LESSON PLAN

LET'S LEARN TO SORT - LET'S SAVE THE EARTH



Subjects: Science, Mathematics, Design and Technology
Age Range: 5-6 years

Actuality/ problem to be solved: When waste is thrown on the ground, animals and plants are hurt. A piece of glass can even start a fire with the help of sunlight. What can we do to keep our yard clean?
NB: When we talk about garbage or waste in this plan, the concept of garbage/packaging waste is clean, washed various packaging, jars, unnecessary clothes, shoes etc. = recyclable materials

Message for the Child:
Nature is our home. It's good to live when everything is clean.

Planned Activities:
Part 1 -Exploration (Introductory conversation (5 min.) A teacher demonstrates waste. Children watch a video about garbage sorting. https://www.youtube.com/watch?v=OYeIYI1-CG0 (video in Lithuanian) _ (10 min.)
- Exploring the kindergarten territory);

Part 2 - Problem solving – waste/recyclable material collection; Children repeat/return to the ideas discovered playing Kahoot game (10 min.)
Part 3 - Outdoor Lesson (Active game "Count the packaging waste/ garbage units and create a bar chart".
- Creative work from recyclable materials);

Part 4 Conclusions/ Reflection

Knowledge and skills to be acquired:
- To introduce children to waste sorting.
- To develop fine and gross motor skills.
- To develop teamwork skills.
- To promote nature conservation.

Children will learn:
- Sort waste.
- Recognize materials.
- Understand that the cleanliness of nature depends on each person.
- Move, cooperate, think.

Required Resources/equipment: 7 colored boxes or buckets:
- Blue – paper
- Yellow – plastic
- Green – glass
- Brown – mixed
- Compost bin – green waste
- Textile bin – clothes, shoes, fabric toys
- Construction waste – boards, sticks
- Clean packaging waste: plastic containers, boxes, newspapers, bags, plastic yogurt containers, glass containers.
- Gloves for children, pictures with garbage, rulers, hammers, nails, and tablets.

STEAM outdoor activity centre - STEAM activity center

Part 1 – Exploration | 2 lessons

Expected Learning Outcome	• Children learn about the damage that waste does to nature • They get to know different types of waste • Learn to sort the waste/recycled materials STEAM alignment (S/T/E/A/M): S – observe how waste affects nature; classify materials. T – use video + Kahoot/tablets to test understanding; take photos of 'before/after' yard for evidence. E – follow a sorting 'process' (collect → identify → choose bin → justify). A – create Garden Guardian M – compare quantities by category (more/less), prepare for counting and bar chart in later parts.
Engagement:	**(Activity inside).** Conversation with children about garbage sorting, the danger it creates to humans and nature. A teacher demonstrates slides to the children about the issue. Children play a Kahoot game (each child has a tablet). Children's answers are individual. Šiukšlių rūšiavimas - Details - Kahoot! (Lithuanian) Kahoot game questions with pictures about garbage sorting, the meaning of the colors of garbage containers. How to prepare garbage to become a recyclable material. What garbage is the most dangerous for nature? (batteries, electronic waste, chemical waste) Why are they the most dangerous? What can be done to reduce the amount of garbage thrown away? (Possible hints might be: If possible, use wired devices instead of battery-operated ones. Whenever possible, buy food products in paper packaging, not plastic, etc.) **Expected actions (Teacher):** model thinking aloud; invite multiple answers; record key ideas on a visible chart. **Expected actions (Children):** share experiences; predict outcomes; answer Kahoot individually; explain choices with 'because…'. **Idea-generation questions (open-ended):** • 'What do you think will happen to plants/animals if this stays here?' • 'How is this material different from the others?' • 'Which waste is the most dangerous and why?' • 'What could we do so there is less waste in the first place?'
Making assumptions	A teacher shows after a strong wind that scattered waste …. the untidy kindergarten area with scattered waste. In our case "waste" should be cleaned packaging (recyclable materials) and children should wear the safety gloves mentioned in the resource list. A teacher tells the children: - "Our yard is sick because it is full of waste, how can we help it?" The children suggest collecting and sorting. Research – "Let's recognize waste - let's learn to sort it". (outdoor activity) Activity "Sort and save". Children with gloves collect waste and put it in the appropriate boxes. The teacher helps and asks, "Where will we put this bottle?", "What color box is suitable for paper?". We find out why we need to sort waste. (So that waste can be recycled). **STEAM methodological recommendations:** S – encourage noticing: texture, weight, transparency, smell (clean). T – optional: use a simple digital timer to gamify sorting; photograph tricky items for later discussion. M – keep a tally mark sheet per bin (later used for the bar chart). Inclusive participation: if a child has mobility limits, let them chose roles such as 'bin captain' (points/labels), 'photo reporter', 'tally recorder', or 'item identifier' at a stationary station or assign a student assistant to the child.

Making assumptions	**Idea-generation questions:** • 'What clues help you decide where it belongs?' • 'If we put it in the wrong bin, what problem might happen?' • 'How could this be reused instead of thrown away?'
Comparison and evaluation	Children compare the yard area, tidy and full of garbage/ packaging waste. How can life be more fun? **Higher-order thinking prompts (analysis/evaluation):** • 'What changed in the yard because of your actions?' • 'Which bin filled fastest—what does that tell us about habits?' • 'What rule should our group follow every day to keep the yard healthy?'

Part 2 - Implementation of the Plan | 1 lesson

Expected Learning Outcome	Children understand that there are different types of waste/garbage. They understand that each type of waste has its own place. Sorting helps nature: pollution decreases, nature becomes cleaner, and sorted waste can be recycled and reused. There is less waste in landfills. STEAM alignment (focus in this lesson): S – explain 'recycling' and 'pollution decrease' with cause–effect language. M – compare quantities and represent data (bar chart). T – use tablets for Kahoot repetition; optionally photograph team charts for documentation.
Engagement	Nature is our home. It's good to live when everything is clean. **Expected actions (Teacher):** connect message to today's actions (What will we do differently after snacks?'). **Expected actions (Children):** state one personal commitment (e.g., 'I will put paper in blue').
Choosing the design of the plan	**Resources needed:** 5 colored boxes or buckets: Blue – paper Yellow – plastic Green – glass Brown – mixed Compost bin – green waste Textile bin – clothes, shoes, fabric toys Construction waste. Clean packaging: bottles, boxes, newspapers, boards. Gloves for children, pictures with trash, rulers, hammers, nails. **Methodological recommendation (Engineering mindset):** before starting, agree on team roles (collector, sorter, counter, chart builder, materials manager) so the activity stays organized and equitable.
Developing / constructing the plan	**Planned activities:** • Introductory conversation (5 min.) Teacher demonstrates garbage • Exploration of the kindergarten territory (10 min.) • Problem solving - garbage collection and sorting. (learning to sort garbage) (10 min.) • Active game "Count the garbage/packaging waste units and create a bar chart ". (repetition of knowledge) (10 min.) • Creative work from recyclable materials when children „Create a Garden Guardian "(20 min.)

	The teacher tells and demonstrates examples of what a “Garden Guardian” might look like. She explains the steps on how to make a “Garden Guardian”. (see Power Point presentation.) Long-term experiment „A year challenge – What decomposes faster? “(a teacher together with children burry small pieces of different types of waste underground so in a year they can excavate them out and see the decomposition process) • Reflection (10 min.) **Idea-generation questions:** • ‘What do you predict we will find the most of today? Why?’ • ‘How can we show our data so others understand quickly?’ • ‘What makes a design strong enough to stand outside?’
Evaluating the work	Discussion on how successful it was in collecting the waste, was it difficult to sort it out correctly? Let’s think about what kind of waste you find the most. And what kind of waste do people throw away the most?

Part 3 — Practical / Outdoor Lesson | 1 lesson

Expected Learning Outcome	Children will understand that what has already been used can be reused and there is no need to rush to throw it away. These interesting and useful things can be made from recyclable materials.
Engagement	With the first active game, children will remember how to properly sort waste. They will learn how to give waste a second life. **Teacher action:** explicitly bridge sorting → reuse: ‘We sorted so these materials can have a second life. Now we will transform them into something useful.’
Practical part (hands-on activity)	1.Active game “Count the packaging waste/garbage units and create a bar chart “. We divide the children into four teams, with five children in each. We give each team a box of collected packaging waste/garbage. The children have to count the waste units and arrange them in a bar chart. Compare and summarize which ones are more and which ones are less. 2. Let’s bring the collected waste to a second life. Creative teamwork (5 children and 1 adult per team, in total 4 teams) “Garden Guardian”, which protects our vegetables, fruits and berries from birds. It is proposed that the teams create a Garden Guardian from the collected waste/ recyclable materials. Each team of children with an adult helper has create their own „Garden Guardian“ Questions to children: Have you ever seen a scarecrow, let’s call it a Garden Guardian? Do you know its purpose in a garden/plant bed? How it might look like? (Children share their opinion and ideas). A teacher shows the model, picture or layout of the scarecrow „Garden Guardian”. A teacher explains in what ways it might be created. Emphasizes that a solid frame is very important; then how to cover it with outgrown clothes, then how to fix a ‘head’ and objects that make a noise in the wind. The Teacher with children discuss about materials and tools that they will need to make a scarecrow (discussing about boards; nails; scissors; ropes; axles; recyclable materials). Creative work must meet the following the certain criteria: Discuss the criteria: It must stand when placed in the plant bed. • Make a sound from the wind. • The height of the garden guardian is 1 meter • Come up with a name for the garden guardian and write it down.

	• Find a place for him in a bed on the territory of the kindergarten and take a picture. Children find a place for the made “Garden Guardian” in the kindergarten and test whether their creation meets all the criteria. Is it standing in the ground? Is the product 1 meter high? Does it make a sound when the wind blows? If there is no wind at that time, the children’s task is to come up with their own way to make artificial wind and test their product. (Children stand on one side of the “Garden Guardian” and wave cardboard sheets up and down, thus causing the wind). Children offer their own options for how else artificial wind could be caused and test their ideas. Idea-generation questions (during building): • ‘What will make it stand firmly in soil?’ • ‘Which materials move easily in wind?’ • ‘How can we make sound without harming nature?’ • ‘If it falls, what can we change first: base, height, or weight?’ Algorithmic thinking prompt (simple rule set): IF it doesn’t stand → strengthen base; IF it’s not 1 m → adjust length; IF it makes no sound → add moving parts.
“Circle” - reflection and discussion	The teacher asks the children: - “What did we do today? What does the yard look like now? How can we help the yard every day? What did you make from recycled materials? What is the purpose of the garden guardian you made? (We want there to be berries left for people too.) Reflection questions aligned to STEAM: • S: ‘What did we learn about materials and nature today?’ • E: ‘What did we change after testing? Why?’ • M: ‘How did measuring help our build?’ • A: ‘How does the look of our guardian help its purpose?’ • T: ‘How did we use tablets/photos to help our learning?’

Part 4 - Conclusions

Feedback	The teacher monitors the children’s participation and engagement. Understands whether the children have learned to sort waste/recycling materials and why it needs to be collected. Children reflect: Which part of the activity did you like the most? What did you do with the recycling materials today? Was it easy to find the waste/recycling materials outside? How was the creative work?
Observation and improvement	Every time you throw away the leftover drawing paper, the teacher will ask: “Where does paper live?” After snacks, look together at where to throw away the packaging. We will make the children “sorting guards” for a day or a week. We will organize an exhibition of children’s drawings: “What I do to protect nature.” Regularity = forms habits.

https://www.youtube.com/watch?v=OYeIYI1-CG0



Kahoot game site Šiukšlių rūšiavimas - Details - Kahoot!

Power point demonstration

What can be the guardian of the garden?



- Big, colorful, cheerful



- Garden guardians made from old things!


MA*S*H
4077TH


PORK & BEANS
olgers
Maxwell House





How to make a garden guardian?

- 1. Stick – body
- 2. Old clothes
- 3. Bags – hair
- 4. Paper face
- 5. Hat!



