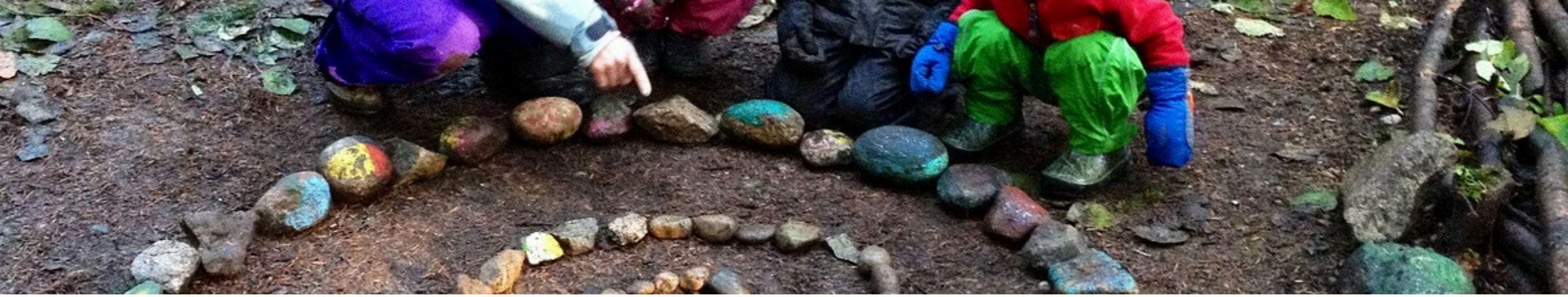


„ Let's rock outside -the success of outdoor learning", project Nr.: NPJR-2024/10176

Nordplus

Kėdainių lopšelis-darželis „Žilvitis"

SÕBRAKESE TALLINNA LASTEAED

Liepiņa
PIRMSSKOLAS IZGLĪTĪBAS IESTĀDE

Learning outside: growing together

Lesson plans

#1

Archaeology for the Little Ones

Goal: To introduce children to the specifics of the work of an archaeologist and create conditions for developing mathematical skills (calculation, measurement, comparison, classification).

Location: kindergarten yard/greenhouse/sand excavation site.

Participants: preschool children.

Materials

- Sand, buckets, shovels, brushes
- Boxes with numbers, pins
- An old suitcase with photos and shards
- Rulers, finding sheets, pencils
- Glue to complete the findings sheet

Areas of Study

- Science education
- Mathematical education
- Artistic education

Competencies Being Developed

1

Cognitive Competence

Becomes familiar with the profession of archaeologist, is interested in the origin of finds, investigates, compares, measures, groups characteristics.

2

Mathematical Competence

Recognizes numbers, calculates findings, compares quantities, measures sizes, and groups by characteristics.

3

Creativity Competence

By putting familiar pieces together, they create a general picture or story, and draw their findings on a recording sheet.

Learning Achievements

Science Education

Science Research

Selects tools, natural materials and conducts a simple investigation.

Mathematical Education

Mathematical Reasoning

While playing and exploring, the child measures the length, size, quantity of objects, and compares them with each other (e.g., longer–shorter, bigger–smaller, more–less, the same–not the same).

Mathematical Communication

Alone or in collaboration with others in their immediate environment, collects and records using suggested methods

Creative Mathematical Problem Solving

Draws findings, conveys ideas through images. Experiments by combining fragments into a common picture (C).

Activities

01

Introductory Part

- We gather at the greenhouse
- The inscription is read and there is a discussion about who an archaeologist is
- Rules discussed: dig carefully, protect finds

02

Discovery of the Secret

- An old suitcase with shards and photos is found
- Discussion: What could it be?
- Children compare shards by size and color (mathematical skill - classification)

03

Preparing for Research

- Children pull out boxes with numbers
- Writes down names
- Discuss what the numbers mean - each number indicates the excavation area

The Main Part

Excavation Work

- Dig carefully with a shovel
- Sand is poured into a bucket
- He cleans the finds with a brush
- He puts the finds in their box

Research of the Find

Filling out archaeological sheets:

- The children count how many pieces they found
- Measures the largest and smallest shard
- Compares findings with each other
- Groups by shape

General Discussion

- Together, they look for ways to put the pieces together into a whole picture
- Discussion: What could archaeologists have found in ancient times?

Reflection

What did the children learn?

Discuss what the children have learned about the work of archaeologists.

Mathematical Skills Applied

What did they have to **count**, **measure**, **compare** while doing?

Key Learning Outcomes

Scientific Thinking

Children developed investigation skills through hands-on archaeological exploration, learning to observe, hypothesize, and draw conclusions from their discoveries.

Mathematical Skills

Practical application of counting, measuring, comparing, and classification skills in a real-world context that made learning meaningful and engaging.

Collaborative Learning

Working together to piece together fragments and share discoveries fostered communication skills and cooperative problem-solving abilities.

This archaeology lesson successfully combines **STEM education** with creative exploration, giving children a memorable hands-on experience that develops both academic skills and curiosity about the world around them.

#2

Music with STEAM

An innovative educational approach combining music, science, technology, engineering, arts, and mathematics to develop hearing and rhythm skills through hands-on creative activities.

Educate Hearing

Develop auditory skills through sound exploration and musical instrument creation.

Rhythm Feeling

Build rhythmic awareness through listening, playing, and movement activities.

Creative Making

Construct musical instruments using everyday materials and household items.

Musical Activities Progress

1

Christmas Tree Greeting

Body movement greetings with individual attention and encouragement for all students.

2

Environmental Sounds

Exploring sounds around us, demonstrating musical instruments, and creating music with household items like water-filled glasses.

3

Song Recognition

Playing "Ah bean" song and singing together after instrument demonstration.

4

Rhythm Practice

Repeating rhythmic patterns with V. Kernagis "Children under the lilies" performance.

5

Instrument Creation

Making "playing cups" using disposable cups, crepe paper, and rubber bands.

6

Musical Performance

Playing Leo Delibes' Pizzicati from "Sylvia" with improvisation elements.

7

Art Integration

Creating artwork with colored water and pipettes while listening to "Two Paces," responding to music tempo through painting techniques.

Reflection & Self-Assessment

Discussion & Evaluation

Students reflect on their learning experience, discussing their performance, moods, and overall well-being throughout the musical activities.

Color System

Colored pencils used for emotional assessment

- Red pencil - High enjoyment and positive emotions
- Green pencil - Moderate engagement and satisfaction
- Yellow pencil - Basic participation and neutral feelings

> This assessment method helps children express their emotions and evaluate their enjoyment of the STEAM music activities, fostering self-awareness and communication skills.

#3

Learning Math Together with STEAM

Developing mathematical skills through hands-on activities that encourage creative problem solving and real-world application.

Health & Physical Education

Active learning through movement and outdoor exploration

Science Education

Investigation and discovery using natural materials

Mathematical Education

Number recognition, comparison, and problem-solving skills

Critical Thinking Skills

Comparing quantities, classifying objects, and identifying patterns in the natural world.

Creative Competence

Predicting outcomes, experimenting with tools, and developing innovative problem-solving approaches.

Project Activities & Achievements

01

Team Formation

Children draw colored wooden sticks to form teams and find their designated work areas.

02

Nature Diagram

Create diagrams using natural materials, comparing quantities and discussing size differences.

03

Weight Investigation

Find, weigh, and record various items from the kindergarten area using measurement tools.

04

Addition & Subtraction

Discover math problems in sawdust, solve using pebbles, and record results on wooden boards.

Tree Trunk Measurement

Measure marked trees and record thickness measurements on wooden boards.

Scavenger Hunt

Find specific items: short branches, spotted stones, wooden objects, grass stalks, and more.

Reflection & Assessment

Success Symbol

Tree leaves represent activities that felt easy and successful for each child.

Challenge Symbol

Stones symbolize activities that were too difficult or challenging to complete.

Quiet Reflection

One minute of silent thinking about the day's mathematical discoveries and experiences.

> *"Did you like the activity? Was it interesting? Was it too difficult?"*

Children share their thoughts and feelings about the STEAM learning experience, helping educators understand engagement levels and adjust future activities accordingly.

#3

Galaxy Colors

Objective: Create galaxy color effects using various media and develop children's creativity

Materials

- Clear jars with lids
- Galaxy paints: blue, purple, pink, black
- Cotton wool
- Water & glitter

Tools

- Brushes or mixing sticks
- Disposable paint cups
- Pipettes or spoons
- Gloves (optional)

Learning Achievements

Spoken Language

Talking to others about what one knows

Environmental Knowledge

Interested in celestial bodies, stars and planets

Creativity

Comes up with interesting ideas, different ways of doing things

Introduction Activity

Discussion Questions

- "How do you imagine a galaxy?"
- "What color is it?"
- "What do celestial bodies look like?"

Visual Learning

Show real photos or videos of galaxies

Explain space isn't just black - galaxies are colorful

Creating Your Galaxy

01

First Layer

Fluff cotton wool, place in jar. Mix water with chosen color, pour onto cotton using pipette

02

Stars & Sparkles

Sprinkle glitter on painted cotton. Add white paint for space mist effect

03

Layer Building

Repeat: add cotton, pour different colored water, sprinkle glitter until jar is full

04

Final Touch

Gently shake to mix colors. Close lid, decorate with star stickers

Reflection Questions

"What was most interesting about this process?"

"Which color did you like most?"

"How could we improve our galaxy next time?"

Learning outside: nature inspired art

Lesson plans

#1

Math and Teamwork with Shapes, Colors, and Animals

Teamwork

Working together in collaborative teams

Math Skills

Numbers 1-20, addition, and subtraction

Recognition

Identifying shapes and colors accurately

Spatial Awareness

Understanding left, right, forward, backward directions

Materials & Assessment

Required Materials

- Animal figures: lion, bear, horse, goose
- Cardboard snake head
- Math problem cards
- Colored geometric shapes
- Speaker for music

Assessment Focus

- Math task participation
- Counting, adding, subtracting 1-20
- Shape and color identification
- Collaborative teamwork skills

Introduction & Warm-Up Activities

01

Greeting & Organization

"Good morning! Let's line up by height and count how many are here today."

02

Lesson Preview

"Today we'll draw a snake in snow using colorful shapes for the Year of the Snake 2025!"

03

Movement Warm-Up

Directional movements: forward, backward, left, right. Hand exercises switching positions.

04

Math & Shape Review

Count 1-20, identify date (February 20, 2025), recognize geometric shapes and colors.

Main Activity: Team Math Challenge

1	**Team Formation** Divide into four teams with assigned captains representing different animals.
2	**Math Task Instructions** Each member gets a card to solve. Use snowballs for help if needed.
3	**Teamwork Emphasis** "Help teammates who need assistance - we do everything together!"
4	**Completion & Rewards** Find numbers on Christmas tree, place cards by animal symbols. Winners get candy, others get cookies.

Drawing the Snake Together

> "Since 2025 is the Year of the Snake, we will now all draw a big snake in the snow together."

Horse & Goose Teams

Start drawing the snake's head and tail first

Bear & Lion Teams

Follow with middle sections of the snake body

Marina and Helen will guide each child to select the correct colored shape and place it on the snake drawing.

Conclusion & Reflection

Snake Completion

"Our snake is ready! Let's compare it to the picture. Do you think you put all the correct shapes in place?"

Celebration

"You are all wonderful children and you know math so well! Now, let's dance a little."

Estonian Folk Dance

Traditional Estonian folk music plays while children follow snake-like dance movements, celebrating their learning achievements.

Learning Through Play

Math Mastery

Students practiced counting, addition, and subtraction while having fun with hands-on activities.

Teamwork Success

Collaborative problem-solving built communication skills and mutual support among peers.

Creative Expression

Combining art, movement, and cultural traditions made learning memorable and engaging.

#2

The Fun Path

An integrated learning adventure combining nature exploration, movement, language, and mathematics through engaging outdoor activities.

Cognitive Skills

Children develop observation skills by identifying tree types and discussing seasonal changes in nature.

Physical Development

Improve coordination through engaging movement activities and outdoor games.

Social Interaction

Encourage teamwork and communication through collaborative outdoor group activities.

Linguistic Growth

Expand vocabulary and practice descriptive language skills in a natural environment.

Mathematical Concepts

Recognize numbers and classify objects by shapes during outdoor exploration.

Materials & Assessment

Required Materials

- Number cards to hang on trees
- Buckets with triangle and square markings
- Soft snowballs for games
- Gloves with matching patterns
- Music for exercises and activities
- Visual aids (tree pictures or branches)

Participation

Observe children's enthusiasm and active engagement in all activities

Tree Identification

Ability to correctly identify trees and classify pine cones by type

Language Skills

Success in rhymes, vocabulary exercises, and descriptive language use

Movement Success

Performance in physical activities and coordination challenges

Learning Activities

> *"Hello, hello, children, Girls and boys. Hello, hello, friends. Hello, hello to everyone."*

01

Morning Exercises & Tree Observation

Children do exercises with music, observe cedar, spruce, and arborvitae trees. Take numbers from trees and identify coniferous vs. deciduous.

02

Snowman Game & Needle Comparison

Pass snowballs in circle, build snowman when music stops. Compare cedar (long) and spruce (short) needles.

03

Cone Collection Challenge

Girls collect pinecones in triangle bucket, boys collect spruce cones in square bucket. Practice shape recognition.

04

Apple Tree & Glove Matching

Identify deciduous apple tree, discuss winter leaf loss. Find matching glove pairs based on patterns.

05

Tree Height Comparison

Learn tall-short concepts. Recite tree poem about growth and forest life.

06

Hawthorn Discussion & Musical Game

Talk about hawthorn fruits eaten in autumn. Play "Sing, Crow, a Quiet Bird" musical game.

Reflection & Learning Outcomes

What Have We Learned?

Children reflect on tree identification, seasonal changes, number recognition, and nature observation skills developed through hands-on activities.

How Did You Like It?

Students share their favorite moments from the outdoor adventure, discussing which games and activities they enjoyed most.

Key Achievements

- Distinguished coniferous from deciduous trees
- Practiced mathematical concepts through games
- Enhanced vocabulary with descriptive language
- Improved coordination and teamwork skills

Success Indicator: Children actively participated, demonstrated learning through play, and showed enthusiasm for nature-based education activities.

#3

Water Properties & Phonetics Learning

Pronunciation Skills

Develop clear speech and sound recognition through interactive activities.

Breathing Techniques

Enhance respiratory control and create positive learning atmosphere.

Water Properties

Explore scientific concepts through hands-on freezing experiments.

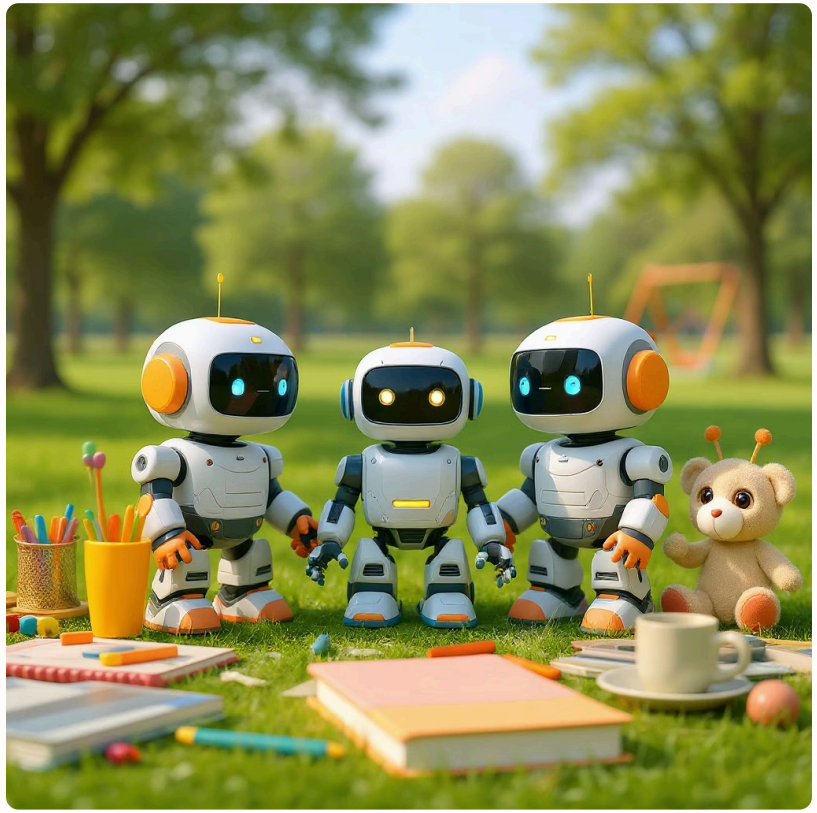
Learning Materials & Assessment

Required Materials

- Word cards with pictures
- Two Rugger robots
- Frozen colored water in cups
- Ice cube trays

Assessment Criteria

- Participation and engagement levels
- Pronunciation accuracy
- Understanding of water properties



Interactive Learning Activities

01

Rhythmic Greeting Circle

Children practice pronunciation by tapping knees and greeting each other with varied volume levels.

02

Morning Rhyme Recitation

Gradually increase volume from soft whispers to build breathing control and engagement.

03

Robot Word Recognition Game

Split groups use colored caps, program robots to match pictures with words, forming "SÜNNIPÄEV" (Birthday).

> **Special Discovery:** The letters spell Estonia's 107th birthday celebration!

Ice Experiment & Birthday Celebration

Water Transformation

Children observe how liquid water becomes solid ice, discussing temperature effects and physical properties.

Ice Cake Creation

Students examine, count, and compare ice cubes before building a special birthday cake for Estonia.

Movement Game: "1-2-3-4 – Jump! 6-7-8-9 – Jump!" combines physical activity with number recognition.

Learning Reflection

How did you like the activity?

Students share their favorite moments and express enjoyment of the hands-on learning experience.

What have we learned?

Reflection on pronunciation skills, water properties, Estonian culture, and collaborative problem-solving.

This integrated approach combines language development, scientific exploration, and cultural awareness through engaging, multi-sensory activities that celebrate learning.

#4

Traffic Safety and Nature Exploration

A comprehensive lesson combining essential life skills with creative learning through nature exploration and phonetic development.

Traffic Safety

Teaching proper road crossing behavior and safety awareness

Self-Regulation

Developing cooperation skills and safe movement outside kindergarten

Vowel Recognition

Reinforcing A, E, I, O, U sounds and word identification

Nature Discovery

Forest animal bingo and creative art with natural materials

Materials & Assessment

Required Materials

- Forest animal pictures
- Bingo cards
- Natural materials (pine needles, cones, branches)
- Snow (if applicable)
- Art creation space

Assessment Focus

- Participation and engagement levels
- Traffic safety understanding
- Vowel sound recognition ability
- Bingo game completion
- Art project contributions

Lesson Activities Overview

1

Warm-up (10 min)

Count boys and girls, perform gestures, practice counting aloud

2

Road Safety (10 min)

"Look right, left, and right again" - practice crossing behavior

3

Vowel Sounds (10 min)

Introduce A, E, I, O, U with cards and word identification

4

Forest Bingo (20 min)

Pairs find hidden animal pictures, mark bingo sheets

5

Outdoor Learning (15 min)

Collect natural materials, create group artwork, snow angels

Lesson Conclusion

Reflection Time

Gather children to discuss what they learned during the lesson

Sharing Favorites

Encourage children to share their favorite part of the day

> "When crossing the road, I always look right, left, and right again. I ensure there are no cars or that cars have stopped."

Learning outside: fostering nature

Lesson plans

#1

Give a Second Life to Things

An engaging outdoor lesson plan for young learners aged 3-7, combining social studies, cultural understanding, arts expression, and technology through creative recycling activities.

Learning Through Play & Recycling

Main Objective

Promote understanding of material recycling through hands-on creative activities

Creative Materials

Sock puppet, balloons, paper rolls, plastic bottles, straws, glue, coasters, and paints

Age Group

Designed for children ages 3-7 years with developmentally appropriate activities

Lesson Flow & Activities

01

Circle Time Introduction

Greeting with sock puppet Zuzi - children share names and learn about waste sorting through storytelling

02

Discussion & Questions

Teacher guides conversation about waste creation, packaging disposal, and creative material reuse

03

Hands-On Creation

Children choose materials and work areas to create their own musical instruments from recycled items

04

Sharing & Reflection

Circle time to present creations, discuss materials used, and receive teacher feedback

Building Environmental Awareness

Teacher's Role

- Facilitate storytelling with sock puppet
- Guide waste sorting discussions
- Support creative instrument making
- Provide encouraging feedback

Children's Learning

- Understand recycling concepts
- Express creativity through art
- Develop fine motor skills
- Practice sharing and presentation

This lesson successfully combines environmental education with creative expression, helping young learners understand the value of giving materials a second life.

Reflecting on Our Creative Journey

These questions are designed to help young learners articulate their experiences, understand the impact of recycling, and foster a deeper connection to environmental stewardship.

How did it feel to make music with your new instrument?

What did you learn about turning old things into new treasures?

How can we help keep our planet clean by recycling?

What new ideas do you have for giving things a second life?

#2

Friends of Nature

An engaging outdoor lesson plan designed for 4-5 year olds to explore materials and learn environmental responsibility through hands-on activities.

Subject Area

Nature & Environmental Science

Age Group

4-5 years old

Setting

Outdoor learning environment

Learning Objectives & Materials

What Children Will Learn

1 Material Exploration

Explore and identify objects made of plastic, paper, and glass through hands-on activities.

2 Sorting Skills

Learn to distinguish materials and sort them correctly based on their unique characteristics.

Required Materials

- Sortable materials (paper, plastic, glass)
- Sorting containers
- Paper scraps for art activities
- Cardboard box
- Plastic bags
- Feather and stone
- Picture cards

Lesson Activities

1

Introduction with Pigman

Teacher arrives in costume with a sad flower, explaining environmental concerns. Children listen and respond to questions about caring for nature.

2

Litter Collection

Children pair up, receive trash bags, and collect litter around the schoolyard following safety rules and teamwork guidelines.

3

Material Identification

Groups discuss collected items, identifying paper, plastic, cardboard, and glass materials through observation and discussion.

4

Sensory Exploration

Children reach into mystery box, explore objects by touch, and describe properties: hard/soft, light/heavy, different sounds when tapped.

5

Group Rotations

Three groups rotate through activities: playing sorting games, categorizing by weight, and experimenting with materials in water.

6

Final Sorting

Children sort collected waste into appropriate colored containers, learning proper waste management practices.

Reflection & Assessment

Key Questions

- What materials did we work with today?
- Why is it important to sort waste?
- Do I sort waste correctly?
- What else would I like to learn?

Teacher Feedback

Provide specific feedback on task performance and environmental awareness demonstrated by each child.

Celebration

Children receive stickers as the happy flower thanks them for cleaning nature, reinforcing positive environmental behavior.

> "The flower is happy and thanks the children for tidying up nature so that it can grow big, beautiful, and healthy."

#3

Nature in My Wardrobe

An outdoor art lesson introducing 6-7 year olds to natural materials in creative expression through eco-printing on fabric.

Learning Objectives & Materials

Primary Goal

Introduce children to using natural materials in art through hands-on eco-printing techniques.

Essential Materials

- Placemats and T-shirts
- Fresh greenery (flowers, leaves, grass)
- Wooden discs and small hammers
- Transparent tape and scissors

Lesson Activities

01

Morning Circle

'Kind Words Chest' activity with chestnut passing. Children share positive observations about each other's actions and good deeds.

02

Action Rhyme

Counting game. Review previous eco-printing knowledge and work sequence together.

03

Creative Process

Arrange plants on T-shirts, use wooden discs to press materials, apply tape, and observe natural printing results.

04

Gallery Walk

Display finished artworks, tidy workspace, and describe observations about friends' creative pieces.

Reflection & Closure

Student Sharing

Children sit in circle with the chestnut, sharing:

- What went well today
- What brought them joy
- What surprised them

Teacher Feedback

Provide observations-based feedback to children and express gratitude for their creative work and participation.

#4

Researchers in Water: Discover and Explore

An engaging outdoor lesson for 6-7 year olds exploring water purification, filtration, and natural processes through hands-on experiments and creative activities.

Subject Area

Nature Studies

Age Group

6-7 years old

Setting

Outdoor learning environment

Learning Objectives & Materials

Water Purification Understanding

Foster children's comprehension of water filtration and purification processes through direct observation.

Practical Skills Development

Encourage hands-on experimentation and collaborative teamwork through engaging activities.

Scientific Observation

Develop observation, reasoning, and understanding of natural processes in action.

Creative Expression

Encourage creativity and sensory development through mud painting and paper flower activities.

Essential Materials

Filtration Setup

- 5 plastic cups with holes
- Straws for connections
- Stones, gravel, soil, sand
- Cotton for filtering

Creative Activities

- Water and spoons
- Paper for origami flowers
- Small containers and bowls
- Work surface protection

Lesson Procedure

1

Introduction & Demonstration

Teacher: Introduces water purification concepts, demonstrates filtration system setup

Children: Listen, ask questions, share thoughts about clean vs. dirty water

2

Hands-On Filtration

Teacher: Assists with material arrangement, monitors safety, asks guiding questions

Children: Build filtration systems, arrange materials in cups, connect with straws

3

Mud Art Creation

Teacher: Demonstrates mixing water with soil, encourages creative exploration

Children: Create human silhouettes, experiment with mud consistency, make drawings

4

Paper Flower Activity

Teacher: Shows flower cutting technique, facilitates water interaction discussion

Children: Cut flowers, place in water, observe opening process, discuss changes

Reflection & Learning Outcomes

Key Reflection Question

"What have we learned about water today?"

Water Purification Discovery

Children understand how different materials filter water and observe which materials clean water most effectively.

Scientific Process Skills

Students develop observation abilities, draw conclusions from experiments, and understand cause-and-effect relationships.

Creative Material Exploration

Through mud art and paper flowers, children discover how water transforms materials and affects their properties.

Collaborative Learning

Working together builds teamwork skills while fostering curiosity about natural processes and environmental science.

“The best classroom and the richest cupboard is roofed only by the sky.” – Margaret McMillan