TRAINING **MATERIAL (PART I)**

Training programme for teachers in-service "Holistic approach for biodiversity teaching in general secondary education in Latvia or gymnasium in Lithuania (grades 10-12)"

**Erasmus+ Small-scale Partnerships project "BioSustainED: Teacher Capacity Building in Biodiversity"**
**Project No** 2023-2-LV01-KA210-SCH-000170510

**Partnership:**
Natural Research and Environmental Education Centre (Latvia)
Miško Briedžio mokykla, MB (Lithuania)

**Project activity:** Development of teacher training programme and training material.

**The Content**
I. Interdisciplinary Integration of Language, Arts and Natural Sciences: the Language of Nature. Presentation. Slide 3.
II. A schoolyard transformation: more green or practical? Presentation for interactive role play game.
III. Diverse micro-world: guided tour to the Laboratory.
IV. Biodiversity of waterbodies: calculation & identification.
V. A World Café Method (can be used for feedback collection from participants).

You can download the materials developed during project:  LV        LT

# Interdisciplinary Integration of Language, Arts and Natural Sciences: the Language of Nature

Jolanta Liubkevic

**INTEGRATION** (lat. integratio – renewal, restoration), a concept of systems theory, meaning the process of linking individual parts or elements into one system or whole and its result. Integration can refer to the internal state of one system or the incorporation of that system into another, broader system.

Various levels of integrated systems and their relationships can be distinguished.
The process of integration can be forced, natural, beneficial and different.

**Generation Z – technology generation**

1995-2012 (12 years - 29 years)

This generation is ready to conquer the world.
It is also called the Google generation because it is constantly searching for information, interested in innovations and knows where to find them.

Parents encourage their children with money, sometimes there is a lack of sincere communication in the family.

Children's free time is related to computer technology.

Its representatives are good at managing information, but they process it differently than previous generations: faster, but only in small quantities.

Also, they are characterized by the ability to perform several tasks well at the same time.

The generation does not like coercion, long sermons and strict rules and restrictions. A person who provides children with knowledge that they cannot find on the Internet becomes an authority.

**Learning** is an interactive, dynamic search process in which a new understanding of oneself and the surrounding world is born through exploration and interaction with the environment.

Neuroscientific research has long since shown how pleasant experiences work in the brain - the neurochemical element dopamine is constantly involved in them.

*Arthur Paul Shimamura, University of Berkeley*

*Professor of Psychology and Cognitive Sciences*

How can we harness this brain reward circuit for learning?

Scientists conducted a study in 2014 that tried to observe how certain states of curiosity affect the release of dopamine and what the brain looks like when a person is overwhelmed by curiosity. Study participants were asked to rate various questions about the intensity of curiosity. For example: What does the term "dinosaur" really mean? (the answer, by the way, is a scary lizard).

Those questions that aroused the greatest curiosity among the study participants also appeared to be the most brain-burning. Interestingly, the brain worked more intensively when hearing the question than the answer.

One might think that the "reward circuit" that moves dopamine in the brain is activated not so much by knowing the answer, but **by the very desire to learn and find out**. At a later stage of the study, the participants remembered better those questions that raised their curiosity.

The possibilities for integration are **immense**. Sometimes we don't notice them in the simplest things we teach in our day-to-day classes.

# a) LITERATURE INTEGRATION

In the integrated lessons of Lithuanian language and literature, theater and natural sciences, we first choose a work that will allow us to talk about nature, its people and the environment of human thinking.

**Process:**

Ten principles of suggestion are analyzed in theater classes.

A selected work is analyzed in Lithuanian literature lessons.

If we integrated science lessons, they would discuss environmental

protection, human impact on nature, pollution, etc.

**"The Forest of AnykšČiai"** is a metaphor for the dramatic fate of Lithuania, an unconquered homeland, and a song about the beauty of Lithuanian forests.

**What is the poem about?**

The poem aims to evoke an emotional aesthetic impression, it depicts an already extinct heather, the image of which opens up in the inner world of the creator.

Deforestation is associated with the decline of the nation's morale and the invasion of foreigners.

In the poem, the forest is the equivalent of the nation's spiritual (moral) state, associated with human values. The images of spiritual fertility (wealth, fullness) are contrasted with the image of poor, "bare areas".

The relationship between forest and nation, forest and man is depicted.

Therefore, the poem provides a discussion about the relationship between man and nature, the spirituality hidden in nature, the importance of nature for human life and spiritual state.

*The task of the integrated literature and theater lessons*: working in groups, **create a video** promoting Baranauska's "The Forest of Anykščiai" and a billboard, a**nswering the question of why it is worth publishing and reading this work abroad to foreign publishing houses**. **Sell the topics, problems and culture** covered in the author's poem at the "Let's get to know and love Lithuania" fair held abroad. In the promotional video, you **must discuss at least five specific episodes described in the poem, analyze them and interest the listeners in the personality of Baranuskas**.

Come up with clever and provocative questions for your competitors (other groups presenting the piece).

[https://drive.google.com/file/d/1votsZUqJ1IFaQGrHOrhKdWq7ywC6ZLw2/view?usp=drivesdk](https://drive.google.com/file/d/1votsZUqJ1IFaQGrHOrhKdWq7ywC6ZLw2/view?usp=drivesdk)

After the presentation, the students evaluate the work done, **look for symbols** important to the theater, for example, what was wanted to be said when creating the image of people singing on stones or a blindfolded girl, how it is **connected to the analysis** of the work.

## If we integrated science lessons…

For example, students may be asked to actualize the problems of the work in the video, to talk about modern man in nature, to reveal the differences and similarities between the lyrical subject and modern man's approach to nature.
It is possible to ask whether the problem of the broken relationship between man and nature seen in the work is relevant for the people of today? Does the environment around us reflect our values, lifestyle?
Then the discussion will move not only in the direction of theater and literature, but also in the direction of natural sciences.

# b) MATH AND MUSIC INTEGRATION

$$7^2 \cdot 7^3 \cdot 7^1 \cdot 7^4 \cdot 7^2 \cdot 7^4 \cdot 7^6 \cdot 7^5 \cdot 7^3 = 7^{2+3+1+2+4+6+5+3} = 7^{26}$$

$$7^6 \cdot 7^4 \cdot 7^3 \cdot 7^1 \cdot 7^5 \cdot 7^5 \cdot 7^7 \cdot 7^3 = 7^{6+4+3+1+5+5+7+3} = 7^{34}$$

$$7^{26} < 7^{34}$$

You will now hear an audio track created by children that tells the story of how a strangler helped a panda escape from a zoo in math steps synchronized with music.

https://drive.google.com/drive/u/0/home
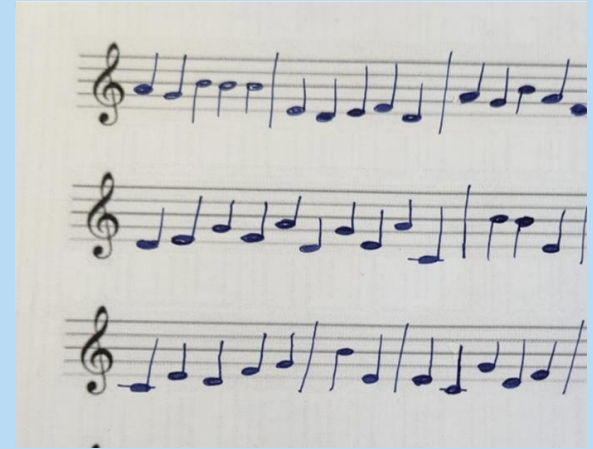
**How can music help talk about environmental issues?**

We can offer children to consider a chosen environmental issue using sounds. They can **create a soundtrack** to illustrate that issue or **play live**, analyzing what the emotion of the sounds they create means and how it relates to the issue at hand.

Also, children can **choose an already created song** that they associate with the topic and problem discussed in the lessons, indicate which sounds or words of the song open associations with the chosen problem, and perhaps solve it.

# c) ENGLISH LANGUAGE INTEGRATION

English Language is a very grateful subject to be integrated with other subjects as it covers all the aspects of life.

**English, environmental protection and applied arts: Sustainable Fashion**

The integration requires three classes:

A class in English Talking about clothes, patterns, materials (depending on the student level the vocabulary may vary).

## Reading and vocabulary

**1 WHAT DO YOU THINK?** Look at the photos in the article and discuss the questions.

1 Would you wear these T-shirts? Why / why not?
2 What other types of T-shirt slogans do you know?
3 Slogans can sometimes be 'conversation starters'. What type of questions would you ask about the slogans on these T-shirts? What answers might people give?

**2** Read the article. According to the writer, why do people wear slogan T-shirts today?

**3** Read the article again. Match sentences a–f to gaps 1–5 in the article. There is one sentence that you do not need.

a Today the same design is used to advertise places all over the world!
b Many of these phrases promoted charities too and encouraged people to take action.
c They sold them at concerts to make extra money and promote their music.
d Photos of people in slogan T-shirts also looked great on social media.
e Stylish but pricey T-shirts by designers such as Tommy Hilfiger became incredibly popular.
f Sadly, the slogan didn't help him and he lost!

**V Insight** Clothes and fashion

**4** Study the highlighted words in the article and in exercise 3. Then match them to definitions 1–6.

1 used by someone before
2 using a style from the recent past!
3 completely new and different
4 fashionable in a way that looks expensive
5 expensive and having a famous brand name
6 typical of a period in the past and of high quality

**5** Use the adjectives in exercise 4 to describe the clothes and style of people you know.

**GS Global skills** Culture

**6** Work in pairs and discuss the questions.

1 Which of these quotes best describes your idea of slogan T-shirts and why?
  a 'These aren't my words. They're just words on a T-shirt.'
  b 'A slogan T-shirt can make you think, but then you have to act.'
2 Can protest slogans make a difference? How?
3 Some slogan T-shirts have been banned. Why might slogans be banned?
4 Are slogan T-shirts bad for the environment? How often do you think people wear them compared with plain T-shirts?

# Say it with a T-shirt

A slogan on a T-shirt can help you say a lot of things. Words grab people's attention; they can raise awareness of important issues and tell the world what you care about. They can make people think or simply make them smile. So how and why did we start wearing words?

## 1940–1950s

T-shirts were originally a symbol of youth culture. The famous Hollywood actor James Dean wore a plain white one in the movie *Rebel Without a Cause* and made T-shirts 'cool'. However, the first slogan to appear on a T-shirt was not particularly cool. 'Dew it with Dewey' asked people to vote for Thomas E. Dewey in the 1948 US Presidential elections. [ ]

## 1960s

One of the first shops to sell slogan T-shirts opened in London. It was called Mr Freedom and sold T-shirts with fun and retro designs from the 50s. People began making their own T-shirts too, using iron-on lettering to create original slogans. At the end of the 60s, slogan T-shirts became popular with pop and rock bands. [ ] Today, we still buy band T-shirts – from good-quality vintage shirts on eBay to shirts which tell people which tours we have seen.

## 1970s

Companies such as Coca-Cola started to sell T-shirts with their logo on, as a cheap way to advertise. Slogans were also used in popular fashions such as punk, which often recycled and adapted second-hand shirts. Wearing a punk-style T-shirt with a shocking slogan showed which 'tribe' you belonged to or who you identified with. The 70s also introduced the 'I ♡ NY' slogan, which advertised New York City as a great place to visit. [ ]

## 1980s

People often chose to wear slogans about social or political problems. [ ] Bob Geldof's 'Feed the world' T-shirt raised money, and Katherine Hamnett's '58% don't want Pershing' protested against nuclear missiles. These innovative T-shirts made newspaper headlines and got people talking about important issues.

## 1990s–2000s

More and more companies used slogan T-shirts to advertise their products – from football teams to chic designer fashion brands such as Ralph Lauren. People enjoyed wearing them; slogans revealed their hopes and dreams, who they wanted to be and what group they wanted to belong to. [ ] Celebrity slogan T-shirts also became fashionable, with everything from 'No photos, please' to 'I am the American dream'.

## Today

Nowadays, slogan T-shirts, especially political ones, are very popular. People like showing which side they're on. Why not consider supporting women's rights with 'This is what a feminist looks like'? Or decide to be an eco-warrior with 'There's no Planet B'? Slogans on T-shirts often argue with each other too, such as 'Make America great again' and 'America is not great'.

Slogans make short tweets, which can start a conversation or give an opinion without being interrupted. 'I really like to sit on the bus in silence,' says one person, 'but still say something with my T-shirt.'

**Grammar** Verb patterns

**Grammar Insight**

**7** Study the rules. Then add the underlined verbs in the article to the correct group.

a verb + infinitive with *to*: agree, promise, expect, need, [ ]
b verb + infinitive without *to*: shall, must, could, will, might, [ ]
c verb + *-ing*: suggest, admit, avoid, imagine, [ ]
d verbs + infinitive or *-ing*: love, [ ]

➔ Further reference and practice ➤ Workbook ➤ page 85

**8** Complete the second sentence so that it has a similar meaning to the first sentence. Use the correct form of the verbs in brackets.

1 a My friend said she'd help me choose a T-shirt.
  b My friend _____ choose a T-shirt. (promise)
2 a 'Why don't we buy a T-shirt at the concert?' said Jola.
  b Jola _____ a T-shirt at the concert. (suggest)
3 a Wearing shocking slogans is something he enjoys.
  b He _____ shocking slogans. (love)
4 a It looks like many old slogans are popular memes today.
  b Many old slogans _____ popular memes today. (seem)
5 a I never thought they'd ban the slogan.
  b I never _____ them _____ the slogan. (expect)

**9** Study sentences 1–5. What is the difference in meaning between sentences a and b?

1 a I remember buying a Disney T-shirt when I was a child.
  b I remembered to buy a Disney T-shirt for my sister.
2 a I'll never forget going to my first rock concert.
  b Don't forget to bring the tickets for the rock concert!
3 a They tried to sell T-shirts at the charity run, but not many people bought them.
  b They tried selling T-shirts at the charity run to see if they could raise more money.
4 a He stopped to look at the advert.
  b He stopped looking at the advert.
5 a I regret dyeing the T-shirt black.
  b I regret to tell you that I've dyed the T-shirt black.

**10 TASK** Complete the questions with the correct form of the verbs in brackets. Then work in pairs and discuss the questions.

1 Why might people want _____ (buy) a slogan T-shirt?
2 Have you ever chosen _____ (wear) a slogan in order to shock people?
3 Can you imagine _____ (make) a slogan T-shirt? What would it say?
4 Are there any slogans you would avoid _____ (wear)?
5 Which item of clothing do you most regret _____ (buy)?

➔ Vocabulary extra ➤ Clothes ➤ page 15

✓ **Assess your progress** Workbook page 11

▶ Watch the video *Our clothes online*

A class in applied arts about the principles of fashion.

After this class the students get a task: use your/your family's old clothes to create new pieces. You may interchange the clothes with your classmates if you need to. Work in groups to create a capsule fashion show and a catalog of your pieces. Present the show on a runway.

A class with both teachers present: the students present their fashion shows, the catalogs and discuss each other's work.

https://drive.google.com/drive/u/0/home

Positive unexpected outcome of this fashion show: four students actually wore the pieces to school afterwards. Two more students asked their classmates to give them some pieces. A couple of pieces were also worn by younger siblings (or so we were told by the parents afterwards).

The possibilities are endless and sometimes the answer on how to integrate subjects efficiently is very simple and straightforward. The most exciting and useful classes in our experience have been those where we let **students' creativity flow**. Some need time to adapt and let themselves relax but once they do - it's great!

Always keep in mind the simple tools, such as podcast creating, tiktok video creating or AI tools used to your advantage.

Relax, let your students relax and have fun seeing them succeed.

Celebrating the birthday of Japanese artist Katsushika Hokusai 2010

**Celebrating a British author Virginia Woolf 2018**
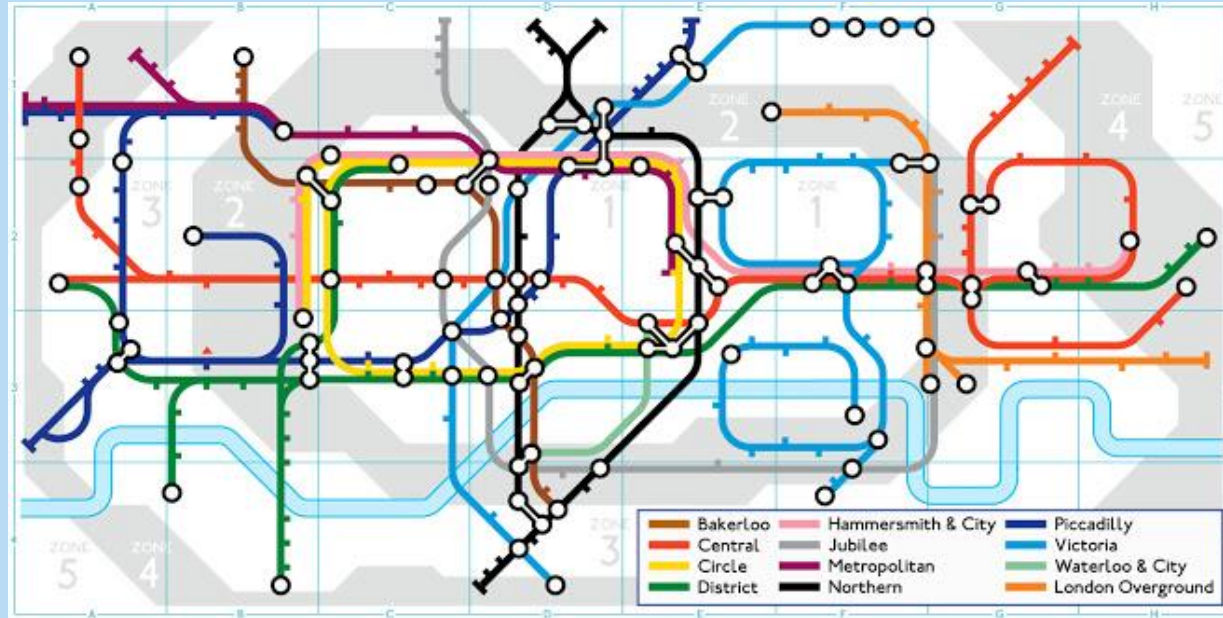
**150th anniversary of the London Tube Map**

Gabriel García Márquez's 91st Birthday

**Marga Faulstich's 103rd birthday**
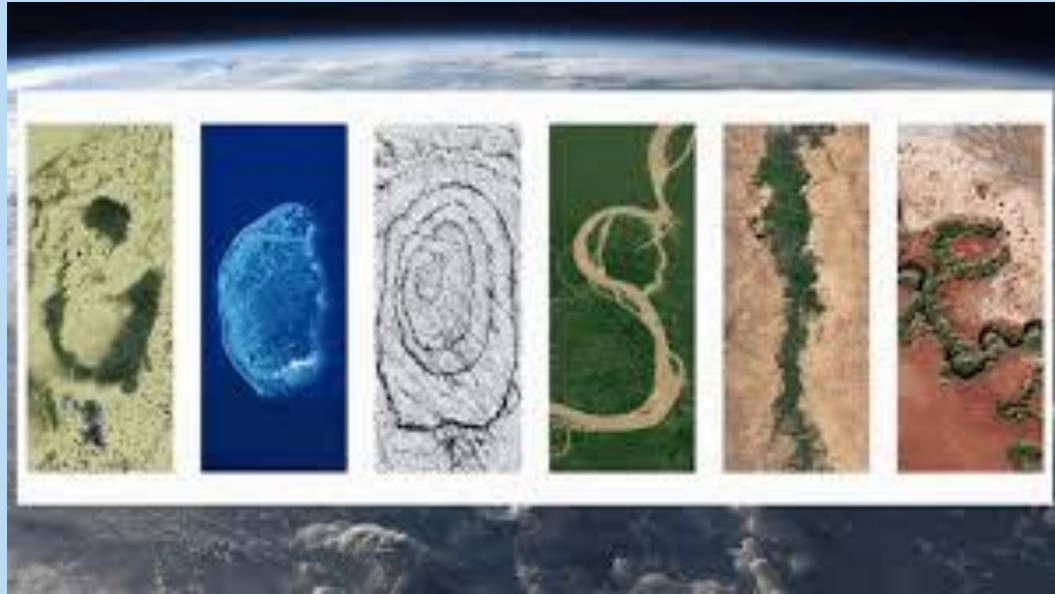
**Earth Day 2024**

**Earth Day 2023**

# A schoolyard transformation: more green or practical?

# The role play educational game: the court

Mindaugas Kazlauskas and Laura Stašaitytė

# THE SITUATION

The school is received funding from the municipality for the reconstruction of the school field. The reconstruction project has been prepared, the school administration and municipality approves the project, but the school council would like to change the project to a more nature-friendly.

**Current schoolyard situation:**
The school surroundings are currently in poor condition. The tile covering is crumbling, the lawn is overgrown with various plants and bushes. Old trees cast shade and cover the yard with leaves in the autumn. The infrastructure is outdated, there are no rest areas.

# THE PROPOSED PLAN

After receiving funding from the municipality, it is planned to carry out the following improvements:

- Paving
- Concrete pavement laying
- Cutting bushes
- Cutting of old trees
- Formation of a short green lawn
- Planting of decorative trees
- Establishment of recreation and play areas.

# VISUALISATION:



Picture: http://thegraphic.arps.org/2024/05/new-amherst-elementary-school-construction-to-begin/

# THE PROBLEM:

A part of the school council (representatives of parents, students and teachers) do not support the project and would like to change the project to a more **nature-friendly** environment. They insist on redesigning of the school's outdoor environment by increasing **biodiversity, creating more sustainable and eco-friendly space**, where they could educate the school community on climate change impact and to have opportunity to organise an educational process outdoors. They propose more green solutions based on increased biodiversity such as to create small wildlife habitats, to leave old trees, to install solar panels etc.

However, the project was **already approved** by the municipality and any changes are hard to achieve.

# ROLES AND PROCEDURE (1):

1. **Opening statements:** the procecutor and advocate present their case, explaining why they believe the project is necessary or unnecessary and why the current project of school setup should be approved or improved with "green" solutions.
2. **Questioning and Witnesses:** both sides can request the judges to summon witnesses (school teacher, pupils, director, biodiversity expert, etc.). Witnesses will provide their perspective on the project, either supporting or opposing it. The judges moderate this process, allowing each side to ask the witnesses questions.
3. **Cross examination**: After the witnesses present their statements, both sides have the chance to question the opposing side's arguments. The judges ensure that the questions and answers remain respectful.

# ROLES AND PROCEDURE (2):

4.  **Closing Statements:** Both groups summarize their key arguments and make a final plea to the judges.

5.  **Judges' Deliberation and Decision:** The judges retire to deliberate, discussing the arguments and evidence presented by both sides. After deliberation, the judges announce their decision regarding whether the school board should support the project or improve it.

# Diverse micro-world: guided tour to the Laboratory

Sanita Kecko

# Levels of Biological Diversity:

- Ecosystem diversity (forests and meadows are disappearing due to economic activities)
- Genetic diversity (e.g., bacterial resistance to antibiotics)
- Species diversity (species listed in the Red Book)



ECOSYSTEMS

SPECIES

GENES
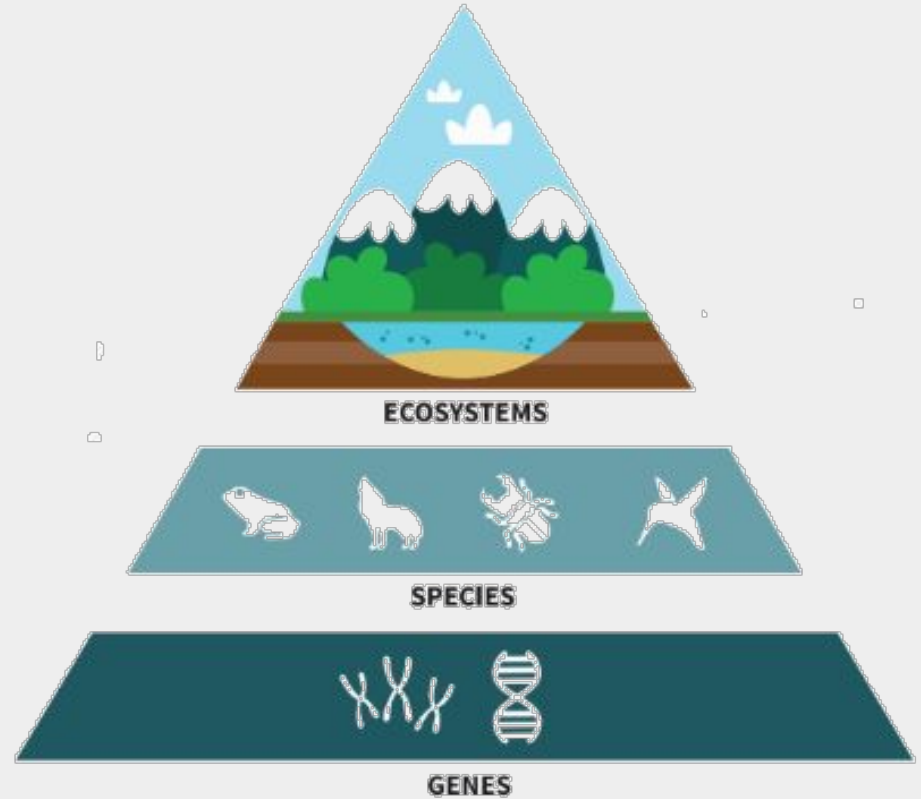
# **Threats to Biological Diversity:**

1. Habitat loss (e.g., deforestation or improper management)

2. Introduced (invasive) species (invazivs.lv)

3. Excessive use of soil and resources

4. Pollution (waste management in Latvia - https://www.getlini.lv/)

**Antibiotic resistance** is a global health issue that occurs when bacteria adapt and become resistant driven by excessive and inappropriate use of antibiotics:

- in human treatment
- animal treatment
- in agriculture

Antibiotic resistance = Reduced genetic diversity of bacteria

⬇

Standard antibiotics are no longer effective

⬇

Treatment costs increase, hospitalization periods are prolonged, and the risk of mortality rises

**Bioremediation** is the process of cleaning polluted ecosystems using organisms, typically prokaryotes, fungi, or plants.

**For example:**

Some plants adapted to soils with high heavy metal content can accumulate elevated levels of potentially toxic metals, such as zinc, nickel, lead, and cadmium in their tissues.

Ecosystem restoration specialists can use these plants to reintroduce vegetation in areas polluted by mining and other human activities, subsequently harvesting them to remove the metals from the ecosystem.

# Laboratory work: presence of Anisakis parasite in the salted herring

Average time  ~ 40 minutes

**Description:** The nematode larvae of Anisakis cause anisakiasis.The parasites are transmitted orally by consuming insufficiently cooked infected marine fish, crabs and squids.

**Aim:** The research activity aims to introduce students to the nature of parasitism, the Anisakis life cycle, and the importance of food safety, while also developing practical skills using simple sample analysis tools.

# Preparation

• Prepare a theoretical introduction on the diversity of parasites, their life cycles, and their significance in human life.
• Prepare materials for the laboratory work.

# Specific Materials

- Lightly salted herring (whole)
- Tray or another container
- Knife/scissors
- Gloves
- Glass jar
- Magnifying glass or microscope
- Light source
- Tweezers

# Procedure

**Step 1** Allocate about 5 minutes for the introduction - prepare students for the work and explain the task. Prepare the work area and materials.

**Step 2** Group work for about 15 minutes. Students will work in groups of 2-3. Cut open the belly of the herring and remove the internal organs by hand.

**Step 3** Examine the internal organs. The larvae form transparent capsules and localize on the serous membranes of the internal organs, rarely in the musculature.

**Step 4** Each group briefly presents its results: Were parasites found? How many and what kind were seen? Discuss individual and general practices

# Recommendations

- Demonstrate safe and proper fish dissection techniques to the class.
- Show how to carefully examine the fish body, focusing on the intestines and surrounding areas where Anisakis larvae are most likely found
- Show a video of fish examination for better understanding.



*Anisakis larvae removed from lightly salted herring. Image by S. Kecko*

Literature/Links
● Zinčenko L., Kirjušina M., Krūmiņa A., 2015. Medicīniskā parazitoloģija. RSU
● https://www.youtube.com/watch?v=gHG88TEaqb0&t=348s

# Biodiversity of waterbodies: calculation & identification

Aija Brakovska

# Laboratory work: biodiversity of aquatic ecosystems – identification and analysis of Zooplankton

**Description** Zooplankton are small, floating animals inhabiting aquatic environments, playing a key role in the food chain. They consume phytoplankton (microalgae) and serve as a food source for fish larvae and other aquatic organisms. The composition of zooplankton in water samples can indicate water quality and help assess ecosystem health.

**Aim** The aim of this research activity is to introduce students to the roles and functions of zooplankton in aquatic ecosystems and their importance for maintaining biodiversity while developing students' practical and analytical skills using a microscope and classification tools.

# Preparation

- Prepare a theoretical introduction on zooplankton diversity and its significance in human life.
- Prepare materials for laboratory work, including water samples. If there is time, water samples can be collected together with the students from the nearest body of water

# Specific Materials

- Water sample (from a pond, lake, sea, or other water source)
- Plankton net with mesh size 65 µm (if collecting water samples during the activity)
- Small glass or plastic jars for water samples
- Microscope (or magnifying lens)
- Petri dishes or slides
- Pipettes
- Pens and observation sheets
- Plankton identification guide or illustrations

## Procedure

**Step 1** The teacher introduces the concept of zooplankton, its role in the food chain, and its connection to biodiversity. Displays images of zooplankton and discusses how to find them. Explains the goal: to analyse water samples and identify zooplankton species to understand aquatic biodiversity.

**Step 2** Students work in groups (2–4 members). Each group carefully places their water sample into Petri dishes or onto prepared slides. Checks and adjusts microscope settings as necessary.

# Procedure

**Step 3** Students use microscopes to study water samples. They identify and count zooplankton organisms, such as:
• Rotifers
• Crustaceans (e.g., Daphnia or copepods)
• Aquatic worms
Observations are compared with identification guides or illustrations. Results are recorded in a table, noting the count of each identified species.
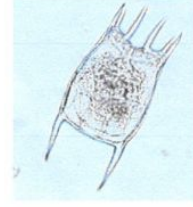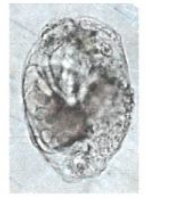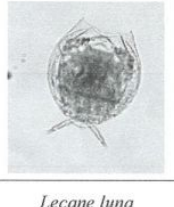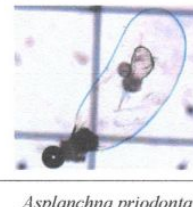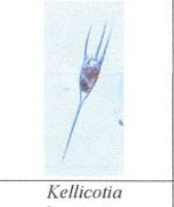
**Step 4** Each group briefly presents their findings: Which species were identified? Does the observed zooplankton suggest high or low aquatic biodiversity? Were any species dominant? Discusses how zooplankton diversity reflects water quality and the impact of pollution or climate change.
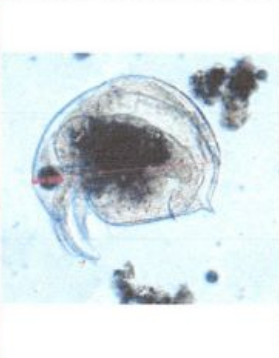
# Results



## Rotifera
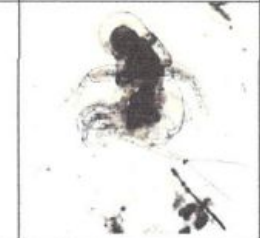
| | | | |
|---|---|---|---|
| *Keratella cochlearis* | *Keratella quadrata* | *Polyarthra* sp. | *Synchaeta* sp. |
| *Lecane luna* | *Asplanchna priodonta* | *Kellicotia longispina* | *Pompholix* sp. |
| *Lecane closterocerca* | *Brachionus calyciflorus* | *Brachionus quadridentatus* | *Brachionus angularis* |

## Copepoda

| | | |
|---|---|---|
| naupliji (attīstības stadija) | naupliji (attīstības stadija) | Cyclopoida |
| Calanoida | Harpacticoida | *Cyclops scutifer* |

# Results



Cladocera

| | | | |
|---|---|---|---|
| *Diaphonosoma brachyurum* | *Bosmina longirostris* | *Daphnia* sp. | *Daphnia cristata* |
| *Ceriodaphnia rectangula* | *Daphnia longispina* | *Chydorus* sp. | *Polyhemus pediculus* |

## Recommendations

If possible, show videos of zooplankton movement under a microscope to enhance understanding.
If natural water samples are unavailable, prepare artificial samples with observable organisms.
Assist students in identifying organism characteristics during microscope work.

## Reflection

- Why is zooplankton diversity important?
- How can the presence of zooplankton species indicate water quality?
- What methods could improve aquatic biodiversity?
- How does this study help understand human impacts on aquatic ecosystems?
- Did the observations match your initial expectations?
- What went well during the activity? Were there challenges, and how did you address them?
- How did teamwork contribute to achieving the objective?

# Example of a Zooplankton Analysis Protocol

Literature/Links
● https://www.eoas.ubc.ca/~swaterma/473- 573/Handouts/IntroductoryZooplanktonFieldGuide_2014.pdf
● https://www.maine.gov/dmr/sites/maine.gov.dmr/files/docs/PhytoplanktonIdentificationGui de6-DMRGuideat10x.pdf
● https://du.lv/wpcontent/uploads/2023/12/Brakovska_Aija_Promocijas_darbs_12.2023.pdf
● https://www.youtube.com/watch?v=yRF1XTIW5J8&ab_channel=Omnicurious
● https://www.youtube.com/watch?v=daIwxTxXAh8&ab_channel=CliveBagshaw

# World Café Method
# (can be used for feedback collection from participants)

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# General Information

**Total Duration**: ~30 to 60 min

**Group Size**: 12–40 teachers (ideally in groups of 4–6 per table)

**Objective:** To reflect on the biodiversity training and co-develop ideas for integrating biodiversity education into secondary classrooms.

**Facilitation Tips**

- Model openness: Start with warm energy and curiosity. It sets the tone for others.
- Encourage active listening and non-judgmental sharing.
- Remind participants: "It's about conversation, not consensus."

# PREPARATION

**Venue Setup**:

Arrange several small tables (4–6 chairs per table).

Place large paper sheets or flipchart paper as tablecloths.

Provide colored markers, sticky notes, and decorative nature elements (e.g., leaves, pinecones).

Create a welcoming, café-like environment (soft music, drinks/snacks optional).

**Materials Needed**:

Markers, sticky notes, pens

Printed question cards (one per round)

Timer

Flipcharts for final harvesting

Optional: Digital tools for documenting insights

**Assign Roles**:

1 facilitator to guide the whole session

1 host per table (can be pre-assigned or chosen spontaneously)

# THE PROPOSED PLAN

**Opening the Session (5 min)**
**Step 1**: **Welcome and Introduction**
- Briefly explain the purpose of the World Café:
"Today, we're here to reflect on your training experience and explore how biodiversity education can be brought into your classrooms."
**Step 2**: **Present the Principles** of World Café:
- Focus on what matters
- Everyone's contribution is valuable
- Listen together for patterns and insights
- Connect diverse perspectives
- Doodle, draw, and write!
**Step 3**: Explain the Process:
- There will be 3–4 rounds of conversation.
- After each round, participants switch tables (except the host).
- Each round has a different guiding question.
- At the end, we will harvest the key insights together.

# IMPLEMENTATION 1

**Conversation Rounds (20–25 min each)**
For each round:

Step 1: Introduce the round's guiding question
(e.g., "What insights or inspirations did you gain from the biodiversity training?")

Step 2: Encourage open, informal conversation and note-taking on the paper tablecloths.

Step 3: After the round, ask participants (except the host) to switch tables.
The host briefly summarizes the previous discussion to newcomers.

# IMPLEMENTATION 2

**Suggested Guiding Questions:**

What insights or inspirations did you gain from the biodiversity training?

How could these ideas be adapted to your classroom setting?

What barriers might you face in teaching biodiversity—and how can they be addressed?

What would an ideal biodiversity learning experience look like for your students?

**Harvesting Insights (10–20 min)**

Step 1: Gather everyone into a large group.

Step 2: Table hosts share 2–3 key points or patterns from their table's conversations.

# IMPLEMENTATION 3

**Closing the Session (5–10 min)**

**Step 1**: Invite everyone to write a short reflection:
"What's one idea you want to try in your school?"
"What support do you need?"

**Step 2**: Thank participants and share what happens next:
Will the ideas be compiled?
Will there be a follow-up workshop or collaboration?

Together towards to the sustainable development.