



**Project Erasmus+ „Good Start, Grow Smart”
2016-1-RO01-KA219-024394_1**

SCIENCE IN THE KINDERGARTEN

Good practices guide

2016-2018

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Preface

This book is one of the main products of the Project Erasmus+ **“Good Start, Grow Smart” - 2016-1-RO01-KA219-024394_1**, realized with the European Commission financial support and has been made with the contribution and the very precious and effective cooperation of all the partners involved in the project: the teachers, the preschoolers, the parents and the local community.

In writing this book we have in mind all teachers who want to develop research on a common theme in order to improve their educational practices, and empower their scientific strategies and skills.

What does the book do?

This provides examples of practical day-to-day experiences - with materials, to help colleagues in lessons plans and support educational research, which could be useful to build a developmental process on science at any kindergarten.

How should the book be used?

This book is not a step-by-step guide to teach/learn Science in kindergarten. It provides approaches, suggestions and materials that could be chosen as most suitable for a specific situation, and for which specific purpose.

How is the book organized?

Chapter I - A brief overview of the project, its purpose, its character and its aims.

Chapter II - PHYSICAL SCIENCES

With this activities students learned to: describe objects in terms of the materials that make them up (cloth, paper, wood, etc.); describe physical properties of objects (color, shape, texture, etc.); describe objects in terms of whether they float, sink, are attracted to magnets, etc.; recognize the properties of water;

Chapter III - EARTH SCIENCE

With this activities students learned to; name the four seasons and identify their characteristics; describe daily weather; recognize that the earth is constantly changing; recognize that weather changes daily;

Chapter IV - LIFE SCIENCE

With this activities students learned to: explain the difference between living and non-living things; recognize that living things grow and change; recognize that there is a wide variety of living things and that they are interdependent;

Chapter V - SCIENTIFIC INVESTIGATION AND EXPERIMENTATION

With this activities students learned to: predict, observe, measure, and describe the way objects move (or behave); observe and describe common objects in terms of the five senses; observe the size, shape, texture and color of common objects such as tree leaves; observe and describe seasonal changes.

CHAPTER VI – SCIENCE FROM THE PAST

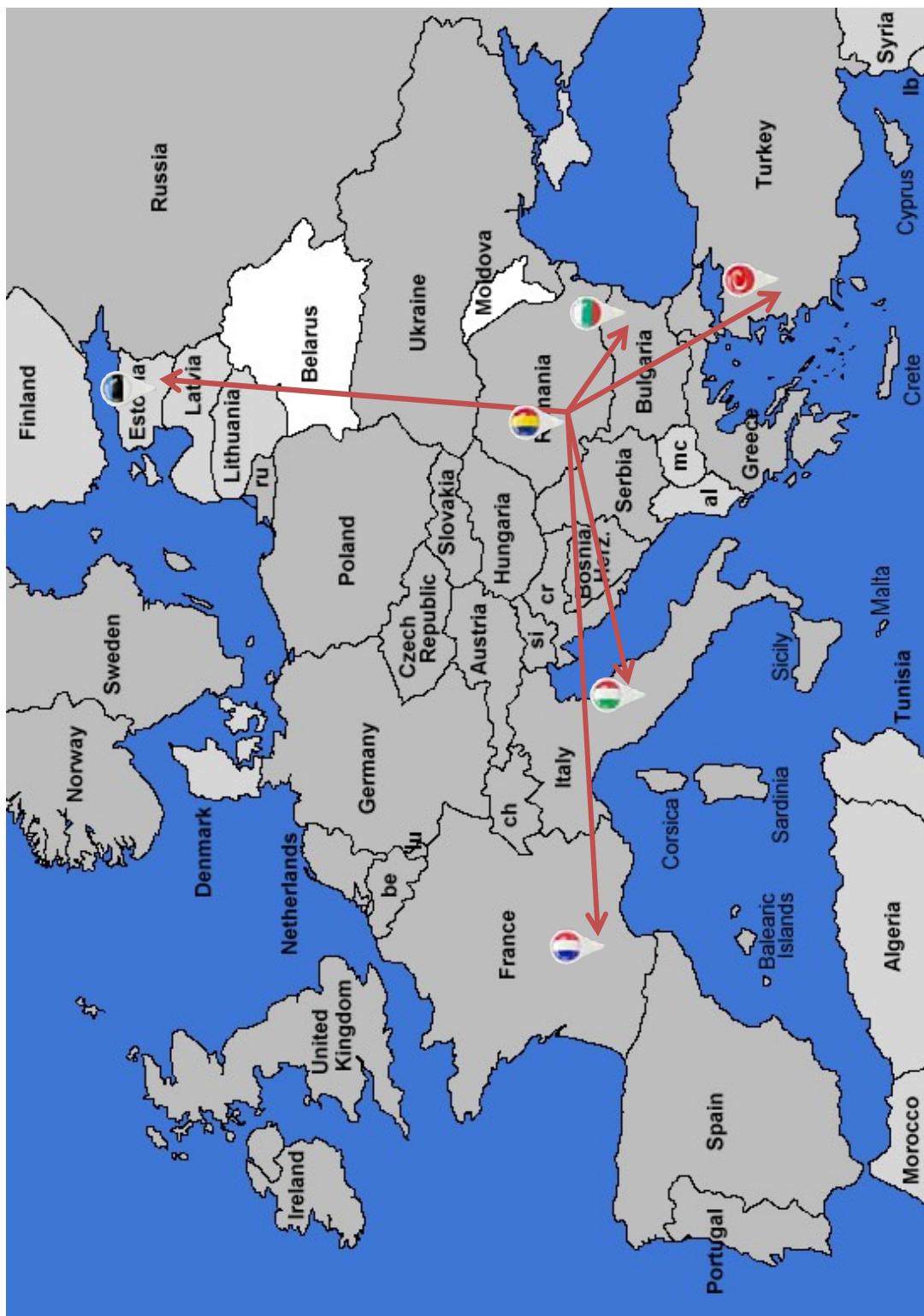
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CHAPTER I

A brief overview of the Erasmus+ Project “Good Start, Grow Smart” - 2016-1-RO01-KA219- 024394_1

SCHOOLS INVOLVED:

- **Romania** – Grădinița cu Program Prelungit Nr. 8 Tg-Jiu, Gorj;
- **Turkey** – Şehit Anıl Eruluç Anaokulu-Kurtulusmah, Salihli, Manisa;
- **Italy** – Nuova Direzione Didattica – Vasto – Abruzzo;
- **Estonia** – Sillaotsa School – Haaslava Parish, Päkste village – Tartu County;
- **Bulgaria** – Kindergarten 32 “Zornica” – Dobrich;
- **France** – École Les Moulins – Barbentane – Provence, Alpes – Côte d’Azur;



Purpose and character of the Erasmus+ Project
GOOD START, GROW SMART
2016-1-RO01-KA219-024394_1

- The idea of the project is to popularize the implementation of active learning methods based on educational projects with young children. The children become "active learners", acquiring broader skills and competencies that are important for being successful in life. The period of kindergarten and primary school age is unique in the growth of man. During this period, an intensive mental and physical development takes place, which lays the foundations of the personality of the child.

- Early childhood is the stage at which education can most effectively influence the children's development. The European Union therefore wants all young children to be able to access and benefit from high quality education and care. Reliable information on ECEC systems in Europe is essential in order to understand what challenges are facing European countries, what we can learn from each other, and what new solutions might be developed to meet the needs of the youngest members of society.

- The project will develop curriculum based cooperation of preschool teachers, by challenging them to use the skills of multicultural team working to fulfill the outlined local and international project activities. This will be further enhanced by development of preschool teaching materials within the project process. Because early experiences affect later education outcomes, providing young children with research-based mathematics and science learning opportunities is likely to pay off with increased achievement, literacy, and work skills in these critical areas. High quality math and science education given to the pre-school children can both prevent learning difficulties in primary school period and plays a key role for motivating pupils to the primary schools.

- Therefore it is very important for the pupils to experience rich science and maths education which will be designed neatly. In the questionnaire called "The problems in teaching science and maths in preschool term and solving proposal" implemented to the teachers to the working in the partner schools, the following points are striking; not given enough opportunities to learn by doing-lived and to discover their own, Weak attitude and achievement motivation for their children's math and science activities; Inadequate and effective utilization of concrete materials and educational toys, the lack of variety of used methods and techniques.

Aims of the Erasmus+ Project

GOOD START, GROW SMART
2016-1-RO01-KA219-024394_1

- ✚ to improve the attainment of young people with low basic skills in numeracy, literacy and science;
- ✚ to develop high quality and accessible Early Childhood Education ;
- ✚ to revise and strengthen the professional profile of the teaching professions;
- ✚ to exchange experiences and good practice, carry out peer learning activities and workshops;
- ✚ to increase parent and child interaction time on basic mathematical and scientific based activities;
- ✚ to improve the schools' approaches and teaching methods towards attaining and developing skills in science and math;
- ✚ to develop better learning strategies based on good-practices in all participating schools;
- ✚ to emphasize the quality of education in preschools and find solutions to increase the cooperation with parents;
- ✚ to share cultural diversities in preschool education;
- ✚ to encourage teachers to introduce innovations;
- ✚ to strengthen the professional skills of the preschool teachers.

CHAPTER II PHYSICAL SCIENCES



“GOOD START, GROW SMART”

GRĂDINIȚA CU PROGRAM PRELUNGIT NR. 8 TG-JIU

Activity:

PHYSICAL SCIENCE

DIDACTIC PROJECT

AGE: 4-5 years old/Level I

ANNUAL THEME OF THE STUDY: „When / how and why does it happen?”

WEEKLY THEME: „Water World”

ACTIVITY THEME: ”PIC’s adventures”

MANNER OF ACCOMPLISHMENT: Integrated activity

COMPONENTS OF THE INTEGRATED ACTIVITIES:

(Freely Chosen Activities + Science Domain + Human and Society Domain + Personal Development Activities)

FREELY CHOSEN ACTIVITIES:

Science – independent activities on sheets – „Solve it fast and well!”;

Library –”Rain”, ”Snow” – graphic exercises of oral and written communication;

Role-playing game – ”Scientists” – (experiments with magnets)

„The dance of snowflakes”- thematical dance

EXPERIENTIAL DOMAIN ACTIVITIES:

Science Domain – Knowledge of the environment - „PIC’s adventures”- experiments

Human and Society Domain – Education for Society – ”Lemonade” – practical activity

Personal Development Activities

Morning Meeting: „Liven PIC” – game of expressing feelings

Transitions:

„It snows slowly”– game with text and singing

„We play, we count!”- game – counting



REFERENCE OBJECTIVES:

Science Domain:

- To know the elements of the environment (air, water, earth, vegetation, human being as an integrated part of the environment, natural phenomenons), and their interdependence;
- To recognize and verbally/graphically describe certain changes of the medium;
- To communicate ideas based on the made observations;

Human and Society Domain:

- To know and respect the norms of integration in social life, and rules of personal security;
- To relate to the close environment, enriching it with their own work;
- To recognize and use simple work tools in order to do a practical work ;

OPERATIONAL OBJECTIVES:

- To make simple experiments with water (liquid), ice (solid) and steam (gaseous) - melting, boiling, condensation, evaporation, coloring, dissolution;
- To describe water characteristics (colourless, odorless, tasteless) and its changes/transformations;
- To formulate questions related to the observed phenomenons;
- To research (to investigate) the obtained results through comparison and interpretation (objects are attracted/are not attracted to magnets, objects float or sink, substances dissolve in water, separate, color the water);
- To correctly solve the tasks in the worksheet;
- To prepare lemonade by given recipes, practically applying what they experimented before;
- To carefully handle the work material;
- To correctly orientate in the work place;
- To cooperate both with the teacher and with the other children in the group;

- To develop positive individual and group emotions in the activities unfolded during the whole day program
- To correctly appreciate, with critical, objective and self-critical sense both their own performance and their group colleagues.
- To specify the importance of water in nature.
-

DIDACTICAL STRATEGIES:

Methods and procedures: conversation, systematic observation (controlled), exhibition, exercise, game, explanation, experiment.

Material resources: water drops made out of cardboard paper, „the happy cloud”-support for presence, tube, glasses, jars, bowls with water and objects (pieces of paper, keys, nails, leaves, crayons, cubes, etc.), support sheets, recipients for dissolving, coloring, salt, sugar, lemon sugar, oil, vinegar, milk, ink, sheets of paper, water recipients, lemons, teaspoons.

Means of organization: directly, individually, through groups.

DURATION: a day.

ACTIVITY SCENARIO

The greeting „Good Morning, drops of water!” stimulates the good mood of children and creates an atmosphere of optimism for a new day of activities. The children respond to the greeting, being encouraged to greet each other afterwards.

They are invited in the Water World by the teacher. She proposes that they become PIC and PICA(water drops) and offers everyone a water drop made out of cardboard.



Each child „lives” their received PIC (game: „Liven PIC!”), reproducing their mood at that moment. The children place the personalized rain drops under „The happy cloud”. In the end of the action of placing the water drops, they are counted and their number is related to the number of children that placed them („- If each child placed a rain drop under the happy cloud, how many children do you think there are in the kindergarten today?”, - „As many children as rain drops.”).



Also, on the level of the children group, responsibilities and tasks are established: counting the present/absent children, choosing the „Meteorologist PIC” and the weather characteristics.

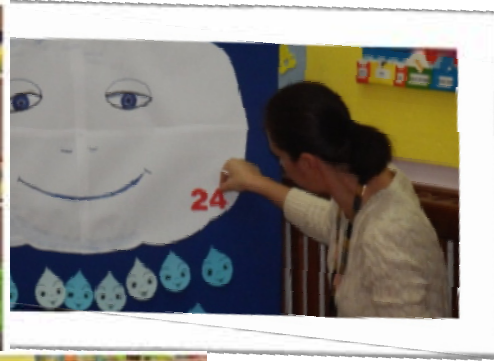
The teacher asks the children to identify the current day in the week and in the calendar. („What day is it?, yesterday was..., tomorrow will be...”). The children name the days of the week and identify the tokens on which their name is written. „The meteorologist PIC” chooses the season, the weather and fills the calendar with adequate symbols.



Being in Water World, the teacher invites them to learn about „PIC’s adventures”(PPT presentation). The ending of this story makes them want to discover more of PIC’s adventures with his friends, and the teacher has a surprise for them, a riddle:
”it’s always in nature



You and I can both drink it,
It’s fresh and cold,
No one surpasses it,
Without it you can’t live,
Live of earth wouldn’t be!



The answer to this riddle is the **day's message**: „Water is life!”.

The children are given badges with snowflakes with hats of different colors, then they execute moves suggested by the rhythm and text of the song and group at the tables based on the color of the snowflake's hat. The teacher invites the children to go towards „Water World” (transition – game with text and song – ”It snows slowly”) towards the centers where they will become small scientists.

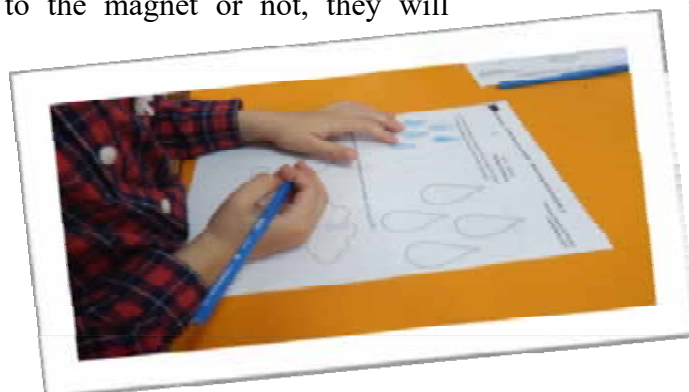
FREELY CHOSEN ACTIVITIES:

Role-playing game – ”Scientists” – (experiments with magnets) – snowflakes with blue hats.

The children will be given objects which they can later use in the experiment ”It floats or it sinks” (pieces of paper, leaves, keys, crayons, toothpicks, plasticine, wood cube, iron nails, etc.). These objects will be placed in contact with the magnet. The children will observe whether these

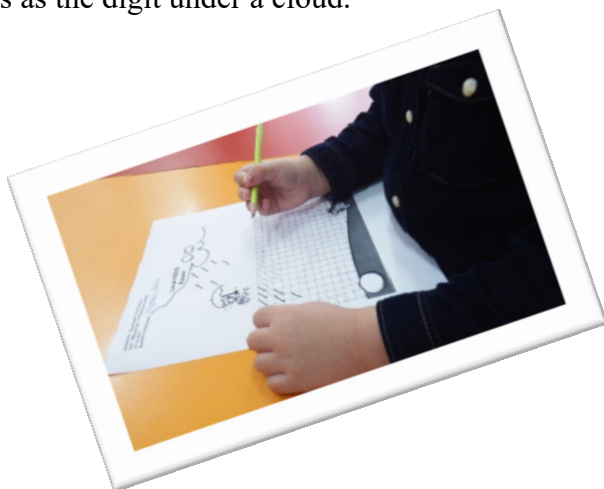


objects are attracted to the magnet or not, they will register their observations on a paper and will draw conclusions based on what they observed.



Science – independent activity on paper – ”Solve it fast and well!” – snowflakes with yellow hats.

The sheets given to the children have mathematic tasks which they will solve, creating the arrays of big and small rain drops, coloring the array with more rain drops, drawing as many rain drops as the digit under a cloud.



Library – elements of oral and written communication – snowflakes with red hats.

The children will write graphic elements (oblique line and double star), elements which symbolically describe the manifestation of water in nature, rain and snow.



The transition towards the next activity is made in an entertaining and exciting way for the children. The teacher and the children continue the adventure through Water World dancing (*ALA - „The snowflake dance” – thematic dance*).

Depending on the color of the snowflake’s hat, the children group in the three workshops of the Water World laboratory again.



EXPERIENTIAL DOMAIN ACTIVITIES:

Science Domain – Knowledge of the environment – “PIC’s adventures”- experiments

1st Experiment - Water qualities. Water’s aggregation states (solid, liquid, gas) – “Water does magic”

This experiment is done using water, ice and steam. This experiment with scientific character allows the children



to



understand the qualities of water (it doesn’t have color, taste, smell) and to research processes such as: melting, boiling, evaporation, condensation.

The results of the investigations are written down on a sheet of paper.

2nd Experiment – “It flows or it sinks”

The materials given to the children (pieces of paper, leaves, keys, crayons, toothpicks, plasticine, wooden cube, iron nails, etc.) help them establish the fact that water has the property of maintaining light objects



on its surface while allowing the heavy ones to sink. Based on the scientific paper, the children make predictions and establish the results of the experiments.

3rd Experiment – "Dissolving / Coloring"

The children are given recipients with sugar, salt, lemon salt, milk, oil, vinegar, ink and recipients with water. In this experiment, they have to mix the salt, sugar, lemon salt, oil, vinegar,



milk, ink and establish what happened with them in contact with water (they dissolve, they separate, they change the water's color/smell or not).



The results of the experiments are put on display on a panel in the class (creation of a poster). The leader of each group presents the conclusions to his group.

Human and Society Domain – Education for Society – "Lemonade" – practical activity



(preparation)

The teacher
lemonade for frosty

In order to make the lemonade, the children will respect the recipe given by the teacher and will use what they discovered in the previous activities. The children make the lemonade and enjoy their own work's results

In the end of the day, assessments are made regarding the unfolded activity. The teacher together with the children invite the snowflakes to accompany the children in the next day, on a nature walk, in order to check whether what they discovered during the activities exists or no.

Water - My Friend

Level: I

Age: 3 years old

Activity category: Sciences

Activity's theme: *Water, my friend*

Activity's type: acquiring new knowledge and skills

The method of achievement: the observation, the experiment, learning by discovery

The purpose of the lesson:

- acquiring knowledge about water's properties and about how we can change water's qualities using different experiments

Operational objectives:

- **cognitive objectives:**

- to discover elements of the environment (water) by engaging the sense organs;
- to observe and to identify water characteristics by engaging senses (visual sense, sense of taste, sense of smell, sense of touch);
- to show interest in experimental research;
- to participate directly in experiments to observe changes in water qualities (making discoveries);
- to describe what they observed;
- to put questions about what they have seen;

- to understand the need to preserve water quality;
- to make new discoveries about water and its importance in people life by searching for new information from other sources;

- **psychomotor objectives:**

- to manipulate the various tools used in the experiments;

- **affective- motivational objectives:**

- to participate with pleasure to the all activity.

Teaching strategy:

- **Methods and processes:** observation, conversation, experiment, sensorial game, explanation, learning by discovery, questioning;

- **Material resources:** water, colorants for food, different containers, tubes, sugar, salt, vinegar, oil with orange smell, wood cubes, metal objects, paper, sponge.

Type of organization: frontal, on groups;

Resources time: 20 minutes.

TEACHING SCENARIO

In the first part of the activity we present a poetry about water.

Do you know what water is?

It is a liquid that I like it!

Water is a spring

That gives life everyone.

From the small to the big one

All have a great need water and sun.

The children discover from the poetry that they will gone found out more important things about water.

For the beginning they find in text an unkown word – liquid. Why we say that water is a liquid? Children make an experiment; they had to put water in different pots. Because it flows, it takes the shape of the bowl and we say too it is a liquid.



After this, they are redistributed in four activity centres. In these centres children make experiments to observe and to identify water characteristics by engaging senses (visual sense, sense of taste, sense of smell, sense of touch).

THE FIRST CENTRE

Discover the water has no colour – visual sense

The children observe the water from the pots. They saw inside this pots; the water has no colour. Then, they put colorants in water (blue, red, yellow, green) and mix. The colour of water changes, it becomes blue, red, yellow, green.



THE SECOND CENTRE

Discover the water has no taste – sense of taste

On the table are two recipients with water, sugar and salt. The children have to taste its and discover what they are. They say that water have no taste.



In the first recipient they mix water with sugar and, in the second, water with salt. The children taste and find out that water is sweet or is salty. Now water has change its taste.



THE THIRD CENTRE

Discover the water has no smell – sense of smell

On the table are two recipients with water, vinegar and orange-smelling oil. The children smell the water. It has no smell. Then they smell the vinegar and the oil to discover what they are. When we put these in water, it changes its smell.



THE FOURTH CENTRE

Discover that certain things introduced into the water change their form or no – sense of touch

In some recipients is water. Besides are: wood cubes, metal objects, paper, sponge. The children discover those things. Then they put in water wood cubes. These don't change their shapes. One by one children put in water metal objects, paper, sponge. The metal objects don't change their shape, the paper decomposes and the sponge absorbs water. When we get the sponge by hand, water is falling down back in the recipients.





“GOOD START, GROW SMART”

SEHIT ANIL ERULUC KINDERGARTEN

TURKEY

Activity:

PHYSICAL SCIENCE

We know the Magnet

Activity Category: Science and Game (Group and Individual Activity)

The Age : 60-72 Months

OPERATIONAL OBJECTIVES

Cognitive Development:

Learning outcome 1. Pays attention to object, situation or event.

(Indicators: Focuses on the object / situation / event that needs attention. Ask questions.)

Learning outcome 2. Guess about object, situation or event

(Indicators: Tells the hint of the object, situation or event, explains the prediction by combining the hints, examines the real situation, compares the prediction to the situation.)

Learning outcome 3. Observe the object or assets.

(Indicators: tells its shape, size, texture, amount.)

Learning outcome 4. *Prepare object graph.*

Indicators: Create charts using objects Create graphics by showing objects with symbols Counts the objects or symbols that make up the graph. Explain the results by examining the graph

Language Development:

Learning outcome 1. Use the language to get communication.

.(Indicators: Start chatting. Continue and join the chatting.)

Learning outcome2. Express what listens or watches by different ways.

(Indicators: Ask questions and answer)

LEARNING PROCESS

- Materials required for the experiment are provided.
- Puts the materials to the table (plastic bottle, magnet and paperclip)





- Put the paper clips in the plastic bottle.
- Paper clips are attracted by the magnets outside of the bottle

- Ask the children questions. (What are the materials that the magnet attracts etc.)
- Talk about the magnets with children.





- Children make graphics. (metal and non-metallic materials)





Fishing Game



Magnet book worked



MATERIALS

plastic bottle, magnet and paperclip

WORDS: Magnet

CONCEPTS

Color: push-pull

Evaluation

At the end of the activity, the following questions can be asked to the kids;

- What is the magnet? What have we done with these?
- Have you enjoyed the event? Have you liked to guess by watching?
- What were your predictions of what was in the magnets, their size, their tactile properties? What did you think but what did you find?

Parents Participation;

- Information about the activity is written next to the drawings exhibited on the board and information about the event is sent home with magnets. It is suggested that parents play guessing games at home.

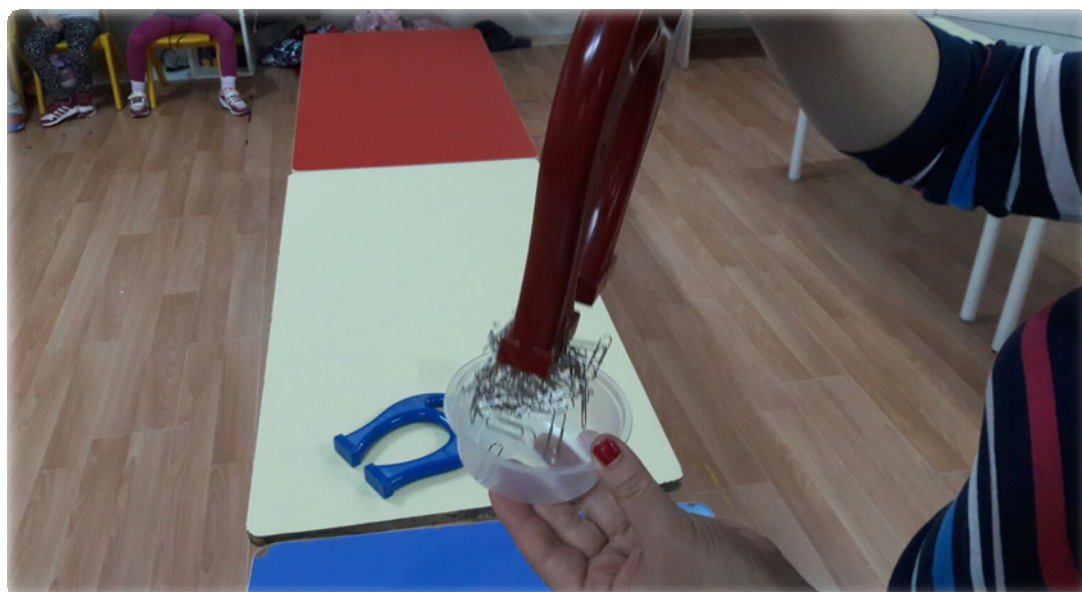
Adaptation

If there is a kid who has Language and Speech Disorder in the class;

- If there is a kid who has a receiving-side problem, use simple and short sentences when asking questions.

MAGNET ACTIVITIES

- Magnet presentation is done.



- It is given as a concrete example that different poles pull each other and the same polarity pushes each other .



- It is given as an example that the female kid pushes the kid while the female and the male student hug.





- The drawing the magnet is shown with a lot of objects.



- Painting activities are done. Then it is given opportunity to kids to get experiment with the attraction of the magnet in the class.







Experiment 1:

Objects metal and non-metal (buttons, wood etc) is put in the a glass of fruit juice. The experiment is implemented that taking out the metal objects without putting the hands of kids into the glass of fruit juice.





Experiment 2:

Test equipment; spike, magnet, pin.

The spike is rubbed to the magnet for a long time. The magnetic property that passes to the spike as a result of friction showed a pull effect when hold in the metal pins.



Fishing Game:

Metal scraps attached to the drawn fishes. Fishing rods with magnets on the tip are given to kids. Fishing contest is hold accompanied by music. When the music ended, the fishes are counted. The kid who catching the most fish wins the game.





“GOOD START, GROW SMART”

NUOVA DIREZIONE DIDATTICA – VASTO

ITALY

Activity:

PHYSICAL SCIENCE

UDA 1 – PHYSICAL SCIENCES

RECIPIENTS: 3,4 and 5 years old

TIMES: November/December 2017

FIELD OF EXPERIENCE: Knowledge of the world

GOAL FOR DEVELOPMENT OF SKILLS:

If the child groups and orders objects and materials according to different criteria, identifies certain properties.

LEARNING OBJECTIVES:

- Identify the physical properties of objects (color, shape, structure, etc.);
- Recognize and distinguish different materials (paper, plastic, wood ...);
- Identify the physical characteristics of water and seize change and state transformations.

SPACES: class, garden of the school

MATERIALS: pumpkin, knife, napkins, bowls; water, plastic cups, teaspoons, colors to paint, paper of various types, glue, pot and stove, salt, sugar, leaves.

ACTIVITY:

A PUMPKIN AT SCHOOL

Together with all the children we go in the school's garden where the teacher has already faced a big pumpkin near the vegetable garden. Once there the children are asked to use a large rake to move the soil; guided by the teacher reflect on the consistency of the soil: "How is the soil today?", "Wet", "No is dry! But if you dig it is wet ...", "Hard!", "Brown!", .. After experiencing the being "farmers", we take the big pumpkin and we bring it in our class.





We are in circle time within our section and the teacher prepares a table at the center of the circle on which places a large pumpkin. The first question for the children is "What is it?" To investigate the knowledge they have on it, all children respond to "A Pumpkin!". From here starts our analysis of the composition of the pumpkin: the outside it is formed by a dark green and orange "peel" and a small petiole; Children one at a time are called by the teacher to feel with the feel "how" is it. Children say:

- It's hard; (A. 4 years old)
- It is rough; (F. 5 years old)
- It is green; (3 years old)
- t's a bit smelly; (D. 4 years old)

The pumpkin at this point is grounded and in turn the children approach to touch it.



The teacher puts the pumpkin on the table and asks the children "But inside this skin what will there be?", The children think of it a bit and then someone answers "The interior!". The teacher then says "Let's find out together!", Takes the knife and starts cutting the pumpkin. Once cut, she asks, "What did we find?" The children answer in the chorus "The seeds !!!", the teacher points out that the pumpkin's pulp is present besides the seeds but ... is it the same as the peel? Children are called to feel the inside of the pumpkin and say:

- It is soft; (C. 4 years)
- It's wet; (E.5 years)
- Seeds are hard; (5 years old)
- It smells good; (L. 3 years)



Now each child is asked to take a seed and keep it because soon it can be used for another experiment!

Next, children are divided into groups by age (3, 4 and 5 years) and are seated at the tables to graphically represent the pumpkin in all its parts: peel, petiole, pulp, seeds. In order to achieve the graphic representation, cardboard, hardening, glue and real pumpkin seeds are used.



ACTIVITY: PLAYING WITH WATER

Let's ask the children the question "What color is water?" And we listen to the answers. So we have at the center of the table various types of paper asking the children to take some and cut out small squares. When enough squares are ready, we ask the children to paste them on an A3 size sheet.





Once the work is completed, we deliver to each child a transparent plastic cup containing water, we ask them to observe carefully and ask if the water is light blue or blue like the work done previously. Then we let the children to discuss and play while they discover some characteristics.

Focusing on the color of water, and therefore on its transparency, we ask children if it is possible to change the color of the water. After listening to the various answers, we give the children some color for paint and some teaspoons to check if the water is colored.





We continue the experiment by proposing to the children to mix other substances (sugar, salt, earth ...) in the water, observing what happens.

Finally, we propose to the children to immerse in water some pieces of leaves and cardboard, then modeling clay's balls. We let the children free to experiment and verbalize what they have observed, helping them to define the phenomenon of floating / sinking objects.







WATER STATES: LIQUID, SOLID, GAS

Finally we propose to the children the observation of the changes of the water's status.

First we fill half a glass of water and put it in the freezer, we will come back later to see what happens.

We put some water in a saucepan with a glass lid and, using a small oven, we wait for it to boil. We leave the children to observe what happens, then let's lift the lid and point out the cloud of steam that rises (evaporation) and the drops of water that have formed on the lid (condensation). So let's verbalize everything together.



Then we give each child a small ice cube to hold, in the meantime we also give to them transparent plastic cups in which to place the ice cube.

Therefore we ask the children to observe what happens in the cube and in the meantime we ask a few questions: how is it? Is it hard or soft? Does it have a shape? Is it hot or cold? Is it smooth or rough? Has its shape changed?

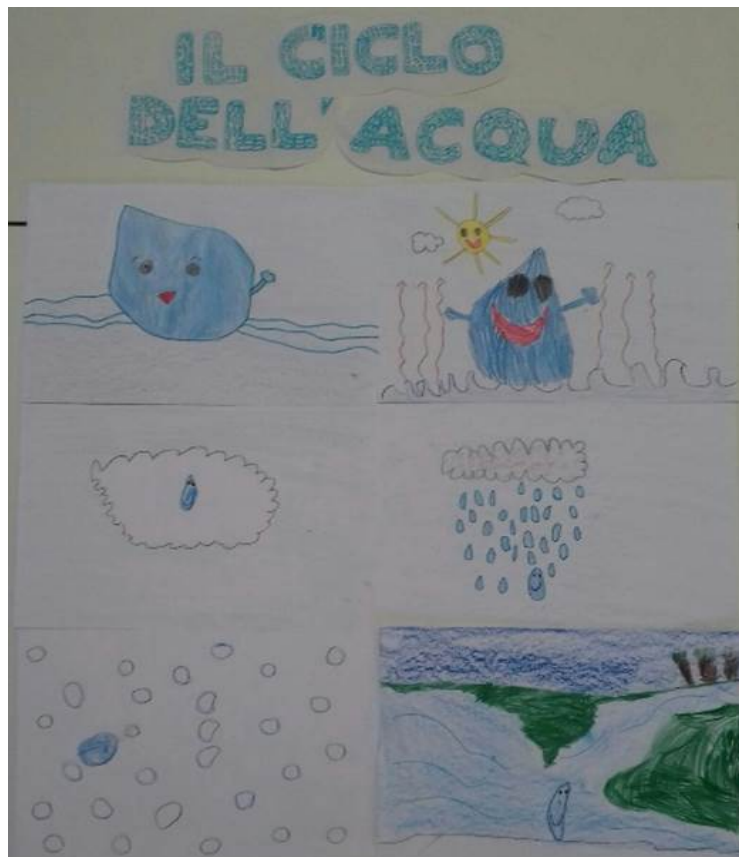
We ask the children: Why is the cube "losing" water? (fusion). We leave them express their opinions and then we clarify that with the highest temperature the ice melts until it returns to its liquid state, or water.



Finally we go together to see what happened to the glass of water that we had left in the freezer. Many children hypothesize before seeing that the water has become ice ... and so it is!

What happened? We verbalize with the children, coming to the conclusion that all the little drops that were inside the glass for the too cold have joined tightly. (Freezing/ Solidification)

Finally, the children after discussing the phases of the water cycle, have realized graphically the various sequences.





"GOOD START, GROW SMART"

SILLAOTSA SCHOOL

ESTONIA

Activity:

PHYSICAL SCIENCE

LESSON PLAN

Topic: OBJECTS (PHYSICAL SCIENCE)

Childrenage: 5-6

Learning Objectives:

- Describe the objects in terms of the materials they are made of (fabrics, paper, wood, ice)
- Describe physical properties of objects (shape, texture)
- Find s triangles, **rectangles and squares from different shapes.**

Needed learning tools/materials: shapes from paper and fabrics, triangles, rectangles, squares ice cubes, wooden pegs, eye masks.



Activity description:

Children cover their eyes and try to find triangles, squares, circles, or rectangles and describe the material of the objects.





"GOOD START, GROW SMART"

KINDERGARTEN "ZORNICA" - DOBRICH

BULGARIA

Activity:

PHYSICAL SCIENCE

Water magic

Educational tasks :

1. Improving specific notions of non-living nature - water as a factor of life.
2. Experiment with water properties and detection of water their significance for the existence of man, animals, plants in "pure nature".
3. Raising initiative and autonomy through systematic inclusion in accessible practical research.

Expected results:

1. Acquires concrete ideas about the properties of water.
2. Performs elementary experiments and experiments to detect the properties of water and explains with help the results of its practical research activities.
3. Demonstrate a desire to preserve and preserve nature and its wealth and interest in discovering changes in the environment.

Methods: talk, observation, experiments, analysis of results.

Preliminary preparation and materials: photos, eggs, sticks, paint, sugar, salt, vinegar, pebble, sheet, sheet of paper, knob, ball, cap.

Does it swim or sink?

Does the water taste? Cute, salty or sour taste?

Is the color water?

Fun Colorful Chemistry

Required materials:

- leaves of red cabbage
- 1 teaspoon of soda
- half a cup of vinegar
- hot water from the tap
- cold water
- 4 glasses or jars



Cut the red cabbage leaves into pieces and put them in the first jar.

Pours hot water and stays for a short time.

Then carefully remove the pieces of cabbage.

And the water turns red.

In the other 3 jars pour cold water. One vinegar is added, the second one is the soda, and the third one is left with cold water only.

In each jar add a little water in which the cabbage has been soaked.

Here's what happens:

In the glass of vinegar, the water becomes red, in the one with the soda - blue, and in that plain water with a dark blue



Dancing Fruits

Required materials:

- small fruits such as hips, drenches, grapes, raisins - about 10 berries
- a jar
- water
- vinegar
- baking soda
- a spoon



In each jar of water add 4 spoonfuls of vinegar, 3 tablespoons of baking soda and fruit.

Did the fruits start dancing? It's unbelievable, is not it? Bubbles formed begin to collect under the fruit and raise them to the surface.

They are bursting fast, but new ones appear. So the fruit starts sinking and then rises. As this happens very quickly, it looks as if the fruits are dancing.

She swims or does not swim

Required materials:

- one orange
- deep court
- water

Put the orange inside the pot with water and watch what's going on. It floats on the surface.

We take it out of the water, peel off its bark and put it again.

Now what's going on, sinking, right?

The first time we place the orange in the water, it does not sink, but after you remove the bark –yes, but why?

This happens thanks to the small air pockets with which the orchard of the orchard is full.



Color jelly

Required materials:

- cornstarch
- coloring agent for food
- water
- cup

Pour corn starch into a bowl and add water slowly stirring.
Add a few drops of food color.

What is it?

Is it different from water?



"What these objects are made of"

Tasks:

1. To specify the children's ideas and knowledge about the materials and their qualities - wood, metal, glass, plastic, polyethylene, elastic;
2. To learn the qualities of materials - wood, glass, metal, hard, soft, elastic, paper;
3. Understand that there is a dependence between the strength and the durability of the objects.

Materials:

Box filled with various items - line, glass jar, plastic bag, elastic band, ribbon piece, piece of leather, elastic, small book, wooden cube, scissors



Game action:

- The children touch the objects with their fingers, their eyes being pre- tied;
- naming the objects and giving them definitions (soft, rigid, elastic, hard, etc.)

Game Rules:

1. The children with blindfolded eyes take the object out of the box, touch it and know what this object is;
2. To say what is done and what its characteristics are, by saying only one definition for this subject.



Goal:

"Can you see?"

Enriching the lexical stock - naming objects, signs, properties, qualities, materials, faces and actions.

Expected results:

- 1. Names objects, signs, materials, persons and actions.*
- 2. Understands, on a practical basis, the meaning of the words on the subject.*

Methods: *illustration, sensory object survey, talk, sample, exercise, gameplay, game.*

Means: *objects made of glass, cardboard, plastic - transparent, opaque materials.*

Emotional attitude: *introduction to the theme with a puppet stage.*



he hero enters children with glasses, which instead of glass have paper. I offer the children to help him because he sees nothing; examine glasses - sensory audit. It is not visible through the glasses, because instead of glass there is paper that is not transparent. They also look at other glasses through which the glasses are transparent. Repeat the words: sees, transparent, not visible, opaque.

"Transparent-opaque"

Items of different material are placed. Children need to point out through which one can see and through which, and explain why.

Compare and group items according to the material from which it is made.

We encourage children to practically understand the meaning of these attributes of objects.





“GOOD START, GROW SMART”

ECOLE LES MOULINS – BARBENTANE

FRANCE

Activity:

Sequence / theme: tactile perceptions - PREPARATION SHEET for session N°1

Area(s) concerned: Developing speech and language Discovering the world	Soft or spiky?	Level: 4/5 years olds

Objectives: - distinguish the sens of touch from the other senses (common objective with other sequences) - tactile sensations: distinguish between «soft» and «spiky»	Objective in terms of language: Vocabulary: - soft, spiky, feather, wool, cotton, thistle... Grammatical structures: - It's spiky / soft – It's maybe... - It's spiky because it has spikes...	Type of working session: working group
		Duration: 20'

Material needed:

- bags in which different objects can be placed
- soft items: cotton / feather / string of wool / handkerchief
- spiky items: plastic fork / tooth-picks / tree leave / asparagus plant
- pictures of other items

Roll-out:

Duration	Material	Stages / tasks of the teacher / instructions	Tasks of the pupil / abilities (expected performance)	Type of work
5'	- bags - string ball - asparagus seedling	1. Role-play, discovery. → <i>From the first perceptions to the use of the vocabulary</i> T: «I have placed something inside of each bag. You will each in turn put your hand inside the bag in order to TOUCH the object (without taking it out). We will wait until everyone has touched the object before describing what we felt when touching it.» Material: 2 bags (asparagus plant in one and a wool ball in the other one). The teacher first tends the 1 st then the 2 nd bag to each pupil. C: «Did you feel the same thing when touching both objects? What was the first one like? The second? Which one was nicer to the touch?...» → <i>Appearance of vocabulary: adjectives which will allow to establish a classification</i>	<u>Tasks of the pupil:</u> The pupil uses his sens of touch to make contact with the items placed in the bag. He feels the items to understand their shape (to obtain clues). He perceives different sensations (even the contrary) between the 2 items. The pupils put their perceptions/sensations into words by trying to QUALIFY the objects. The words «spiky» and «soft» should be known and possibly be used by the pupils. <u>Additional help:</u> reformulate the instructions, suggest vocabulary.	in a group taking turns



10'	- thistle - fork - cotton - feather - tree leave - hand-kerchief	2. Exploration: → <i>Perceptions: guess and sort without looking and then with looking</i> C : «You will now discover other items by touching them. You will try to say whether they are soft or spiky and guess what they are. » The teacher proposes different items to 2 or 3 pupils. This small number may allow pupils who express themselves less easily to speak. Proposed items: see list of materials Bit by bit the items are taken out of the bag in order to validate or invalidate the hypothesis of the pupils. They are sorted by «soft» and «spiky».	<u>Task of the pupil:</u> The pupil categorises/sorts the touched objects with the help of the qualifying adjectives «soft» and «spiky». He will try to remember and name the items he has touched (with the help of the following parameters: size, form, ...) <u>Additional help:</u> if the pupils are stuck, another one may help. The group discovers the object and confirms the classification.	
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5'	- images: - nail - sheep - cactus - bath robe - hedgehog - rabbit album	3. Sorting of images (group work) The sorted items are once again called by their name. The teacher then proposes a few images representing other objects. C: «What can you see? Do you think it is soft or spiky? Why?» Proposed images: → Link with the album: images of Kipic («Spiky») and Touffu («Bushy») from the album «It's less cold when we are three» Which is the spiky character? Which the soft one?	<u>Task of the pupil:</u> The pupil has to use his or her capacities of abstraction in order to ascertain whether the presented objects are soft or spiky. → Importance of the explanation: «It's spiky because it's pointed. I've pricked myself with it once...»	
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3' + 15'	- card, scissors - record + images	4. Written trace group → board	<u>Task of the pupil:</u> Participates in discovering the instructions. Reformulates with the help of labels.	
		Prolongation: testing of several items/objects at the morning gathering Discovering and naming several fabrics and classifying them according to the criteria of softness (or not). The vocabulary pertaining to the fabrics is to be reviewed in a specific session.		
Prolongation: tactile albums + next session: coarse /smooth				

CHAPTER III EARTH SCIENCE



“GOOD START, GROW SMART”

GRĂDINIȚA CU PROGRAM PRELUNGIT NR. 8 TG-JIU

ROMANIA

Activity:

EARTH SCIENCE

I

DIDACTIC PROJECT

Level: I

The Age of the children: 4-5 years old

Activity category: Science domain, EarthScience

Weekly theme: Summative evaluation

Activity theme: „Fairies’ selvesat bowling”

Activitytype: sistematization and verification of knowledge

The method of achievement: didactic game

Activity purpose: systematization and verification the knowledge about the seasons: autumn and winter



Operational objectives:

- **cognitive objectives**
 - to describe the images from the token, associating them with the corect season;
 - to identify correctly the riddles’s answer ;
 - to recognize autumn fruits and vegetables,using tactile or tasteful analyzers;
- **affective-motivationalobjectives:**
 - to participate satisfied in the game;
 - to respect the rules of the game.
- **psychomotorobjectives:**
 - to maintain a correct position during the activity;
 - to use easily the materials provided.

The rules of the game

The children are divided in two teams: *autumn fairy’ s elves* and *winter fairy’ s elves*

One child from each team will answer for each task.

The task are hidden behind the symbol witch is under the bowls.

Tasks

Sorting and describing the pictures (about autumn and winter) and associating them with correct season.

Identifying the answers to the riddles proposed by the teacher.

Recognizing autumn fruits and vegetables using only tactile or tasting analyzers

Strategy

Methods: game, conversation, explanation, observation, exercise,

Material resources: pictures with seasons, bowls. balls, box with riddles, envelopes, rewards, fruits and vegetables,scarf.

Organization: upfront/ individual/ groups

Duration: 25 min

Place:classroom

DIDACTIC SCENARIO

Before we started the activity, I organized the place and prepared the necessary materials.



The activity begins with the organization of the children in two teams.



Each team will discover on her way many symbols that belong to a season.

These symbols are found after the elf get down the bowls.

The tasks for children are on the back of the symbols.

Firstly, the elf get down the bowls, then he takes the symbol and finds the envelope with materials on the table.

Task 1

Describe the pictures and associate them with the correct season.

Autumnfairy' selves



Winter fairy' s elves



Task 2 - „ Blind hand ”

Identify the correct answer to the riddles.

The kids take from the magic box a ticket with a riddle. Each team has three riddles.



Task 3- „ Tell me, what you tasted ? ”

The children will identify some fruits and vegetables, using only a few analyzers.



Finally, after the kids solved all the task, the teacher makes appreciations and the kids receive the rewards.



II

Topic: "On the paths of the seasons"

Group age: 5-6 years

Objectives:

- ☐ to recognize the season from images,
- ☐ to describe the season by specifying the main features,
- ☐ to answer correctly the riddles,
- ☐ to follow the rules

Methods and procedures: conversation, explanation, demonstration, observation, exercise, play, problem, cube.

Material resources: Fall and winter images, chips with images representative of the two seasons

Venue: group hall

Duration: 35 minutes

TEACHING SCENARIO

The children in the group are divided into two teams: the team of snowflakes and the autumn leaves team.



☐ The teacher let the children know that they will play a game: "On the paths of the seasons", while presenting them in an accessible;

☐ The teacher explain the rules of the game: - each child will participate in this game - every correct answer will be rewarded with applause and each team will receive as a reward a snowflake or autumn leaf with which we will decorate the dresses of the two fairies: Winter Winter and Autumn Fairy;



☐ First, the sample game is played. A child go out to the others and follow the established steps and rules. After the sampl game is played, the game continues.

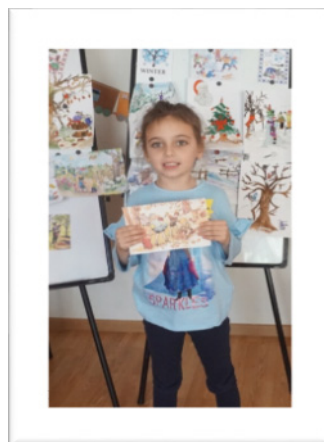
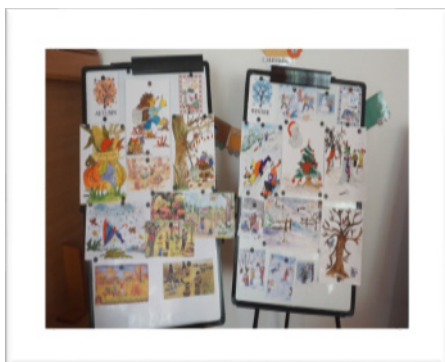
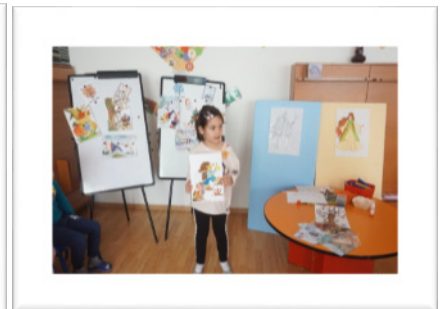
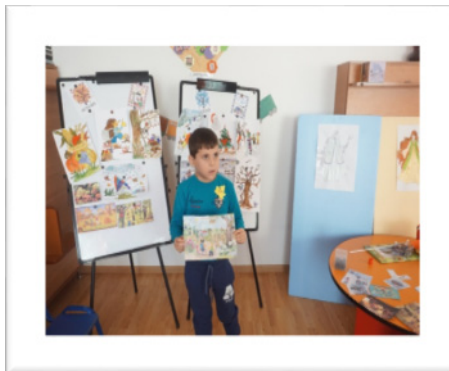
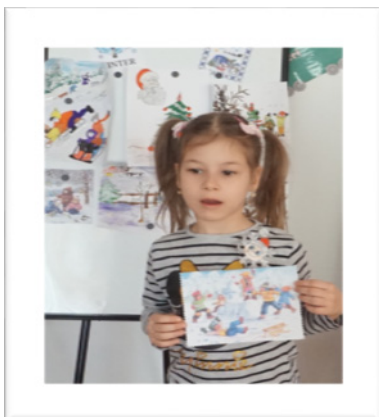
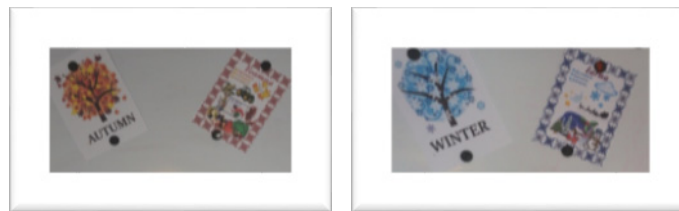
TASK 1

"Sit on the right path!"

□ On the table there are pictures painted with the two seasons. Each child in each team come, choose a picture, tell what it represents, whose season it belongs to, make a sentence, and put the image in the appropriate "season path".



"Season Seasons"



TASK 2

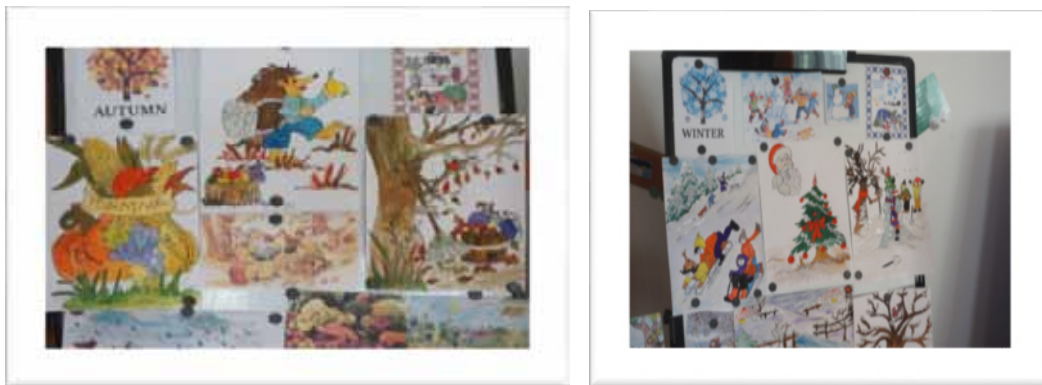
Secrets of seasons



TASK 3

"Fix the mistake!"

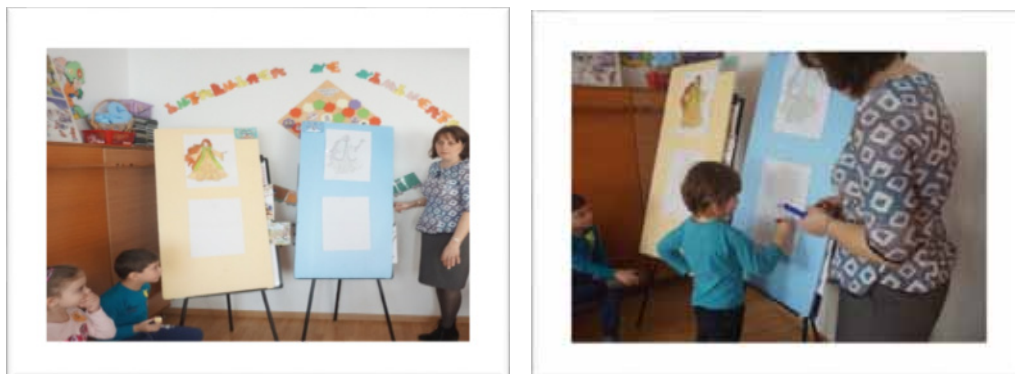
☐ Children close their eyes while the teacher sneak inappropriate elements on the paths of the seasons. She ask the children: "- What is not specific to the season?"



TASK 4

"Comics"

☐ Each child in each team draws out elements specific to the chosen season.

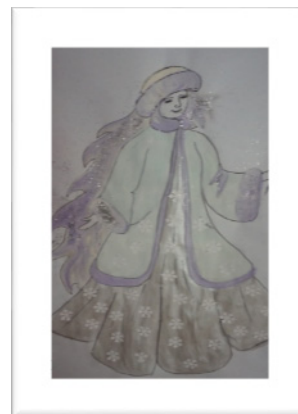
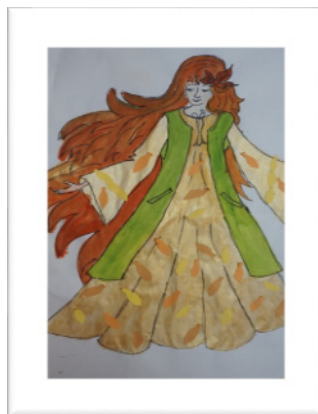


TASK 5

„The Cube”



Kids count the rewards on the robes with the teacher's help, the teams being equal.



The children are appreciated the for the way the game unfolds and rewarded with something sweet.



III

PROJECT OF INTEGRATE ACTIVITY

CHILDREN'S AGE: 5-6 years

ANUAL THEME: *When, how and why it's happening?*

WEATHER THEME: SUMATIVE EVALUATION - „Look, we learned!”

ACTIVITY THEME: “Seaside traveler”

ACTIVITY CATEGORY: ADP + ALA + ADE (DS+DOS)

TYPE OF ACTIVITY: Verification and consolidation of knowledge, skills and skills

DURATION: one day

ADP: Morning meeting: “ Seaside meteorologist”

Transition: “ Look how it snow outside” , „Autumn came on the hill” , „Snow, snow” , „Picking vineyards”

ADE: : Human and Society Domain: Practice activity- collage

Science Domain: Knowledge of the environment- didactic game

ALA: Art: „Pictures of autumn/ winter”- from imagination

Library: „Read and sort autumn/ winter picture”

Science: „Autumn/ winter diary”

Table game: „Seasons puzzles”

SCOPE: Strengthening and verifying children's knowledge of the two seasons. Developing the terrestrial capacity and understanding of the natural phenomena, stimulating the interest in their investigation in order to explain the changes in the environment. Socialization of children through semi- disciplined activities that fix the accumulated knowledge.

OPERATIONAL OBJECTIVES:

-Cognitive :

-to name phenomena in the environment in the two seasons with help from some didactic materials ;

-to formulate right questions (WHEN?, WHERE?, WHO?, WHAT?, WHY?) and answer to these questions, respecting the scientific content ;

-to reconstruct paintings of the two seasons using the silhouettes received ;

-to describe phenomena from the environment using a language specific to the natural sciences;

-to use symbols of the phenomena described;

-to respect the rules of the game;

Psychomotor :

- to put in order the given images, according to a certain criterion on the support;

- to correctly combine the elements to reproduce images from the two seasons;

- to handle the materials correctly and quickly

- to orientate in the work space to create a painting affective:

-to participate with pleasure and interest to work

DIDACTICS STRATEGY:

a) *Procedural and methods*: the conversation, the explanation, the game, the star explosion, the tour of the gallery, the individual work , in small groups, the cooperation learning.

b) *Material resources*: worksheet, colors, puzzles, images, glue chips, silhouettes, badges.

Organization form: upfront, groups, individual .

Place of work: group room

Assessment: formative- continue

MORNING MEETING:



FREE ACTIVITIES

ART CENTER:

Tasks:

- to draw from imagination elements characteristic of the two seasons;
- to orientate in the work space to create a picture;
- to work correctly and cleanly using the learned working techniques.



SCIENCE CENTER

Tasks:

- to sense the change in nature and to make a journal of autumn and winter with characteristic elements learned.
- to interact with the game partners.







LIBRARY CENTER:

Tasks:

- to recognize from what season is the image, describe it, take it and put to the correct seaside.
- to speak correctly.





TABLE GAME CENTER:

Tasks:

- to reconstitute images from the two seasons.
- to recognize the meteorological phenomenon or detached feature in each stage.





WORK REWARD: surprise.



Human and Society Domain: Practical activity- collage





Products made workable as support in the game of the teaching environment.

DS:Environmental Knowledge- didactic game

Game rules:

-Children are divided into a 5 team: fruit team, vegetables team, snowmen team, flakes team and trees team.

-Any team chooses by lot, the category of questions that the other teams will ask:WHEN?, WHERE?, WHO?, WHAT?,WHAY?

-Teahers addresses , demonstrationaly,to all teams, questions from each category.

-Each team formulates and addresses questions from the chosen category to the other teams.

-Each question and everycorrect answer will be rewarded with a leaf.

-The game continues until each team has 5 questions, one from each member.

-Win the team that gathered the most. Gift is a surprise party.

Game elements:contest, applause, reward,surprise.





Tour of gallery and activity products.





**“GOOD START, GROW SMART”
SEHIT ANIL ERULUC KINDERGARTEN
TURKIYE**

**Activity:
EARTH SCIENCE**

The formation of seasons – Days of the Week - Weather forecast

Activity Category: Science and Game(Group and Individual Activity)

The Age : 48-60 Months

OPERATIONAL OBJECTIVES

Cognitive Development:

Learning outcome 1. Pays attention to object, situation or event.

(Indicators: Focuses on the object / situation / event that needs attention. Ask questions.)

Learning outcome 2. Guess about object, situation or event

(Indicators: Tells the hint of the object, situation or event, explains the prediction by combining the hints, examines the real situation, compares the prediction to the situation.)

Learning outcome 3. Explain the concepts related to time

(Indicators: events sorted by occurrence time, explain the concepts related to time in terms of meaning)

Learning outcome 4. Observe the object or assets.

(Indicators: tells its shape, size, texture, amount.)

Learning outcome 5. Prepare object graph.

Indicators: Create charts using objects Create graphics by showing objects with symbols Counts the objects or symbols that make up the graph. Explain the results by examining the graph

Social-emotional Development

Learning Outcome: Expresses itself in creative ways

(Indicators: Create original products, The objects uses unusually)

Language Development:

Learning outcome 1. Use the language to get communication.

(Indicators: Start chatting. Continue and join the chatting.)

Learning outcome 2. Express what listens or watches by different ways.

(Indicators: Ask questions and answer)

LEARNING PROCESS



We know the characteristics of these seasons

The teacher prepares the solar system, the world creeper, the seasons, and the panoy in which the 12-month period is located. It tells the students visually that the earth has traveled around the sun for 12 months to complete one year. It tells you that there are 4 seasons when you complete your cycle in 1 year. She then talks about the general characteristics of each season. How to dress in any season, weather tells you how. Then she selects 4 students and asks them to move to a season section. Each student chooses the clothes of the season she chooses from the mixed clothes on the table and leaves them in the seasons of his choice. The class is then evaluated by the teacher to see if the clothes left by the students are suitable for the season.



Days of the Week - Weatherforecast

Days of the week table are created in the classroom. The days of the week with the students are counted in order. That day, what is the day of the week is hanging tree on the table. A student hangs on the weather at that day, next to the picture that day. This activity is performed by different student every day.

- Ask the children questions. (What are the materials that the magnet attracts etc.)



CORNER CAPTURE GAME

The teacher puts pictures on the class floor that symbolize 4 seasons. Autumn season is composed of yellowed leaf, winter season snow flake, summer sun and spring season as flower symbol. Students are asked which seasons these pictures tell. Then the students run to the season alicon of the teacher. The student who goes to the wrong place is out of play. The game continues until the only student remains.



MATERIALS

Plastic bottle, magnet and paper clip

WORDS:The sun, the earth, the seasons, the months,

CONCEPTS

Edge-corner, hot-cold, sunny, snowy, rainy, windy

Evaluation

At the end of the activity, the following questions can be asked to the kids;

- What happens when the Earth completes its turn once around the sun?
- How many months are there in a year?
- How many seasons do you have in one year?
- What are the names of the seasons?
- How is the weather in winter? How are we dressed?
- How is the weather in spring? How are



"GOOD START, GROW SMART"

NUOVA DIREZIONE DIDATTICA - VASTO

ITALY

Activity:

EARTH SCIENCE

ATITLE: "THE SEASON'S CYCLE"

RECIPIENTS: 3/4/5 yearsoldkids

TIMES: January 2018

FIELD OF EXPERIENCE: Knowledge of the world

GOALS FOR SKILLS:

The child observes the natural phenomena carefully, noticing their changes.

LEARNING OBJECTIVAES:

Name the four seasons and identify their characteristics;

Discover and be able to describe the daily climate

SPACES: class, laboratory, garden.

MATERIALS: billboards, paper, colors, recycled materials, glue, scissors, Lim.

ACTIVITIES

- We proposefor the children of 5/6 years the topic on the cycle of the seasons, and on the daily climate that changes, with a song entitled "Four are the seasons". After listening to it a bit 'of times, we start a conversation guided by stimulus questions investigating the characteristics of the various seasons and the order in which they follow each other. Then we read a short poem to the children for each season that summarizes the characteristics: "Autumn", "Winter", "Spring", "Summer". We continue to collect the comments and reflections of the children and get ready to go out in the garden to observe the sky and what is happening to the plants and trees. To collect the reflections, it is therefore proposed to the children to create a lapbook that tells the cycle of the seasons describing the characteristics of each one. For each season we will respond with graphic-pictorial representations to the following questions: "What's the weather like?", "What do we wear?", "What kind of fruits?", "What is my favorite season?" And "Seasonal words" (pregrafism activities); as well as containing the lyrics and poems.







The work will occupy several days, at each meeting we will dedicate ourselves to a question placed in the lapbook.



Once the lapbook has been completed, we will pause to reflect with the children on the question "Why do the seasons change?". Listen to the various answers, there is a nice video for children at the Lim that explains the movement of the Earth around the sun.

https://www.youtube.com/watch?v=EcD5k4K_CEk



Finally you have fun imitating the movement of the Earth with the body.

- For the children aged 4/5 the teacher shows many images and different objects / elements characterizing the four seasons trying to remember together the characteristics observed during the school year and verbalize.



It is inspired by the publication "The Encyclopedia of Children" Ed. Larus to talk on the subject:

"Each season lasts three months, during which the landscape changes. Even if you look only at the trees and fields you can guess the season. You dress differently according to the season, because the temperatures are not always the same.

In AUTUMN the days get shorter and it rains a lot. Spent the sky is gray. The temperature decreases and the leaves of the trees turn yellow and fall. Many birds migrate to spend the winter in warm countries. Autumn is the season of chestnuts, mushrooms and grapes. In WINTER nature falls asleep, the nights are very long. The sun sets early and it's cold. Sometimes it freezes or snows. The trees have lost all the leaves. Nothing grows in the fields and the animals seek shelter.

In SPRING days are getting longer, the climate is milder, the first flowers appear on trees and meadows.

In SUMMER nights are short. The sun rises very early and sets very late. The sky is often blue and warm. Sometimes a storm breaks out, accompanied by violent rains. " The activity that is proposed to the children is the realization of the tree of three-dimensional seasons. Two A3 sheets are used and we cut out 2 tree-shaped shapes that will be folded in half and joined together to form the 4 trees. Then we ask to the children to color the trees and the elements of the various seasons that will cut out and stick on the foliage.



- As for children aged 3/4 years, it is preferable to develop the topic relating to the cycle of the seasons facing one season at a time, developing the one experienced at the moment in order to allow immediate and concrete perceptive-sensorial experiences. Children will then perform parallel activities for each season that include outings in the garden to observe changes in nature (plants and trees) and weather, graphic / pictorial representations, sensory experiences such as the tasting of seasonal fruits, the perception of heat and of the cold, of the dry leaves of autumn that shatter in the hands or the scent of a flower in spring.







TITLE: THE WORLD AROUND ME

RECIPIENTS: 5/6 yearsoldkids

TIMES: January 2018

FIELD OF EXPERIENCE: Knowledge of the world

GOALS FOR SKILLS:

The child observes the natural phenomena carefully, noticing their changes.

LEARNING OBJECTIVES:

- Discover that the Earth is constantly evolving;
- Know how to formulate hypotheses about the development of an event.

SPACES: multimedial room, class, hall.

MATERIALS: billboards, paper, colors, recycled materials, Lim, small tools for psychomotricity

ACTIVITY:

- We watch a video on the evolution of the universe and the Earth, through the Lim
- Free and guided reflections on the world around us (Earth and Universe), on the differences between the various planets, on the relationship between the movements of the Earth relative to itself and to the sun, the seasons and the day / night cycle
- Memorization of the nursery rhyme and the song of the planets
- Simulations of the movement of the Earth and the arrangement of the planets with the body and with motor balls of various colors and sizes
- Verbal reworking of the history of the Earth from the Big Bang to the present day
- Realization of two works related to evolution: in the Universe and on Earth







“GOOD START, GROW SMART”

SILLAOTSA SCHOOL

ESTONIA

Activity:

EARTH SCIENCE

Topic: FOUR SEASONS AND WEATHER (EARTH SCIENCE)

Children age: 6-7

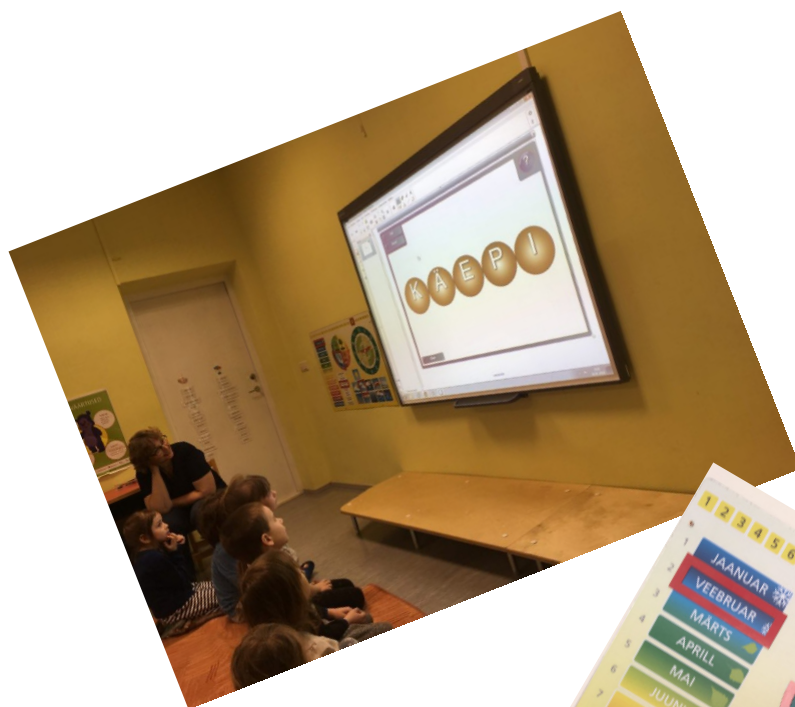
Learning Objectives:

- Name the four seasons and identify their characteristics;
- Describe daily weather;
- Recognize that weather changes daily;

Needed learning tools/materials: SMART board, time/weather and seasons table

Activity description: from the seasons: talv - winter; kevad - spring; suvi - summer; sügis - autumn)) and weather phenomena: päike - sun; vihm - rain; äike - thunder; tuul - wind; lumi - snow).

Children had to figure out from the mixed up letters the name of one weather phenomenon or season. Then they had to place the letters in the right order on the Smart board and describe what the weather is like in this season and what characteristics of the phenomenon are.





“GOOD START, GROW SMART”

KINDERGARTEN “ZORNICA” - DOBRICH

BULGARIA

Activity:

EARTH SCIENCE

Lesson Plan of pedagogical situation

1. Educational field: World around (environment);

2. Educational kernel: World of nature and its preservation;

3. Kind of the lesson: Base form of pedagogical interaction;

4. Theme: “Get to know the seasons”

5. Group: 3rd prepared group “SUN” /5-6 years/

6. Aims:

□ **Educational aims:**

- Systemizing and enriching of children ideas and forming the notions for the seasons;
- Systemizing of climate’s changes and the nature in different seasons;
- Describing of plants and animals in different seasons;
- Conscious of meaning of the seasons changes for the plants, the animal and the people;
- Get in touch of elementary relations and dependences in animated nature and inanimate nature;

□ **Tutorial aims:**

- Habituating of love and admiration for the nature in all seasons;
- Habituating of wish for care of the nature (plants, animal, earth) and its preservation;
- Habituating to quickness of mind, mutual aid and interaction: teacher- child, child- group.

7. Expected results:

- The children have an idea for the setting in changes in the plant and animal world in all seasons;
- Comparing the setting in changes in plant and animal kingdom;
- The children have to rationalize the relation of the human with the nature as a virtue.

8. Needed materials:

□ **For the teacher:**

- Presentation for the seasons;
- Magnet board for the seasons with magnet pictures.

9. The course of the situation:

□ **Emotional attitude:**

- A Tale of the Years-Seasons;
- Riddles.

Updating children's knowledge of the times of the year

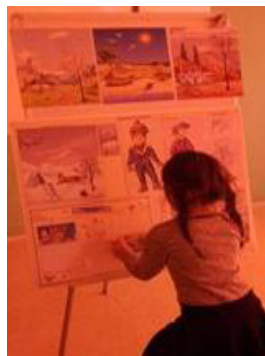
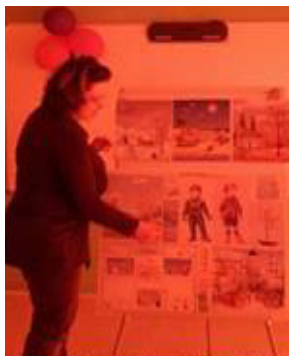


Game: “Get to know the seasons”

Aims of game:

- Getting to know of the children with the seasons, the changes setting in the weather and in the nature;
 - Getting to know with the typical temperatures for each of seasons and appropriate clothes for them;
 - The colors which we are associated for every seasons;
- very often using objects for amusement and traveling in all seasons;

- Traditional foods in each season;
- Customary activities and holidays;
- The behavior of animals and plants in each season;
- Care for our life and health, depending on adverse conditions of changes of weather.



Game: "True or Not"

Aims of game: Reflection of the concepts of seasonal changes in living and inanimate nature.

Required Material: cardboard for each child with green and red color. **Gameplay:** to determine which claims are true or wrong. Every season brings its charm.

Cognitive content: season, weather phenomena during different seasons, seasonal changes.

Rules: The teacher says a statement. For example: Winter is snowy; In the summer we wear warm clothes; A bright, warm sun shines in the autumn; In winter the day is the longest; Spring trees and flowers bloom; In the summer fall leaves of the trees; In the autumn they fly the birds to the warm countries and others. When the answer is correct, the children show a green card, and on the wrong statement they show a red cardboard.



Game: "Paint the trees in each of season"

Aims of game: The children have to paint the trees with typical colors for every season.





“GOOD START, GROW SMART”

ECOLE LES MOULINS – BARBENTANE

FRANCE

Activity:

EARTH SCIENCE

Students will learn to name the four seasons and identify their characteristics.

Session 1: The four seasons

1. The wheel of seasons



Students have to recognize the seasons according to the tree (they already know autumn and winter as we have used the wheel since the beginning of the school year).

2. Sorting of images

3.



They have to describe the activities and sort them out according to the season (collective work).

4. Sorting of books



Students sort out books by going through them (one book for two students) and explain their choice.



5. Sorting of reproductions of artists

The reproductions are described (painting, photo...)



and a student says to which season it could match (and why).



The other students validate or not this choice and give arguments if they don't agree.

Session 2: Portraits in the style of Arcimboldo

- Four portraits of Arcimboldo are shown (The four seasons) and the name of the artist is given. Students describe the portrait and find the season represented.



- They realize portraits (paired up), choosing elements according to the season. Photos are taken.

Winter: cotton, stones...



Summer: sand, shells, pebbles...



Spring: wood, flowers, grass...



Autumn: acorns, pine cones, dead leaves...



- Other portraits by Arcimboldo are shown and commented. Students can make other portraits with different themes in an other session.

CHAPTER IV LIFE SCIENCE



“GOOD START, GROW SMART”

GRĂDINIȚA CU PROGRAM PRELUNGIT NR. 8 TG-JIU

ROMANIA

Activity:
LIFE SCIENCE

I

The Age of children: 4-5 years old

Activitycategory: Science domain, Life Science

Activity theme: „Nature, a world full of life”

Activitytype: sistematization and verification of knowledge

The method of achievement: conversation

Activitypurpose: systematization of knowledge about the elements of the environment

Reference objectives

- to know the elements of the environment (air, water, earth, vegetation, human being as an integrated part of the environment, natural phenomenons), and their interdependence;
- to recognize and verbally/graphically describe certain changes of the medium;
- to communicate ideas based on the made observations;

Operationalobjectives:

- **cognitive objectives**
 - to recognize some beings or objects;
 - to describe beings or objectsverbally, comparing them;
 - to identify true/false information, using ilustrative suport;
 - to formulate questions related to the observed objects/beings;
- **affective-motivationalobjectives:**
 - to participate with pleasure during the activity;
- **psychomotorobjectives:**
 - to maintain a correct position during the activity;
 - to use easily the materials provided;

Didactical strategy:

Methods and procedures: conversation, explanation, systematic observation (controlled), game;

Material resources: parrot, letter from Bobo, box, plants, toy fish, images of various beings and objects, pallets, squirrel, aquarium with fish,rewards.

Means of organization: directly, individually;

Duration: 25 min

Place: classroom



DIDACTIC SCENARIO

Before we started the activity, I organizedthe place and prepared the necessary materials.



The attention is captured by a letter from the parrot, Bobo.



Bobo wishes to find his friend, a fish (named Fishy), and for that it needs the help of the children. To help Bobo and to find his friend, I suggest to children opening the boxes with the magic formula. Each element in the box will be carefully analyzed, to fit the min to the beings or objects category.

Box no.1

Look carefully at the flowers and answer to the questions correctly.



Question plan:

1. How are the two plants?
2. Why needs the plants to grow up?
3. Why do you think that one of it has lost its flowers?
4. Which one of it has life?

Conclusions

The plants grow up with water, light, heat, bloom and then, die.



Box no. 2

In the second box, the children find a toy fish and a squirrel.



Question plan:

1. How is the fish? Has it life?
2. What can you say about the squirrel?
3. Which one of it had life?

Conclusions

The dolphin is an object and the squirrel had life, but had lost it.



Box no. 3

„True or false“

Each child receives a palette (on who sefaces there was a sad face and a smiling face). A child draws a note and all the children have to answer if the statement is true/false.



Question plan:

1. It is true that the table and the chairs are objects?
2. The dog has'n life. Yes or no?
3. It is true that trees have life?
4. The snowdrop is a plant, so it has life.
5. The toys are beings? Yes or no?
6. It is true that the two tigers have life?



Box no. 4

In the last box, the kids find a toy fish, two died fishes and Fishy (Bobo's friend). They analized careffully each element and fit it into the beings or objects category.



Finally, after the kids open all boxes and find Bobo's friend, the teacher makes appreciations and the kids reveive the rewards (Bobo chocolate)

II

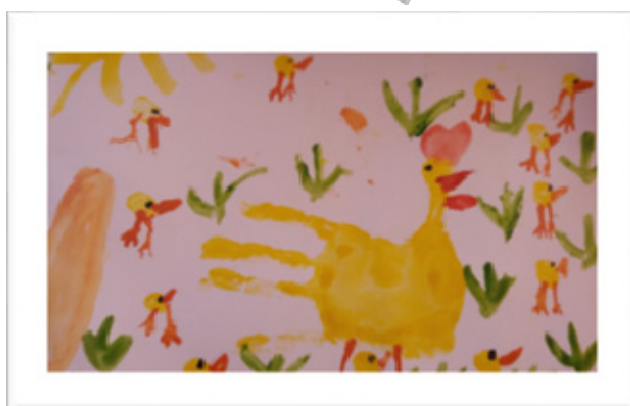
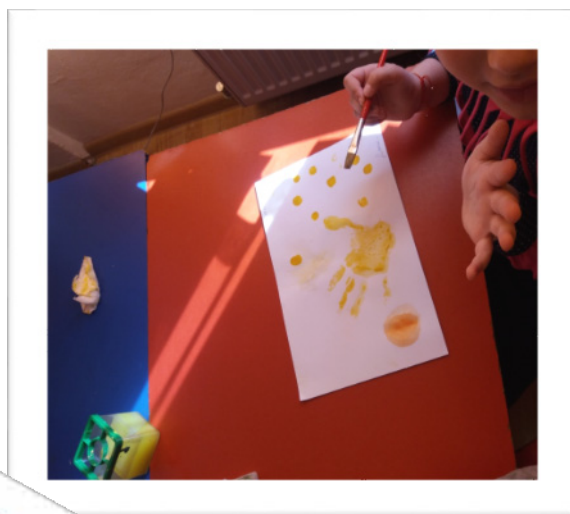
SCIENCE ACTIVITY: "What do you know about ...?" - ~From egg to hen~

Objectives:

- to recognize the teaching material brought by the classroom educators,
- be mindful of the educator's explanations,
- to make the difference between animate and inanimate.



ART - Painting: "Egg, chicken, hen"



III

Field of knowledge: Environmental knowledge

Group age: 5-6 years

Mens of realization: experimentation – seed germination and plants growth

Objectives:

- to observe the germination and plants growth proces;
- to analyze and compare reactions of seeds and plants under the influence of environmental factors;
- to actively participate in the preparation of the sowing materials well as in the care of plants
- to develop the spirit of observation and creativity;

Methods and procedures:conversion, demonstration, explanation, observation, exercise, experiment

Material resources: grain seeds, corn, cucumber beans,pumpkin, earth, plastic glasses, shovel gloves, worksheets, colors

Place: group room

THE EARTH STORY

It was once a day when the Earth became great and beautiful, and it disintegrated its water. It was hundreds of millions of years ago. The sun warmly embraced the Earth and beneath its rays along with the nutrients in the soil and water, appeared the first form of life. In one of the first days of spring, the teacher speaks to the children about the arrival of the spring and her messengers: the snowdrop and the swallow.They talk about each other, they notice the mand stop more on the swallow. A child says about her being and explains how she knows and how she can what this means. It was the beginning of a whole conversation about beings(life) and things(non-life). Andreea, a little girl raised two fingers She wants to say something. Politely, the teacher asks her to speak.

- And the snowdrop is a being. He has life.

-Nooo, it'sheard somewhere! It was Stephen' s voice.

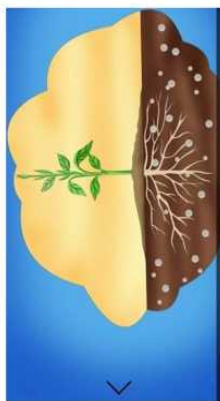
-Why do you say that?Can you explain, Andreea?

-Well, in spring it's coming out of the soil just like he is born.Like people, grow, live, dry and die.

Dear children,tounderst and better, tomorrow I will tell you a story.

THE PLANTS STORY

In our story we'll talk more about plants. And especially by the way their seeds meeting the nourishing soil, grow like similar plants, resuming a new life cycle.





"Deci rădăcina absorbe apă și mineralele din pământ, iar tulpina le transportă spre frunze și spre celelalte părți ale plantei." "Exact! De asemenea, tulpina ia mâncarea de la frunze și o

"Sai o clipă! Cum adică hrană din frunze?" se miră Alina. "Trebuie frunzei e să prepare hrană pentru plantă. Ea captează lumina soarelui și folosește un proces numit

"Deci mâncarea din frunze ajută planta să crească, iar tulpina e doar să arate bine." "Într-adevăr floarea arată bine, dar tulpina ei nu este doar asta! De fapt, floarea e o parte foarte importantă a plantei."



Alina se uită la plantă, în vârf avea floarea, iar în partea de jos era rădăcina. Formele astea erau diferite, chiar erau foarte frumoase. Așa încât, ea se gândea că era foarte frumoasă, dar nu bătea

Fetita arăta cu degetul spre tulpină. "Partea asta ce rol are?" "Ai băut vreodată apă cu

"Sigur! Dar ce are asta de-a face cu tulpina?", se miră Alina. "Ei bine, tulpina se compoartă, într-un fel, ca un canal de transport al apei și al nutrienților din rădăcină la celelalte părți ale

THE STORY OF THE EARTH- LOVING SEED

Get into the ground, the seeds germinate. When the seeds encounters the earth, a true story begins. We will also start in this wonderful adventure, realizing an experiment throught which the seed turns into a plant.

We need :

- good seeds
- nourishing nourishment
- vases for sowing
- water
- light
- heat.

Let's start!



After we put them wather, we put some of the glasses in light and heat, some in a cool place and some in the dark.



After the seed has been soaked in water and the skin is broken, the first organ comes out of the soil, which, following gravity, sinks into the ground. After the development of this task begins, which will grow up out of the soil.



There is nothing in the vessels that were in the cold and in the darkness.



The days pass and our plants become bigger and stronger.



With great devotion at the Science Center, we were coming to see them every day.



In increasing order we set them and the roots we observed.



We have seen how internal and external factors influence germination and plants growth.



We have solve a file to see what we've learned.



“GOOD START, GROW SMART”

SEHIT ANIL ERULUC KINDERGARTEN

TURKEY

Activity:

LIFE SCIENCE

GERMINATION

Activity Category: Science and Nature (Group and Individual Activity)

The Age : 60- 72 Months

OPERATIONAL OBJECTIVES

Cognitive Development:

Learning outcome 1. Pays attention to object, situation or event.

(Indicators: Focuses on the object / situation / event that needs attention. Ask questions.)

Social-emotional Development:

Learning Outcome: Expresses itself in creative ways

(Indicators: Create original products, The objects uses unusually)

Language Development:

Learning outcome 1. Use the language to get communication.

.(Indicators: Start chatting. Continue and join the chatting.)

Learning outcome 2. Express what listens or watches by different ways.

(Indicators: Ask questions and answer)

Motor Development:

Learning outcome 1. The child makes movements that require the use of small muscles.

(Indicators: Objects collect, cut, paste. Keeps the pen correctly.)

The teacher asks the children how the plants have grown to make a sensation of the children. Tell them that they will germinate together with the chickpeas after they have received the answers. Give each child a plastic plate. He wants cotton and places. Children place chickpeas and put them back on with cotton. The germination process is finished by watering the chickpeas. Children will be asked what they need to grow the chickpea seeds. After receiving the answers, water, air – We need to talk about the sunlight. There is an art work on this. Children are asked to paint and cut a flower picture that describes the needs of the plant. The pre-prepared paste boxes are placed and the activity ends.





MATERIALS

Plastic plate, chickpea seeds,
cotton, water

WORDS: Germination, the sun,
the earth, the seasons, the soil

Evaluation

At the end of the activity, the following questions can be asked to the kids;

- What materials were used for germination?
- What made you most happy during the event?
- What did you feel when the event ended?

Children are informed about the formation of the butterfly. The life cycle of a butterfly is watched.
(<https://www.youtube.com/watch?v=bFF2lhjS1M>)



Activity is applied.

TITLE:FROM THE SEED TO...

RECIPIENTS: 3, 4 and 5 years old

TIMES: February 2018

FIELD OF EXPERIENCE: Knowledge of the world

GOALS FOR SKILLS:

The child observes carefully the living organisms and their environments, realizing the possible changes.

LEARNING OBJECTIVES:

Distinguish between living and non-living beings;

Discover the life cycle of living beings;

Identify the changes and possible transformations;

Knowing how to formulate hypotheses about the development of an event.

SPACES: garden, class.

MATERIALS:pumpkin seeds, water, magnifying glass, handkerchiefs, small greenhouse, wooden sticks, paper, scissors, dispensers, pots, rake, glasses, colors, dishcloth, ...

ACTIVITY:

ended the experiment of observation of the pumpkin, we recover a seed for each child and we begin to investigate the naive knowledge of the same by asking: "now what can we do with these seeds? According to you these seeds are alive? Do they always stay that way or can they turn into something else? "; children answer in different ways:

G: No! The seeds become a plant, I know it because in my campaign mother always plants the seeds and become flowers ...

A: The seeds are small ...

R: They go in the soil!

S: become a flower!

M: the seeds are not alive...

Once we listen to the children's reactions, we pull out and place a small and mysterious object on the desk: a mini-greenhouse!Children attracted by the object begin to observe and touch it ... At this point we add another object on the table: a piece of cotton. The children, seeing these two objects, begin to say, following in a particular way a child: "Let's put the seeds in the cotton!";before starting the "sowing" we show the children small sticks with their name written and we deliver to each of them in order to insert it into the hole where they will put their own seeds. Now we proceed with the sowing, one at a time the children:

1. insert the cotton into the little hole in the small greenhouse;
2. create a small ditch with the help of the teacher and place the seed on it;
3. cover the seed;
4. with a glass they add water on their seed.





Once we have sown all the children's seeds, we ask them what they thought their seeds needed to grow and become a small seedling. Everyone answers "water!", Then we try to make them reflect by reading a poem called "After the seed what happens?":

*the sun is golden,
on earth and gives life
the seed opens, it is rooted,
slow grows and exits on the stem
pushes straight and at the end rises
inflates a knot and leaves the leaf
in the color the flower is born
the fruit blossoms from the heat
and a seed appears from the fruit
go down to earth, looking for peace
in the light of the moon
the awakening awaits and is silent ...
... after the seed what happens?*

After reading the poem more than once, together with the children of 5 yearsold we identify the elements necessary for the "life" of the plant that will be born from our seeds, we identify the following elements:

- Water;
- Sun;
- Heat;
- Light;

Now we decide together to place our greenhouse near the class window where all the elements identified are present, also to provide the heat we close the greenhouse with a plastic cover.

After the practical activity, we ask 5-year-olds to draw all the steps of the sowing activity.

After two weeks of taking care of the seed, with the children we notice that some seeds have produced a sprout while others do not and we start to hypothesize about the probable because:

G: Maybe they did not have enough water ...

F: the light was little perhaps because of the rain ...

C: maybe the seedlings died ...

Following the hypotheses of children we take our greenhouse and observe that:

1. A shoot is taller and "stronger" than the others;
2. Some seeds have not opened;
3. Some buds are not straight and have thin stems;

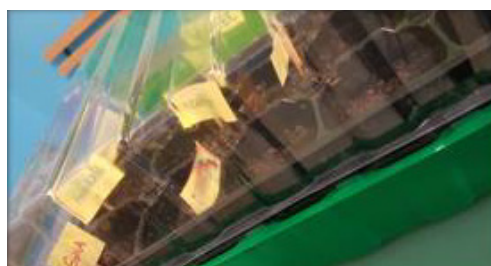
We ask the children what we can do then to help our seeds, and following a discussion and the re-reading of the poem we identify another element that may help us: the SOIL! We take a small pot and a bag of earth and decide together to move the biggest bud in the pot to give it more space to grow, and then call the child who took care of the seed and then the shoot and we help him to:

1. Place the soil inside the pot;
2. Take the sprout from the greenhouse;
3. Place the sprout in the soil;

4. Cover the root with another soil;
5. Put water on it.



Then we proceed with the other children doing the same operations inside the greenhouse; once all the seeds have been transferred to the earth we reposition the greenhouse and the pot near the window.



After a week we check together with the help of a special tool if the seeds are opening...





For now our seeds are fine, grow slowly and we always take care of them!

Thanks to these experiments we understood that:

- Plants live because they are born, grow, and at the end they die;
- As for animals that need water and food to live, even plants need it because they are living beings;
- It is not nice to take a flower from the earth because it will stop living;
- Sun and heat are important for living beings;
- Living things change during their life (seed → sprout → plant, baby → boy → adult → old man).





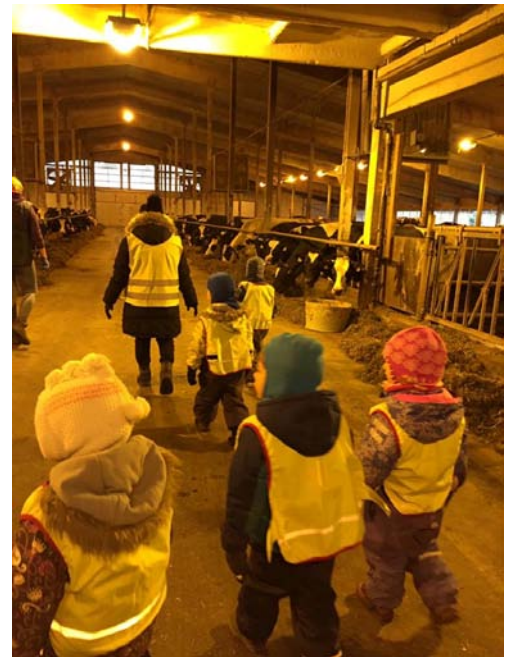
GOOD START, GROW SMART 2016-2018
SILLAOTSA SCHOOL
ESTONIA

Topic: COWS (LIFE SCIENCE)

Childrenage: 4-5

Learning Objectives:

- Children recognize the cow and can describe it.
- Children know who is a calf.
- Children know why are cows useful to humans.
- Children see and know how the cows are grown up and how they are looked after.



Activity description: Study tour of the cow farm.





“GOOD START, GROW SMART”

KINDERGARTEN “ZORNICA” - DOBRICH

BULGARIA

Activity:

LIFE SCIENCE

Lesson Plan of pedagogical situation

1. **Educational field:** World around (environment);
2. **Educational kernel:** World of nature and its preservation;
3. **Kind of the lesson:** Base form of pedagogical interaction;
4. **Theme:**"Houseplants"

5. **Group:** 3rd prepared group /5-6 years/

6. **Aims:**

- ☐ Adoption of plants in typical environment conditions;
- ☐ Reflection of the factors: heat, light and moisture for plant development;
- ☐ Understanding the importance of plant cultivation work as a virtue.

7. **Expected results:**

- ☐ Has knowledge of indoor plants;
- ☐ Can take care of plants;
- ☐ Pricing the surrounding plants; takes responsibility for specific plant care in the nursery and at home.

8. **Methods and means:** observation, talk, narrative, exercise, games, availability of indoor plants, tools for their care, worksheets.

9. **The course of the situation:**

- ***Emotional attitude***

Viewing indoor plants / pots and images / - "Are the plants alive?"



According to some children, they are not alive because they can not move. But now we find out why the flowers are alive.

Specifying plant ideas and storytelling about unfamiliar green friends in the room.



How does the seed flower flow?



Analyzing the structural parts of a



plant. Description.

Parts of the plant:

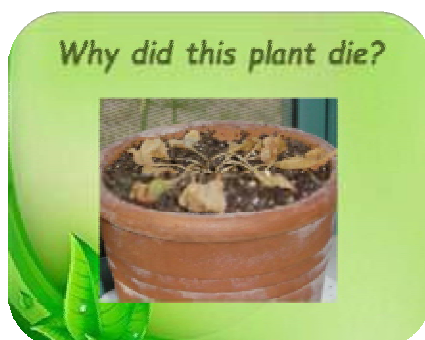
root, stem, leaves and color.

Planting a flower in a pot.

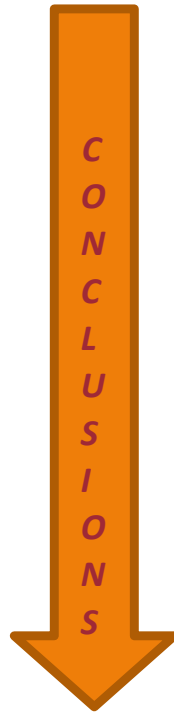


Presentation presentation

Discussion with children



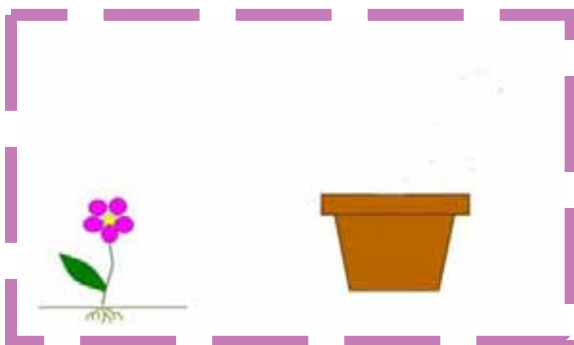
What happens to plants that are devoid of water, air and light?



To be always fresh indoor plants we have to take care of it for them constantly.

What care should we make of flowers?

- > Spray them regularly;
- > To fertilize them;
- > Clean them regularly from the dust on the leaves and from dried leaves and colors;
- > To provide them with enough light and warmth.



Individual work of children





Game: "Wake up the spring flowers"





“GOOD START, GROW SMART”

ECOLE LES MOULINS – BARBENTANE

FRANCE

Activity:
LIFE SCIENCE

«*Still nothing?*»

(3-4 years old)

Objectives: realize seedlings to know the life cycle of plants

1 Still nothing? by Christian Voltz

After reading the book, the teacher proposes to make like the main character: to plant seeds... Pupils look for the different stages of planting in the story (soil, seed, water...).



2 Seed/no seed sorting out

Many seeds (corn, sunflower, pumpkin, bean...) and objects (stones, pearls, pasta, candies, buttons...) are sorted out by groups and put in different plates if the pupils think it's a seed or not. At the end groups exchange about their choices and try to tell what is a seed for them.

3 Validation of the assumptions

To validate the assumptions pupils plant the «seeds» and «not seeds» in transparent plastic glasses to see if they are growing.



They observe regularly the seedlings, water them and talk about it.



When the seeds have germinated, pupils validate or not the assumptions and can classify again what is a seed and what is not.

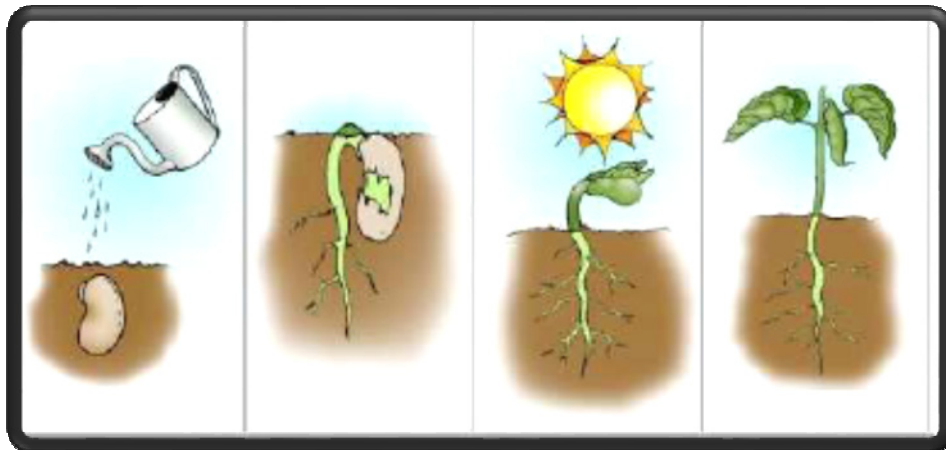
They realize a poster with 2 lines «seed» / «not seed» and seeds and objects are glued.



4 Observation of seedling growth

The teacher takes out a seedling so pupils can observe the different parts of the plant: roots, stem, leaves.

Photos are taken at different moments and children put them in order .



Prolongations

- Discover the gardening tools
- Plant bulbs in flowerboxes
- Plant potatoes in the school garden
- Plant vegetable seeds
- Make a mosaic with different seeds
- Catch seeds with clips and sort them out

CHAPTER V

SCIENTIFIC INVESTIGATION AND EXPERIMENTATION



“GOOD START, GROW SMART”

GRĂDINIȚA CU PROGRAM PRELUNGIT NR. 8 TG-JIU

ROMANIA

Activity:

SCIENTIFICAL INVESTIGATION AND EXPERIMENTATION

DIDACTIC PROJECT

AGE GROUP: 4-5 YEARS OLD

ANNUAL STUDY THEME: "WHEN, HOW, AND WHY DOES IT HAPPEN?"

WEEKLY THEME: „ON SPRING'S LAND"

ACTIVITY THEME: „SPRING IN THE GARDEN"

MEANS OF ACHIEVING: INTEGRATED OUTDOOR ACTIVITY /DIDACTIC GAME

ACTIVITY TYPE: verifying and consolidating knowledge and skills

EXPERIENCIAL DOMAIN ACTIVITIES: Science Domain + Human and Society Domain

ACTIVITY PURPOSE:

INFORMATIVE : Developing the capacity of knowledge, understanding and investigation of the environment through direct contact with it;

FORMATIVE: Developing the capacity of applying knowledge and motor skills in games and in problem situations.

EDUCATIVE: Educating the ability of engaging with others, of communicating and cooperating, of participating in actions within a fair-play team.

OPERATIONAL OBJECTIVES:

Cognitive-informational:

- to enumerate changes that take place in nature during spring with direct contact with the environment;
- to recognize/to name components of the environment(vegetable garden, flower garden, orchard);
- to identify spring flowers and vegetables(tulip, hyacinth, green onion, radish, lettuce);
- to describe characteristic aspects of spring vegetables and flowers(components, size, color, taste, smell, training sensory organs);
- to correctly count between 1 and 5;
- to relate number to quantity and quantity to number;
- to enumerate the factors of development and growth of plants(vegetables, flowers);
- to specify the importance of eating vegetables;
- to plant radish and onion seeds(chive and flower bulbs/seeds);
- to recognize and correctly use work tools;
- to specify the stages of a planting activity and to practically achieve it;

Affective-motivational:

- to show interest regarding the activity through active and conscious involvement;
- to express the desire of helping in plant care;

Psycho-motor:

- to correctly utilize work tools;
- to respect rules of communication and behaviour established in the group activity;

DIDACTIC STRATEGY:

Methods and procedures: conversation, explanation, demonstration, game, exposure, observation, exercise, discovery, questioning, teamwork, brainstorming;

Teaching methods: badges (red, green, yellow), spring vegetable basket, flower basket, gardening tools, boxes, jardinière, soil, vegetable seeds, chive, natural spring vegetables and flowers, tulip and hyacinth bulbs/seeds, variously colored scarfs, bells, vases with digits, graphs;

GAME ELEMENTS: surprise, applause, bell, handling materials, closing and opening eyes;

GAME RULES: To solve tasks indicated through letters found along the journey;

MEANS OF ORGANISATION: frontal , individual , through teams;

MEANS OF EVALUATION:

Continuous: systematic observation of behaviour, analysing answers, - Final: through questions, appreciating the amount of implication.

DURATION: 60 minute

PLACE OF UNFOLDING: the yard of the kindergarten;

DIDACTIC SCENARIO

An educational space is arranged and the necessary materials are acquired in order for the activity to be unfolded well in the backyard of the kindergarten, being arranged on workshops:

- Workshop I - „Flower Garden”
- Workshop II - „Vegetables Garden”
- Workshop III- „Orchard”

The children are placed roundly in the backyard. They extracted green, yellow or red badges from a basket.

The awakening of interest regarding the activity was accomplished through the "surprise" element. The postman arrived and gave the children a letter (from Spring, which asks them to save her from Whistling-Wind and from Cold-Clouds which try to keep her silent.

„Dear children,

I am very sad! I can't talk or sing anymore. I need your help in order to regain my voice which can banish Whistling-Wind and Cold-Clouds which keep me silent so they can rule your world. Do you want to help me? (Yes!). You have to go on a short trip. The teacher will accompany and help you. You will walk a route with many tasks that I believe you will pass, because you know many things about me. That's the only way I can regain my voice. I have faith in your success! Thank you for the help! Good luck and be careful!"

The children started the search for Spring, looking at nature and answering the teacher's questions: "How is the weather?", "What does the sun do?", "What do we see around us?"(grass, trees, flowers...), "What color are the leaves?" "What is the soil covered with?"(grass) "How is the grass?", "What does it smell like?", "What color does it have?", "How are trees during spring?", "What happens with birds, butterflies and bees?".

The trip continued and the children discovered the first tasks.

Workshop I - Vegetable Garden marked through a green cartoon colored flower: The children from the green team have to solve some tasks:

I. Find the vegetable basket and the letter with riddles about it! Solve the riddles.

One by one, each child searched for the answer, and the teacher ringed a bell if they solved the riddles correctly.

II. Recognize vegetables and say what you know about them

A few vegetables were taken from the basket and they analysed them by training their sensory organs.(lettuce, onion, radish) - components (root, stem, leaf), shape, color. For each correct answer, the teacher rings a bell.

III. What does it taste like! What does it smell like!

The children tasted/smelled one by one, every vegetable and said what they tasted/smelled like. They then answered the following questions:

„What do we do with vegetables before eating them?"

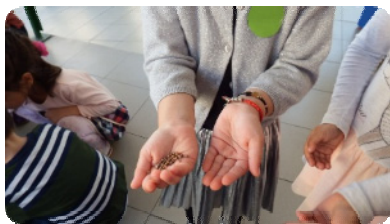
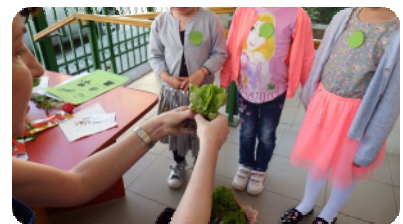
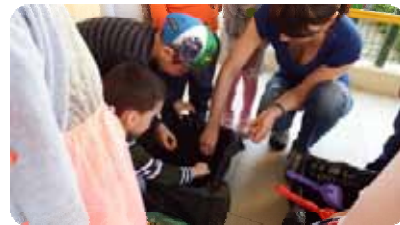
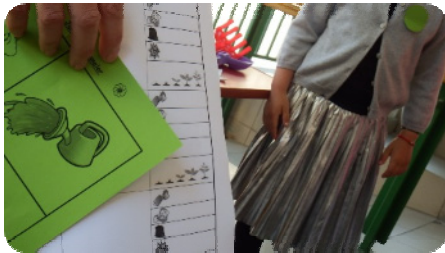
„What do the vegetables contain?"

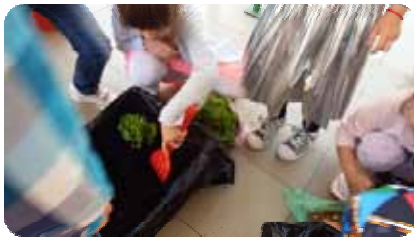
„How do we eat vegetables?"

The correct solution to the tasks was announced through a bell ring.

IV. Plant vegetables yourself! Take care of them until they grow!

The children named the materials they found at this workshop: pots, earth, chives, seeds, shovels, sprinklers, planted chives and seeds. They discussed and decided what to do to care - fertilizing and watering and sufficient light and heat - a weekly chart.





The trip brought the children to the **2nd Workshop - Flower Garden**, marked through a flower aswell (red), where the red team had to solve some tasks:

I . Sing a song about flowers!

The children sang the song „The flowers bloom.”

II. What do you know about...? What do flowers need in order to grow?

Children recognized flowers(hyacinth and tulip), described their components (root, stem, leaves, flowers/petals), color, smell, training their sensory organs.

The children answered (water, air, sun, food/fertilizer), and the teacher rang the bell for every correct answer.

III. Place as many flowers as the digit in the water!

The children placed as many flowers as the digit suggested in vases (five tulips and three hyacinths).

IV. Plant flowers yourself! Take care of them until they grow!

The children named the materials they found within the workshop: Copiii au denumit materialele pe care le-au găsit la acest atelier: jardiniere, flower soil, bulbs, seeds, small shovels, watering can and they planted the flowers. They discussed and figured out what to do in order to take care of them – ensuring fertility and watering and enough light and heat. weekly graph.



In the **3rd Workshop - Orchard**, marked through a flower aswell (yellow), the yellow team had to solve many tasks discovered in an envelope:

I . Sing a song about a tree!

The children sang the song „Little tree.”

II: What do you know about...? What does a tree need in order to grow?

The children recognized the tree, described its components(root, stem, buds/leaves, flowers), color, training every sensory organ.

The children answered (water, air, sun, food/fertilizer), and the teacher rang the bell for every correct answer.

III. What happens with trees during other seasons?

The children enumerated the transformations of the tree throughout the seasons - in the summer, it is leafy and green, in the autumn, its yellow leaves fall, in the winter it doesnt have leaves. Copiii au enumerat transformările copacului pe parcursul anotimpurilor - vara este înfrunzit și verde, toamna îi cad frunzele îngălbenite, iarna este desfrunzit.

IV. Plant a tree yourself! Take care of it until it grows!

The children named the materials that they found at the workshop: jardiniere, flower soil, bulbs, seeds, small shovels, watering can and they planted the flowers. They discussed and decided what to do in order to take care of the tree - ensure its fertility, watering and enough light and heat - weekly graph.



After they finished the activity, waiting for a sign from spring, the children dance the flowers' Samba. While they were dancing, the postman arrives again and this time he brings them a package (Diplomas of Saviours of Spring) and a letter:



*"Everyone tells me I'm a good fairy,
Spring is my name,
Apple flowers are in my hair,
All children love me
I bring everything to life
Trees and butterflies and grass,
With angels from above,
I come from the flower world,
I come with my flower suite,
and with festive clothes
I thank all of you my dears,
Now I can use my voice,
I'll give you this diploma
And you can rejoice!"*
The diplomas are given to the children.



“GOOD START, GROW SMART”

2016-1-RO01-KA219-024394_6

SEHIT ANIL ERULUC KINDERGARTEN

TURKIYE

Activity:

Scientific investigation and experimentation

SMELL, LISTEN, TOUCH, TASTE, SEE AND FIND

Activity Category: Science, Mathematics, Music and Art (Integrated Large-Small Group Activity)
TheAge : 48-66 Months

OPERATIONAL OBJECTIVES

Cognitive Development:

Learning outcome 1. Pays attention to object, situation or event.

(Indicators: Focuses on the object / situation / event that needs attention. Ask questions.)

Learning outcome 2. Guess about object, situation or event

(Indicators: Tells the hint of the object, situation or event, explains the prediction by combining the hints, examines the real situation, compares the prediction to the situation.)

Learning outcome 3. Expresses in various ways what they are listening / watching.

(Indicators: They ask questions about what they are listening to / what they are listening to.) They answer questions about what they are listening to / telling others what they are listening / watching.

Learning Outcome 4. Match objects according to their characteristics.

(Indicators: The objects match according to their odor, taste, texture.)

Learning Outcome 5. They prepare graphs of objects.

Social-emotional Development:

Learning Outcome: Expresses itself in creative ways

(Indicators: Create original products, The objects uses unusually)

Motor Development:

Learning Outcome 1. Small muscle use makes the necessary movements.

(Indicators: Collect objects. Objects are stacked vertically / side by side..they cuts the materials, sticks them. They makes pictures using different materials. The objects are tighten, they pull. Its hapes with the handles of material. It uses materials to shape the material. They keeps the pen correctly and provides pencil control.)

Learning Outcome 2. They act in rhythm and music accompaniment.

Language Development:

Learning outcome 1. Use the language to get communication.

(Indicators: Start chatting. Continue and join the chatting.)

Learning outcome2. Express what listens or watches by different ways.

(Indicators: Ask questions and answer)

Learning Outcome3. Distinguish the voices.

They tells the similarities and differences between the voices.

LEARNING PROCESS

ACTIVITY:1-Teacher, coffee, lavender, mint and soap pieces fourfilled pouches are prepared.Children make pictures of things they guess. The paintings are exhibited.The same materials as those inside the pouchs, in small bowls children are offered.The children count how many pouches and bowls.

They match the smells in the pouch with those in the bowl.The pouchs are opened and the children check that their matches are correct

Put bowls of water and scented objects in a tray. A table is provided with paint materials, scented objects, adhesives and colored sequins.

Children go to in the direction of curiosity. Children tell their friends. Children create object graphics.The symbols on the chart are counted. Talk about how many symbols are there.

MATERIALS: Odorcues, small containers, water containers, odorous materials, paper and pens, cardboard, glue.

WORDS: Coffee, lavender, mint, soap, peeling, graphic

FAMILY PARTICIPATION

It may be advisable to play a game of guessing which food is cooked at home

After the event, the following questions can be asked to the children:

After the event, the following questions can be asked to the children:

What have we done in this activity? What scents in the pouchs we found?

Which smell did you like the most? Which objects you smell?

It is beautiful? Which objects smell bad?

Does every object have a smell?

Do we smell everything? Why?

LEARNING PROCESS

ACTIVITY:2-A few objects with different properties are placed on the table.Children examine objects. Children use these objects to make different sound and rhythm studies.The group closes its eyes and the different objects from a volunteer selected child be asked to create a rhythm using. Children make sound. The child whose eyes are closed, guesses.

MATERIALS: objects with different characteristics (cup, bowl, glass, whisk, sieve, etc.)

WORDS: Rhythm

Concepts: same, different, similar

FAMILY PARTICIPATION

It is suggested that parents play her/his game at home.

After the event, the following questions can be asked to the children:

After the event, the following questions can be asked to the children:

What did we do? What objects did we use to create rhythm?

What objects did they sound like?

Are you having difficulty guessing the sounding object? Why?

What objects have we used to do rhythm work before?

LEARNING PROCESS

ACTIVITY:3-Aim: Using touch feelings, knowing the numbers, collecting, empathize (braille alphabet used by visually impaired).

The game is played with 2 children. A player's eyes are closed. The child with open eyes selects 2 cards for his friend. The child with his eyes closed, he tries to recognize the card. The child says the number and writes on his friend's paper. And then performs the collection process.

MATERIALS: Embossed figures prepared with silicone (1-10), eyepatch, pencil-paper

WORDS: Silicone

Concepts: Numbers



EXPERIMENT: Taste

Tools and equipment needed for the experiment: Sugar, lemon, salt, honey, jam

Try it out: Try to Taste and recognize food. Understanding and distinguishing the concepts of Salt-Sour-Sweet-Pain..

Experienced Age Group: 4-5

Experimentation: children's eyes closed and tasted individually.

The end result: Try to distinguish food.





And then painting activity is done.



LEARNING PROCESS

ACTIVITY:4 – The teacher comes with a riddle box. Inside the box, he puts fruit, vegetables and fragrance tablets. The teacher closes the eyes of the students in order. The student whose eyes are closed tries to find out what the objects he touches are. Is controlled. 5 sensory organs are paired with the cards.



Guess Box





“GOOD START, GROW SMART”

SILLAOTSA SCHOOL

ESTONIA

Activity:

SCIENTIFIC INVESTIGATION AND EXPERIMENTATION

Topic: ONION GROWING (INVESTIGATION)

Children age: 5-6

Learning Objectives:

- Children know how to grow an onion.
- Children monitor the growth of onions.
- Children know that the plants need water, light and air to grow.
- Children understand the need for planting an onion.

Needed learning tools/materials: onions, soil, box; bread, butter

Activity description:

16 March – Children planted onions into boxes. The next days they watered and watched how onions grow.

02 April – Children cut green onions and prepare themselves sandwiches.





“GOOD START, GROW SMART”

KINDERGARTEN “ZORNICA” - DOBRICH

BULGARIA

Activity:

SCIENTIFIC INVESTIGATION AND EXPERIMENTATION

Objectives:

SENSES

- Children can perceive the world through the five senses (hearing, sight, taste, touch, smell).
- Exploring different sensory perceptions during experiments.



What do you see?

- the different images that the eye sees;
- Enhancement of images;
- color perception.



What do you feel?

- skin sensitivity;
- feeling of touch;
- touch-recognition capability.



What is the taste?

- recognition of the four main tastes



What is the smell?



What do you hear?

- creating and distributing sound waves



Musical experiment

Required materials:

- 5 or more glasses of glass
- water
- a wooden stick or a pencil



We put the glasses of glass on the table, but not indiscriminately, and arrange them in equal order. Then fill them with different amounts of water. It is best in the following way: in the first we make a very small amount and gradually increase the quantity. The last one should be almost full up.

Then we take the pencil and lightly hit the first glass. We hear the sound. Do the same with the other cups to see how they sound. That is all. Now we start playing as real musicians.



Each of the glasses of glass sounds in a light stroke and has a different tone. The glass full of much water has the lowest tone and the one with the least water - the highest tone. More water means slower vibration and deeper sound.

Experiment "Magnet"

Required materials:

- magnet
- paper clips



Experiment "Phone"

Required materials:

- two paper cups
- string

We hang a magnet clip. Then we hook it up second. See how many clamps we can attach to just one magnet. We also try this experiment with different sized paper clips as well as with a plastic-coated paper clip.

We drill the bottom of each cup in the middle. We spend the rope and knot together. We repeat the second cup. Two children took one cup and walked away. They bring the cup to their mouth and say something. Vibration of voice passes through a string and reaches the second cup when it sounds.



Experiment

“Do you want to know how and whether they breathe the plants?”

Required materials:

- deep and transparent bowl
- green leaf from a plant
- water
- sunlight

Fill the bowl with lukewarm water. Then we find a leaf, but it must now be cut off from the plant and not fallen to be still active. We put it in the water so that it sinks all over and put it in place with lots of sunlight - on the window sill or on the balcony. Finally, we just have to wait a few hours.



We will see an interesting effect. Small bubbles that are all over the leaf and the edge of the bowl. This is how we proved and saw that the plants also breathe.



Laughing chickpeas



Required materials:

- cup
- water cup
- pack of chickpeas
- water

1. Place the water cup in the bowl. Fill the cup with chickpeas. Fill it as much as you can. Let the nuts accumulate like a little hump on the cup.
2. Gently pour water into the cup full of chickpeas and wait. If your grains do not start to chirp, add some more water and then you will surely get it.

If everything is right, we will see how the chickpeas grow before our eyes. Soon, the glass will become narrow to be able to collect them and they will start off the edge of the glass and fall into the bowl. The noise that makes the movement of the chickpeas in the glass suspiciously will make you look like a laugh.

Experiment

“The invasion of the huge jelly bears”

Required materials:

- two or four jelly bears
- a bowl full of hot water
- a bowl full of cold water
- 2 tablespoons of salt

In a bowl of hot water add two tablespoons of salt. Stir well until the salt dissolves. It may sound like something uninteresting, but one of the two bowls will turn out to be full of magical water, especially when it touches jelly bears. However, you should wait for the water to cool beforehand. Finally, we just put 1 or 2 bears in the water with salt and one or two bears in the bowl filled with cold fresh water.



The effect is apparent in a few hours.

Let the bears sleep in the water-salt bath ... And finally: the bears will be the same, but the others will be huge.



Experiment "Moving water"

Required materials:

- water cups in which food paints are dissolved
- a thin piece of white cotton cloth



Water that moves from cup to cup is a miracle. Using a small piece of cloth, we can arrange the whole view. Moving water and getting rainbow.



“GOOD START, GROW SMART”

ECOLE LES MOULINS – BARBENTANE

FRANCE

Activity:

SCIENTIFIC INVESTIGATION AND EXPERIMENTATION

“Autumn fruits”
(3 to 5 years old)

Objectives:

- knowing the names of usual autumn fruits
- describing physical and gustative elements
- observing the different parts of a fruit

1 Discovering autumn fruits

- Observe different fruits
- Give the names of the ones known
- Discover others
- Open the fruits to observe what is inside and describe it.
- Taste the fruits



2 Taste and remember

The same fruits are proposed; pupils taste them blindfolded and try to discover which fruit it is.



3 Written names

Pupils associate words and photos with a model.

CHAPTER VI SCIENCE FROM THE PAST



“GOOD START, GROW SMART”

KINDERGARTEN “ZORNICA” - DOBRICH

BULGARIA

Activity:

SCIENCE FROM THE PAST

Science: knowledge of nature.

Children explore the world of nature and its conservation. Trees.



From 3 to 9 April, we mark National Forest Week

The children from the "Stars" group took part in a tree planting action in the Dabovete area near the town of Dobrich.

They planted a red oak.



Planting seedlings - tree



How old is the tree?

We will know the circles of the tree.



National Forest Week 2017

"The Forest Is Life"



Did you know that

Leading aims:

1. Orientation in the animal world, typical of the environment in which it lives.
2. Mastering strategies to sense the value of "living" in nature.

Expected results:

1. It enriches its perceptions of diversity in the animal world.
2. Expresses positive emotional-valuational attitude towards animals - preferences, observability, curiosity and curiosity.



Leading aims:

1. Forming ideas for the "bread way".
2. Understanding the importance of bread for people's health.
3. Forming a positive attitude towards the bread and labour of the people who produce it.

Expected results:

1. There is an idea about the role of man in plant growth.
2. There are specific notions of the plants that man feeds.
3. Can describe animal and human-related natural objects harmful to human health.
4. There is respect and positive affection for the importance of plants as a living environment.

Methods: Talk, narrative, exercise, elementary experiments.



A fairy tale about the wheat bread



Children recognize grain seeds



What do you need make bread?





Can you eat raw dough?

Discussion of the bread's taste



“What do we need for seeding“

Educational aims:

1. Orientation in the plant world, typical of the environment in which it lives.
2. Comparison of seeds for reproduction of plants.

Expected results:

1. Enriches its insights into the conditions necessary for the life of plants.
2. Lists the care that people make for plants.
3. Forms a positive attitude towards nature through familiarization with some activities / planting seeds: beans, lentils, corn, wheat.

Methods: Talk, narrative, elementary experiments, solving verbal-logical tasks.



Planting





Named of different types of seeds. Preparing for planting



Children are happy with work



Care

Sharing own experience related to the care of seeds planted three weeks ago.



Water in nature

Educational aims:

Summarizing the concepts of water in nature as a major factor in life, experimenting with its properties, the need for conservation and clean.

Expected results:

1. Children will have concrete ideas about the properties of water and the importance and existence of plants, animals and man.
2. Toproveoke interest in discovery, elementary experiments and experiments to detect the properties of water.
3. Explain man's nature conservation and care for a clean environment.
4. They call for conditions for plant life and development

Methods:

talk, observation, experiments, analysis of results.

Preliminary preparation and materials:

photos on the topic, flowers, transparent glasses, egg, straw, paint, sugar, salt, vinegar, pebble, leaf, sheet of paper, nail, knob, ball, cap, seed.



Experiment "Chary Flowers"

Expected result :

Encourage children's curiosity, which raises the need for research.

Required materials:

water, scissors, food paints, plastic cups, white flowers.



The result of the next day



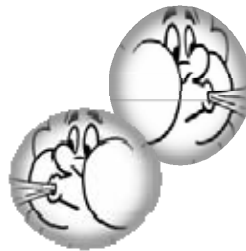
Games with the air

Expected result:

Raising interest in children towards elementary experimentation related to air properties.



Required materials: plasticine, straws, light balls



Ecology in the kindergarten

Processing of organic waste in the kindergarten – Composting

Ecological Task: Children develop personal and community awareness of environmental protection, learn to be responsible for nature, and work in a team.

Composter in the kindergarten

- Composting materials:
Green: fruit and vegetable peel;
Tea bag; Coffee and filters;
Plant and flower waste; Cut grass.
Brown: cardboard, napkins,
branches, twigs, dry autumn leaves; Egg shells



Plant care in the yard of the kindergarten



Herbal garden



Environmental Initiative
"I Believe and Help" –with plastic caps

We collect recycling caps.

With cash we help for medical equipment
for the Department of Neonatology, Dobrich

