take them home.

25. Construction of shelters | 3 – 6 years

Learning:

- Development of fine and gross motor skills, language;
- Promotion of creativity, imagination;
- Environmental awareness;
- Encouragement of group work and cooperation;
- Development of empathy, kindness and compassion.

Materials:

- Natural elements, such as large and small sticks, reeds, branches, and leaves, among others.

Procedure:

- Introduce the story “Shelter” by Céline Claire into the circle, as motivation for the activity;
- Suggest the construction of shelters for giant beings and miniatures of nature with natural elements existing in nature;
- At the end, ask the children to explain the challenges and achievements they had when building the shelters and who their shelters are for.

26. Natural paintings | 2 – 6 years

Learning:

- Sensory, fine motor, and linguistic development;
- Promotion of creativity and imagination;
- Color learning.

Materials:

- Water;
- Natural dyes (e.g. clays, spices);
- Bottles;
- Sisal rope;
- Sticks (20 to 30 cm);
- Feathers and different types of leaves;
- Sheets or cards.

Preparation:

- Prepare the natural dyes by mixing a little water with the natural dyes and placing them in different bottles;

- Make brushes by tying feathers and different types of leaves to one end of the sticks;
- Place the sheets or cards on the ground, attached to logs or hanging from tree branches.

Procedure:

- Make materials available and allow free creative exploration.

27. Camouflage with natural elements | 3 – 6 years

Learning:

- Sensory, fine motor and linguistic development;
- Promotion of creativity and imagination;
- Environmental awareness.

Materials:

- Clay with different shades;
- Water;
- Natural elements existing in space in nature.

Preparation:

- Make the clays available.

Procedure:

- Introduce the story "Camouflaged Animals" by Ingrid Harrison into the circle as motivation for the activity. At the end of the story, the adult asks the question: "Why do animals want to go unnoticed?" and allow everyone to share opinions;
- The adult introduces the activity by suggesting: "What if we turned into animals and camouflaged ourselves?";
- The adult leads the children to the clays and mentions that, in nature, they can find different natural elements, ideal for good camouflage;
- Let the game explore freely.

28. Nature Orchestra | 2 – 6 years

Learning:

- Sensory development, fine motor skills,
- Language development;
- Promotion of creativity, musicality, coordination, rhythm.

Materials:

- Natural elements (e.g. dry leaves, seeds, pods, branches, gourds).

Procedure:

- The adult introduces the activity into the circle, asking the question: "Have you ever noticed the sounds of nature? What sounds can you hear?" Allow some time for sharing. Then ask the question: "What if we joined nature's orchestra and made music?";
- The adult indicates where the materials are and the free musical creation begins.

29. Bug hotel | 2 – 6 years

Learning:

- Fine motor and linguistic development;
- Promotion of creativity and imagination;
- Environmental awareness;
- Encouragement of group work and cooperation;
- Development of empathy, kindness and compassion.

Materials:

- Aluminum cans of different sizes;
- Pliers;
- Sisal rope;
- Natural elements (e.g., thin sticks and/or reeds the length of cans, cork, tree bark, leaves, pine cones).

Preparation:

- Wash the cans well and, using pliers, press the edge of the can opening inwards, avoiding the risk of cutting;
- Collect the appropriate natural elements, if they do not exist in nature.

Procedure:

- Introduce the question into the circle: "Why are insects important?" Allow sharing. Then, tell the story "The Ladybug saves the bees" by Catherine Jacob, to motivate the activity;

- The adult says: “How about if we built a hotel for insects?;
- The adult explains the activity. Aluminum cans are to be filled with natural elements and they must be very tight so that they do not fall out. Then the cans are joined to each other, sideways, and tied together with rope. Leave two ends of rope, long enough, to attach the hotel to a tree trunk or other suitable location.

30. Vermicompost | 4 – 6 years

Learning:

- Linguistic development and observation skills;
- Environmental awareness and awareness;
- Encouragement of group work, cooperation;
- Knowledge of the composting process.

Materials:

- 3 clean paint buckets and their lids;
- Drill or nail and hammer;
- Fine mesh net;
- Small tap (optional);
- Substrate;
- Earthworms;
- Sufficient vegetable and fruit peels;
- Dry material (e.g. leaves, gardening waste, cardboard or paper without ink);
- Water.

Preparation:

- Clean paint buckets well;
- Pierce the bottom of 2 buckets (2 cm spacing between holes);
- Pierce 2 lids and line 1 of them with mesh;
- Place the tap in the bucket without holes, a few centimeters from the bottom.

Procedure:

- Introduce the story “Your Planet Needs You” by Philip Bunting into the circle as motivation for the activity. Choose the section of the story that explains the importance and functioning of composting. Also focus on the important role of earthworms and introduce them to children;

- The adult explains the vermicomposter scheme. The 3 buckets with lids are stacked. The bucket without holes, with the tap and the lid with holes covered with mesh, is at the bottom. In the middle, there is a bucket with holes and a lid with holes. The bucket on top is a bucket with holes and a lid without holes;
- After the explanation, the children assemble the vermicomposter;
- The adult explains how the vermicomposter works. The bottom bucket is used to collect the liquid that comes from the vermicompost. By opening the tap, we will remove the liquid from time to time. This liquid is an organic fertilizer and natural fertilizer. To use, dilute with 10% water (1 volume of liquid + 9 volumes of water). The middle bucket is where you place in order: the substrate with the worms, the food peels and the dry materials. When the middle bucket is full we start filling the top one with a little substrate (WITHOUT worms), food peels and dry materials. We don't put worms in this because we want the worms in the middle bucket to climb to the top bucket in search of food. When all the worms are in the top bucket, we swap this one for the middle one and the process continues. The full bucket, which was in the middle, now contains vermicompost (earthworm humus) which must be allowed to mature for 2 to 4 weeks before being used. To use, mix with 3 parts of substrate to 1 part of vermicompost;
- After the explanation, the children start vermicomposting;
- Maintaining the vermicomposter must be the responsibility of the adult, but it is advisable to always involve children throughout the process.

31. Germinate in eggshells | 2 – 6 years

Learning:

- Fine motor and linguistic development;
- Environmental awareness and awareness;
- Development of the notion of responsibility and observation capacity;
- Knowledge of the life cycle of plants and the resources necessary for plant growth.

Materials:

- Whole eggshells;
- Egg carton base to use as a support;
- Substrate;
- Seeds;

- Water;
- Tea spoons.

Preparation:

- Open a small hole at one end of each egg and empty the eggshells. Prepares more eggshells than the total number of children;
- Cut the bases of the egg cartons through the dividers of each egg;
- Humidify the substrate with a little water.

Procedure:

- Introduce the story “It starts with a Seed” by Laura Knowles into the circle, as motivation for the activity;
- The adult introduces the activity with curiosity: “Shall we sow seeds?” Eggshells serve as vases. Fill them almost completely with moist substrate and sow a seed. Water with a little water and place on the bases. Place it to germinate in a place with some sun during the day and water every day or when necessary.
- The suggestion will be to sow vegetable seeds (lettuce, spinach, chard), vegetables (tomato, beetroot), aromatic seeds (rosemary, thyme, oregano) and flowers (marigold, borage, nasturtium) to later plant in a school garden;
- After the explanation, children begin germination;
- Maintenance must be the responsibility of the adult, but it is advisable to keep children involved throughout the entire process.

Variations:

- Sow tree seeds to plant on World Tree Day, in an activity with families in nature or in a reforestation activity with the community.

32. Develop a small vegetable garden | 2 – 6 years

Learning:

- Fine motor and linguistic development;
- Environmental awareness and awareness;
- Development of the notion of responsibility and observation capacity;
- Knowledge of the life cycle of plants and the resources necessary for plant growth.

Materials:

- Old bathtub or other reservoir (avoid using tires or any other structure with materials that can release toxic substances);
- Substrate and compost;
- Germinated plants;
- Ground cover (e.g. pine needles, dry leaves, pine bark, or other natural elements existing in the space in nature);
- Water.

Preparation:

- Clean the bathtub well and place it in a place with sufficient, but not excessive, sun exposure;
- If what you are going to plant are previously germinated seeds, make sure there is one plant per child to plant, if not, find the missing ones.

Procedure:

- In the circle, with enthusiasm, the adult introduces the activity: “The seeds we germinated have grown strong and healthy, and are ready to be planted. What do you say we make a garden to plant them?”;
- The adult explains the activity. The bathtub or other will be the reservoir reused to create the vegetable garden. This reservoir will be filled with a mixture of substrate and compost. The soil should be moistened a little before planting. Dig small holes, plant, cover, and water;
- After the explanation, the children begin the activity;
- Maintenance must be the responsibility of the adult, but it is advisable to keep children involved throughout the entire process.
- Variations:
- Create the vegetable garden with pallets directly on the floor/soil (raised bed). To do this, you will need to dismantle 2 pallets and use the boards to create a structure with the following dimensions LxWxH: 1.20x0.60x0.50.

33. Seed Bombs | 2 – 6 years

Learning:

- Development of fine motor skills, linguistics, communication;
- Environmental awareness and awareness;
- Knowledge about biodiversity, learning about quantities.

Materials:

- Wildflower seeds;
- Bucket;
- Compound;
- Clay;
- Water;
- Egg cartons.

Preparation:

- Scoop of wildflower seeds.

Procedure:

- In the circle, the adult asks the question “What do you like most about spring?” Leave time for sharing. In the end, the adult responds enthusiastically “I like watching the diversity of plants that bloom, smelling their perfume and making flower angels!” “What if we helped our space in nature be full of flowers in spring? Flowers loaded with pollen that attracts bees and other insects, essential in the food web and pollination!” “Are we going to make seed bombs?”;
- The adult explains the activity: “We will mix 1 cup of clay with 3 cups of compost and add 3 tablespoons of wild seeds*. We mix and add water little by little until we get the right consistency. Then they form seed bombs the size of a small ball.”;
- Make all the materials available to the children so they can start the activity. At the end, they must place the bombs in the egg boxes;
- Launch the bombs at a time when rain is expected;
- The bombs should be about the size of a ping-pong ball.

*These quantities are enough for around 20 bombs.

34. Explore and observe flora and fauna | 2 – 6 years

Learning:

- Development of fine and gross motor skills, linguistics, and communication;
- Promotion of creativity and curiosity;
- Environmental awareness and awareness;
- Knowledge about biodiversity.

Materials:

- Guides on native or existing flora and fauna in nature;
- Illustrative sheets of some species, with some questions about the same species to unravel;
- Magnifying glasses;
- Sheets;
- Clipboards (can be made with strong cardboard);
- Pencils, natural paints and brushes.

Preparation:

- Adults must deepen their knowledge of the fauna and flora of the space in nature, looking for interesting characteristics to instigate curiosity in children;
- Make illustrative sheets with a real image of the species, the common and scientific name, and some characteristics. It is recommended to laminate the leaves or place them in mica.

Procedure:

- In the circle, show the guides, and explain what they are for and how they are used. Ask some questions about facts about some species that exist in nature and leave space for sharing and reflection;
- Make illustrative sheets available and invite children to explore space in nature, to observe these species and other elements of nature;
- At the end, suggest that they express through painting what they observed or something that captivated them most and that they share what they explored in a circle.

35. Super sensory powers | 2 – 6 years

Learning:

- Sensory, linguistic development, communication;
- Environmental awareness and awareness;
- Awareness of space and experience of the present moment.

Materials:

- Ropes;
- Sales;
- Buckets with water, mud;
- Tires.

Preparation:

- Place the ropes fixed to trees or other elements that support them properly, and form a circuit that passes through places with different textures, slopes and some obstacles;
- Obstacles can be trunks of an appropriate size, which you will have to overcome; buckets with water and mud, which will have to be entered and exited; rope placed at a low level, which you will have to pass under; tire tunnel, which you will have to crawl inside.

Procedure:

- In the circle, suggest the activity of doing a circuit (a sensory walk), where, blindfolded, you will experience different sensations and activate superpowers of hearing, smell, and touch, as these will be amplified;
- Confirm that all children feel comfortable being blindfolded, ensuring that they will all be safe, and if there is any discomfort, they can remove the blindfold whenever necessary, but the challenge is to feel everything, without the sense of sight, to activate others sensory superpowers;
- Suggest doing the activity barefoot, ensuring that the entire journey will be safe;
- Lead the children to the beginning of the circuit, ensuring that they hold on to the ropes along the way;
- Adults are located along the route and help children whenever requested;
- In the end, in a circle, ask to share sensations, challenges, and achievements.

Risk management of activities

It is essential to deconstruct the overprotection mentality, as it creates unrealistic perceptions of the real world. Taking healthy risks is important for children's development and is beneficial for learning.

“Playing is not just manipulating toys, it is being in confrontation with nature, with risk, with the unpredictable and with adventure. And a child who doesn't do this is unlikely to take risks in the future or face adversity with confidence... We are creating idiots, dependent, insecure and without any motor culture.”

Carlos Neto

“There is a very direct relationship between risk and security. The more risk, the more safety and the more risk, the fewer accidents.”

Carlos Neto

The following table presents the risks of each activity and the respective measures to control the same risks.

| Activities | Risks | Risk control measures |
|--------------------|--|---|
| 1 | Children can open the bottles, and there is the possibility of children swallowing the objects or placing them in holes in their bodies. | Seal the bottles well. Always confirm before starting each activity that the bottles are still well sealed. Constant adult supervision. |
| 2, 4-8, 12, 14, 15 | Child swallows objects or puts them into body orifices. | Constant adult supervision and use of natural elements with sizes appropriate to the age group. |

| Activities | Risks | Risk control measures |
|---------------|--|---|
| 3, 11, 13, 35 | To slip. | Constant adult supervision. |
| 6, 15 | Get tangled up in the wires. | Constant adult supervision. |
| 8 | Try ice cubes. | Use drinking water and food coloring. All non-edible objects must be appropriately sized. Use appropriate spices and only for age groups already suitable for introducing them. |
| 9 | Choking. | Constant adult supervision. |
| 16, 19-23, 25 | Bumps between children, tripping. | Warn children to pay attention to their peers while running. Adults must clear larger obstacles prior to the activity. |
| 16, 35 | Crianças com medo do animal e/ou elemento natural usados na atividade. | Children afraid of the animal and/or natural element used in the activity. |
| 17 | Burns. | An adult must always stay by the fire. Appropriate first aid kit. Safety perimeter within the circle must be respected. |

| Activities | Risks | Risk control measures |
|---------------------------|--|---|
| 17 | Fire. | Never build a fire during the fire risk season. Use a fire pit or create a base and perimeter for the fire with stones. |
| 18 | Children impatient to touch objects. | Emphasize that everyone will have their opportunity. |
| 18, 19, 24, 27, 30-32, 33 | Children with difficulty interacting with natural elements used in the activity. | Calm the child(ren) concerned and acknowledge their needs and concerns. The adult shows that the natural element is safe by moving it, and conveys that it is just a game, giving them the option of not participating in the activity. |
| 18, 19, 26 | Taste or ingestion | Tell the children that it is a pretend game, that is, that the cooked food is not fit to eat. The adult sets the example. Make only natural elements available that are non-toxic or harmful to health. Use drinking water. Use suitable food colorings or spices, only for age groups that are already suitable for introducing them. |
| 19- 22, 25, 30 | Children with difficulty collaborating as a group (by default or excess). | Highlight the importance of teamwork for the activity to be completed and that everyone has the right to participate in the activity. |

| Activities | Risks | Risk control measures |
|------------|--|--|
| 20 | Projection of objects inside the bottles. | Seal the bottles well with adhesive tape. |
| 20 | Conflicts because there are not enough natural elements for all children. | Highlight the importance of fair sharing. Have more natural elements collected by the adult for cases in which few natural elements were actually collected. |
| 20 | Irritability because the bottle does not produce sounds due to the type of natural elements placed by the child. | Highlight curiosity about this situation occurring. Look for the reason and also the possible solution together with the child. |
| 21, 22 | Impatience due to the need to wait for all the groups to finish. | Highlight the sense of cooperation and encourage the groups that finished first to give strength and motivation to their friends who have not yet finished. |
| 21, 22 | Child does not receive his share of the treasure. | Highlight to the entire group the importance of fair sharing. Ask everyone to give up a piece of their treasure and share it with those who don't have it. If this action does not arrive in time, the adult shares their opinion and alerts them to what happened. |

| Activities | Risks | Risk control measures |
|------------|---|--|
| 28, 29 | Scratches and small wounds. | Choose suitable natural elements, without sharp edges or spikes. |
| 31 | Emotional reactions derived from eggshell breaking. | Calm the child(ren) concerned and acknowledge their needs and concerns. Ensure there are more eggshells to use. |

Assessment of activities

It is important, during each activity, to observe and record the children's behaviors that are relevant, so that the activity can subsequently be improved or adapted, according to their needs and interests.


At the end of each activity, it is important to have communication between the adults involved, to discuss and share the management of the group and the activity, relevant reactions and emotions, highlighted by the children during the activity. This sharing is important to create a healthy atmosphere among co-workers and to obtain positive results that meet the needs of all those involved, both children and adults.



SESSION PLANNING AND OBSERVATIONS

Session no. Date and time Location

Staff No. children



| | |
|---|---|
| Session objectives <input type="text"/> | Links with the curriculum <input type="text"/> |
| Materials <input type="text"/> | Advance preparation <input type="text"/> |
| Proposed session plan <input type="text"/> | Risks and their Benefits <input type="text"/> |
| Assessment / Notes: <input type="text"/> | |

Partners



N.E.W. Loops (Nutrients, Energy and Water Loops) is a Portuguese non-profit NGO, whose main objective is to provide knowledge and tools to people of all ages, to make their lives more sustainable and reduce their personal ecological footprint.

Thus, they inspire and empower people to be proactive in mitigating climate change. They proactively achieve their objectives through non-formal education, outdoor learning activities, free creative play and permaculture, environmental awareness, and awareness actions, as well as coordination and participation in various ERASMUS+ projects.

Within the “Nature into School” project, NEW Loops was the project’s coordinating organization, organized and facilitated training throughout the project, as well as being responsible for creating the video and methodological guide “How to Connect School to Nature”.

The Estoi Community Center (ECC) – daycare and preschool “O Caracol”, is a non-profit Private Social Solidarity Institution, which aims to promote the autonomy and happiness of each person, throughout their life cycle, through quality responses.



Creche e Pré-Escolar
“O Caracol”



With the partnership developed in the “Nature into School” project, the ECC team of education professionals increased their knowledge and skills in approaches to playing and learning outdoors in nature, thus acquiring more confidence in organizing activities in nature.

With the implementation of the approach developed in the project, throughout the 2022/2023 academic year, greater involvement of children with the natural environment was observed; a greater capacity for emotional self-regulation and self-confidence, as children were able to overcome concerns and fears with more confidence and calm; a greater ability to observe the natural world; more serene behavioral states; an increased desire to be, experience and play in nature; and greater care and concern for nature preservation.

Families were an integral part of various activities: parenting circles, playdates, and meetings to improve the nature space, among others. This contributed to the perception of the importance of this approach and the benefits it has for their children.



NewPa is an organization that seeks alternative paths to education, while connecting young people and adults to nature, bridging the English language gap in their country, to help create a more connected global society.

As an NGO experienced in non-formal outdoor education, NewPa organized and provided training sessions for ECC educators and staff, and others, within the scope of the 'Nature into School' project, thus helping to achieve its goals and objectives.

The Oba Association is a learning center (Antalya, Turkey) interconnected with nature, where they carry out thematic activities on environmental protection, climate change, environmental awareness, nature pedagogy, creativity, art, sustainability, recycling, healthy lifestyle, and entrepreneurship.



Oba is also involved in international projects and strategic partnerships, providing training courses and volunteering activities.

In the "Nature into School" project, OBA participated as a partner to host a training course in Antalya, Turkey. Participants from Portugal took part in the course to learn about various good practices and tools based on nature. Participants also discovered the nature of Turkey and learned more about the Turkish education system.



PLAYING is a non-profit organization, created in 2013, to promote childhood play and children's right to play, supporting their health, development, well-being and social participation.

PLAYING aims to change the culture around play, through awareness and advocacy; education and support for parents, teachers and community services; shared fun events for parents and children; production of educational materials; consultations for the design of leisure areas; and research on play.

As a project partner, PLAYING contributed to its objectives in collaboration with all partners; developed, in collaboration with NEW Loops, a quality assurance, monitoring, and evaluation plan for the project; and provided in-person training, at the Estoi Community Center, entitled "Free Play and Outdoor Learning".



Funded by the
Erasmus+ Programme
of the European Union



This project was financed by the Erasmus+ 2021–2027 European Program for education, training, youth, and sport, which aims to enhance the personal and professional development of all citizens, to reinforce European identity, sustainable growth, social cohesion, and people's employability. The Erasmus+ Program provides a set of opportunities to its audiences within the scope of individual mobility, cooperation between organizations and institutions, support for policy development and cooperation, and Jean Monnet's actions.



The Erasmus + project “Nature into School” falls within Key Action 2 – School Education, and consists of a small Partnership.



“Nature is not a place to visit. It's our home.”

Gary Snyder

Examples of Good Practices in Portugal

Escola Lá Fora | Forest School



A Escola Lá Fora is a Forest School with 3 centers, located in Lisbon, Almada, and Ericeira. It belongs to a non-profit association and its mission is to enable children to develop in a natural, respectful, and harmonious context. Operating since June 2020, several services are available for children up to 12 years old.

Nautiluz



Nautiluz's work focuses on Regenerative Pedagogy. They have a learning center in the forest and their focus is on skills and project-based learning, through which we transmit knowledge about regenerative practice in nature and also about connecting to nature.

Within the scope of regenerative practice, the emphasis is placed on soil regeneration, the regeneration of watersheds, and the planting of syntropic, drought-resistant tree systems with native plants.

Rotinas Selvagens



"We are a non-profit association, with a multidisciplinary team that recognizes the natural resources of childhood, and creates opportunities for time and space for active play, through free exploration in contact with nature, with the conviction that it is essential to untangle the Learn."

Tribo Terra



Tribo Terra is a free-time occupation project for children and young people based on the inspiring "Forest School" approach. In a space with infinite pedagogical resources - the Forest - and with the help of professionals certified in this approach, children learn through discovery, becoming + resilient, + autonomous, with + self-esteem, + creative, + attentive to others and the world.

Tribo Verde



Tribo Verde - Association aims to promote, develop and encourage activities for children in order to contribute to happy, free and healthy growth in communion with Nature. Our activities take place in a natural environment, to develop knowledge and instill healthy and sustainable habits in children and families.

Our Project's basic orientation is the Forest School methodology. However, we are free and are constantly learning about other methodologies, as each one will have good teachings.

Respect is our word of choice. Respect for myself, for others and for our home, which is this Planet, called Earth.

Uma Escola na Floresta



The Uma Escola na Floresta Association is a non-profit association that was created in July 2021. This Association was born from the dream of several families living in the municipality of Ourém, to create an educational space in which children learn in connection with nature.

We see ourselves as a Forest School, whose vision is child-centered and which offers opportunities for holistic growth. This is an approach that builds confidence and self-esteem through student-inspired, hands-on experiences in a natural environment.

In the Escola da Floresta model, different learning styles are developed that respect children and young people for their individuality and uniqueness.

Timeline

| | | Month | | | | | | | | | |
|-----------|--|-------|----|----|---|---|---|---|---|---|--|
| | | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 1st Stage | 10 to 20 minutes several times a day, daily | 🟢 | 🟢 | 🟢 | | | | | | | |
| 2nd Stage | 20 to 60 minutes, once or twice a day, daily | 🟡 | 🟡 | 🟢 | 🟢 | 🟢 | 🟢 | 🟢 | 🟢 | 🟢 | |
| 3rd Stage | 20 to 60 minutes daily | 🟡 | 🟡 | | | | | | | | |
| 3rd Stage | Total morning or afternoon period daily | | | 🟡 | 🟡 | 🟡 | 🟡 | 🟡 | 🟡 | 🟡 | |
| 3rd Stage | 1 full day per week | | | | | 🟡 | 🟡 | 🟡 | 🟡 | 🟡 | |

| Subtitle | |
|--|---|
| Children from 3 months to 2 years of age | ○ |
| Children from 3 to 6 years old | ○ |

