



INTERNATIONAL METHODICAL - PRACTICAL CONFERENCE



„SCHOOL FOR FUTURE –
TO DEVELOP RESPONSIBLE
ATTITUDES ”

The aim of ESD

- develop the knowledge, skills, values, attitudes and behaviours in people to care for their environment
- enable people to make decisions and carry out actions to improve our quality of life

Themes ESD addresses

- poverty alleviation,
- citizenship,
- peace,
- ethics,
- responsibility in local and global contexts,
- democracy and governance,
- justice,
- human rights,
- gender equality,
- corporate responsibility,
- natural resource management and biological diversity.

The dominant focus is on environmental concerns

Bringing sustainability into school

- We believe that sustainability teaching should be a natural, straightforward and integrated part of any course (biology, geography, chemistry, physics, mother tongue and fine arts).
- It can be woven into the curriculum and be not just an 'added extra'.
- **Start small.** Narrow your focus to one theme or project and make it manageable

Major changes in the world are placing new demands on education.

Education is no longer defined in terms of what a teacher will teach but rather in terms of what a student will be able to demonstrate.

From an instruction paradigm to a learning paradigm

Holistic Orientation to Learning

approach which creates **experiences** and **opportunities** for the learner **to explore**;

approach which requires the learner **to be active participant**;

approach which **challenges** the learner **to think critically**.

Requires a rethink of the traditional concepts of the language classroom and the language teacher.

It is not enough to simply teach traditional subjects well.

Education systems need to adopt new approaches that help students learn skills such as collaboration, awareness of global concerns like climate change.

Content and Language Integrated Learning (CLIL)

is an approach where students not only learn a subject but they also gain relevant vocabulary and language skills.

4C method

content

cognition

communication

culture

When learners are interested in a topic they are motivated to acquire language to communicate

Children are our future

What we are teaching them today is going to affect their lifestyle choices in the coming years, so we need to focus on preparing them for the changing world and environment.

Teaching our children about sustainability will give them the opportunity to take responsibility for their actions, plan for the future, and maintain a healthier planet.

Educating the mind without educating
the heart is no education at all



How I teach my students to be environmentally friendly

Game
Water

QUESTIONS

Question 1: How many liters of water does a 10 minute shower use: around 90, around 150 or around 190?

Question 2: Which uses less water: a shower or a bath?

Question 3: Lots of suds are better: true or false? (Suds-lots of small bubbles on top of water that has soap in it)

Question 4: How many liters of water per month can a slow steady drip waste : 300, 760 or 1325?

Question 5: Is it better to water your garden or lawn at noon?

Question 6: How much water on the earth is fresh water: 3%, 20% or 40% ?

Question 7: Is it better to wash a few dishes by hand than to use the dishwasher?

Question 8: Hot water costs more to use than cold water: true or false?

Question 9: Is it better to keep your grass cut short?

Question 10: The average amount of water a person uses per day is: 70 liters, 190 liters, 250 liters?

ANSWERS

Question 1: Around 150-170 liters

Question 2: A shower

Question 3: False. It requires more rinsing which uses more water.

Question 4: 1325 liters

Question 5: No. Early in the morning or late in the evening is the best.

Question 6: 3 %

Question 7: By hand

Question 8: True

Question 9: No. It holds less moisture and therefore requires more watering.

Question 10: 190 liters

An interactive, learner-centred and action-oriented pedagogy

- Why?
- Independent projects
- Student class presentations
- Quiz first and work backwards
- Small and large group discussions
- Initiate a questionnaire
- Field Trips
- Organizing **out-of-class activities for real experiences** in the local environmental areas like (parks, lakes, rivers ,ponds, zoos)

Ability to think critically, be creative, to communicate and collaborate

- Young people analyze, question and challenge what they are being told.
- Encourage critical thinking in class by giving them challenging problems to solve, using a variety of games and puzzles and asking questions with multiple answers.
- You can also try class debates where learners have to examine the advantages and disadvantages.
- Include pair work, group work and collaborative projects frequently in your lessons, making sure to vary who students work with.

Teaching by Example

- Stop printing things!
- Dim the lights
- Sorting of waste



The water quality data

Students were suggested to focus on three aspects:

- I) Inspection of the coastal area of the monitoring site
- II) What do the fish living in a river tell us about the water quality?
- III) What do the animals living in a river tell us about the water quality?



Primarily it is recommended to inspect the coastal area (Minija river in Gargždai)

- Evaluate the ecological status of the main sections: garbage on the surface of water (normal condition - no garbage)
- Coastline condition (normal - there are no signs of visual damage to the coastline)
- The condition of the grass cover (normal - no visible damage)
- Vegetation status of trees and shrubs (normal - no visible damage)

How can we tell if the waterway is polluted or healthy?

- Healthy site = hear frogs and birds, see plants, fish and water creatures (Yes)
- Polluted site = rotting rubbish, smelly, high salinity, no animals (No)
- To list of the birds, plants and animals that live at the site

Such rare birds like corncrakes, halcyons, white storks, hoopoes, woodpeckers, shrikes, also nightingales and sky-larks live near the river.



Corncrake



Halcyon



White stork



Woodpecker



Hoopoe



otter



beaver



raccoon dog



wolf



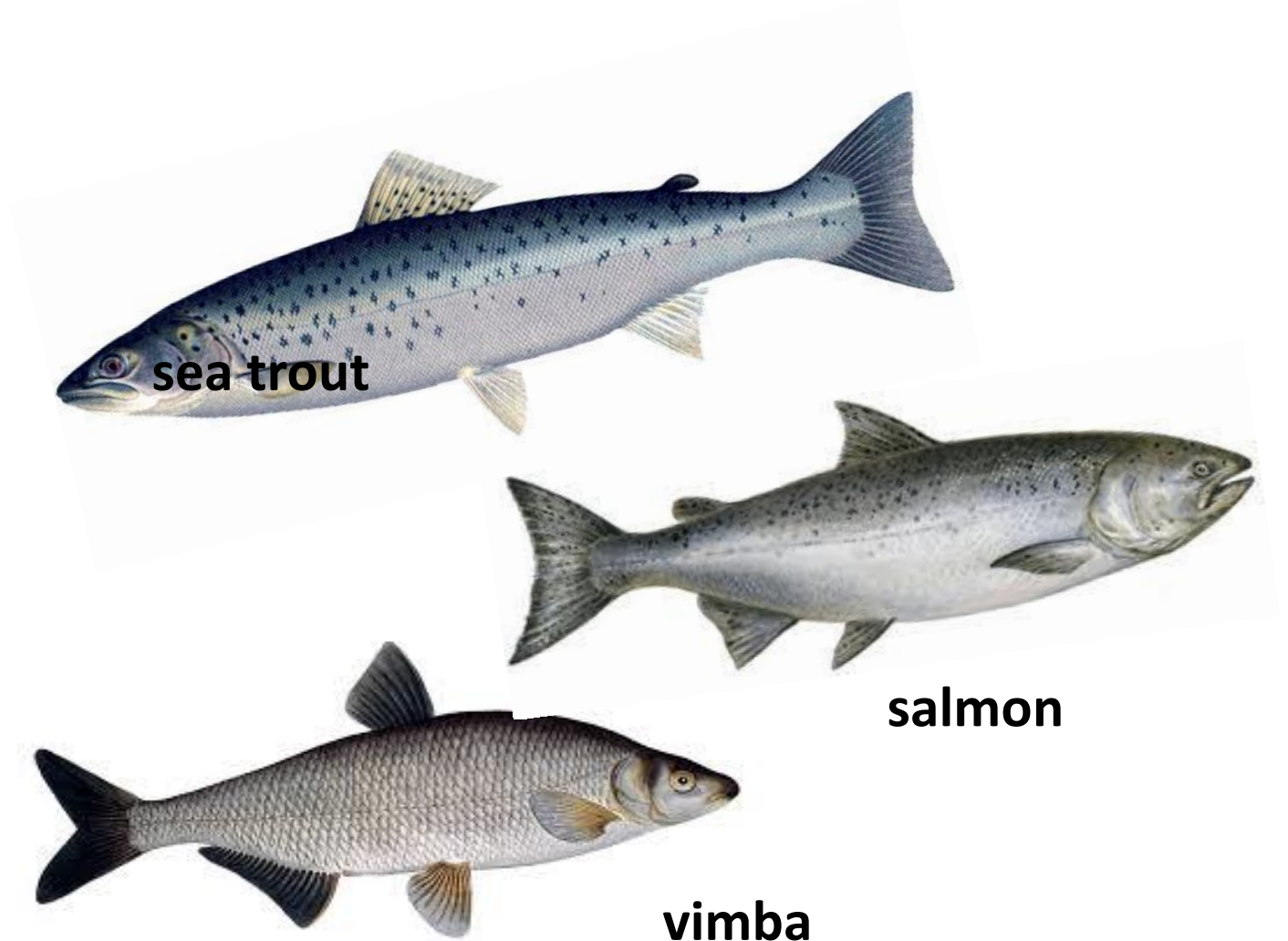
fox



mink

What Do the Fish Living in a River Tell Us About the Water Quality?

- The river Minija is one of the cleanest and steepest rivers in Lithuania.
- It has got a natural riverbed and just few sources of pollution.
- Here you will find some species of valuable migratory fresh water fish:
salmon,
sea trout,
vimba.



The river Minija is listed in the Protected areas of ecological protection priority list.

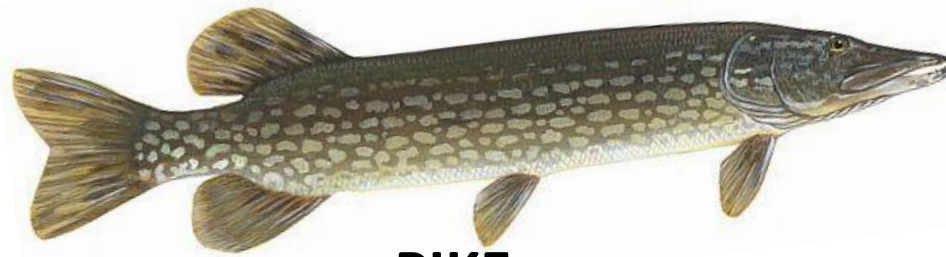
- Because of the great number of local population of:
- *spined loach*
- *Bullhead*
- *Bitterling*
- Baltic salmon
- bream
- perch
- pike
- roach
- zante (Vimba)
- sparling/ Baltic herring



PERCH



SPARLING



PIKE



BITTERLING



BREAM

Allowable limits of water pollutant concentration (ALPC) and maximum admissible concentration

<i>Parameters</i>	<i>Unit of water</i>	Maximum admissible concentration
pH		6,0-9,0 Normal Ph - Medium alkalinity. Healthy level for aquatic animals and plants Possible pollution problems (leaking runoff from farms and suburban yards)
Floating materials	mg/l	≤25
Dissolved oxygen	mgO ₂ /l	≥ 9* (min concentration 6 mg/l O ₂) suitable for breeding salmonids ≥ 7** (min concentration 4 mg/l O ₂) suitable for breeding carp family fish
<i>Biochemical Oxygen Demand per 7 days (BOD₇)</i>	mgO ₂ /l	≤4* suitable for breeding salmonids ≤6** suitable for breeding carp species
Phosphates	mgP/l	≤0,2* suitable for breeding salmonids ≤0,4** suitable for breeding carp species
Ammonium nitrogen (N-NH ₄)	mgN/l	≤1

What Do the Animals Living in a River Tell Us About the Water Quality?

Certain types of macroinvertebrates found thriving in a body of water can tell you if that water is clean or polluted:

- Adult riffle beetles and gilled snails-when found adult riffle beetles and gilled snails, they serve as bioindicators of good water quality.
- These creatures are usually highly sensitive to pollution.



Clams, mussels, crayfish, and sowbugs

- if there is an abundance of clams, mussels, crayfish, and sowbugs, that can indicate that the water is in fair to good condition.

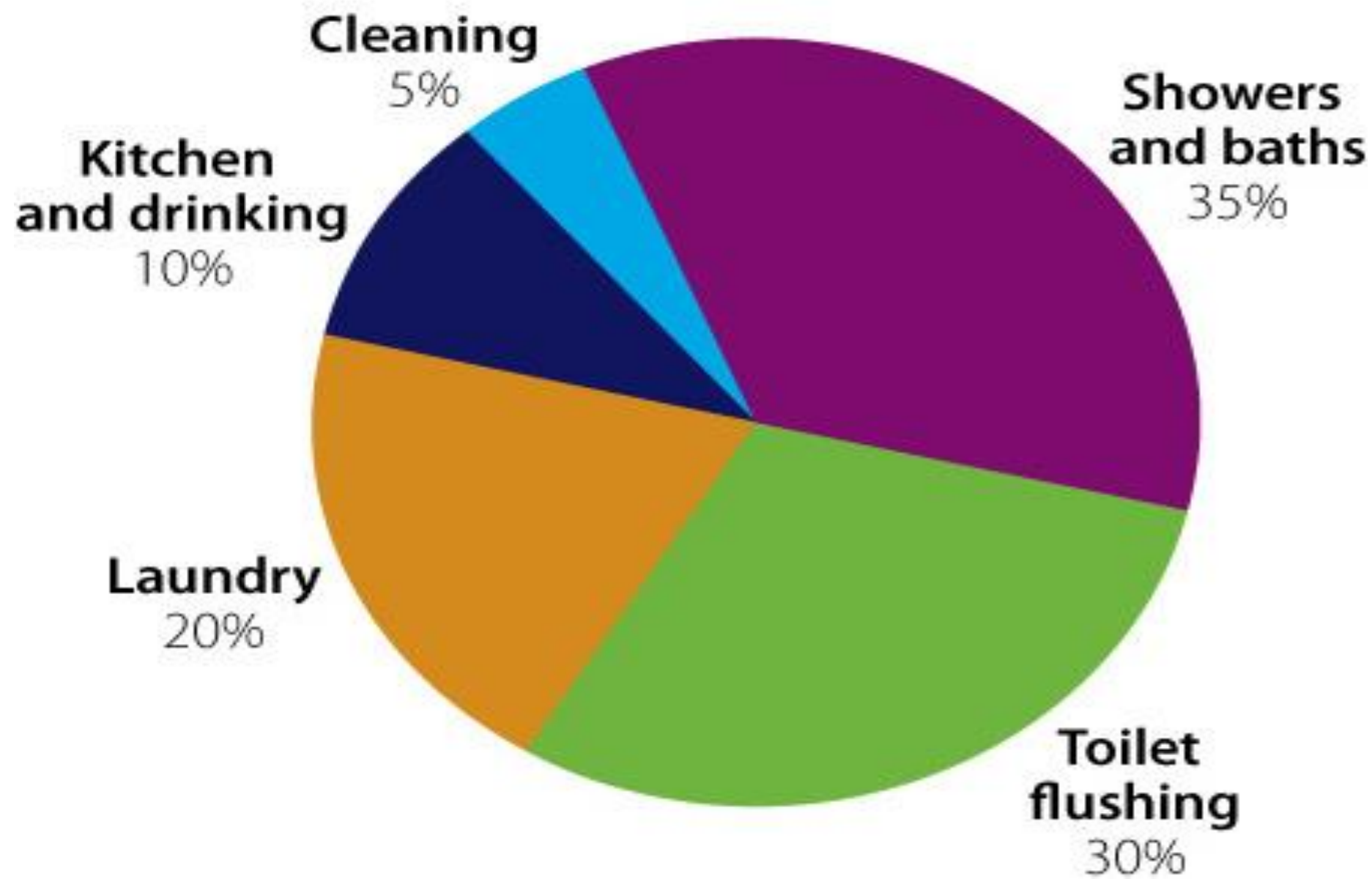


Leeches and aquatic worms

Certain water creatures, like leeches and aquatic worms, thrive in poor quality water

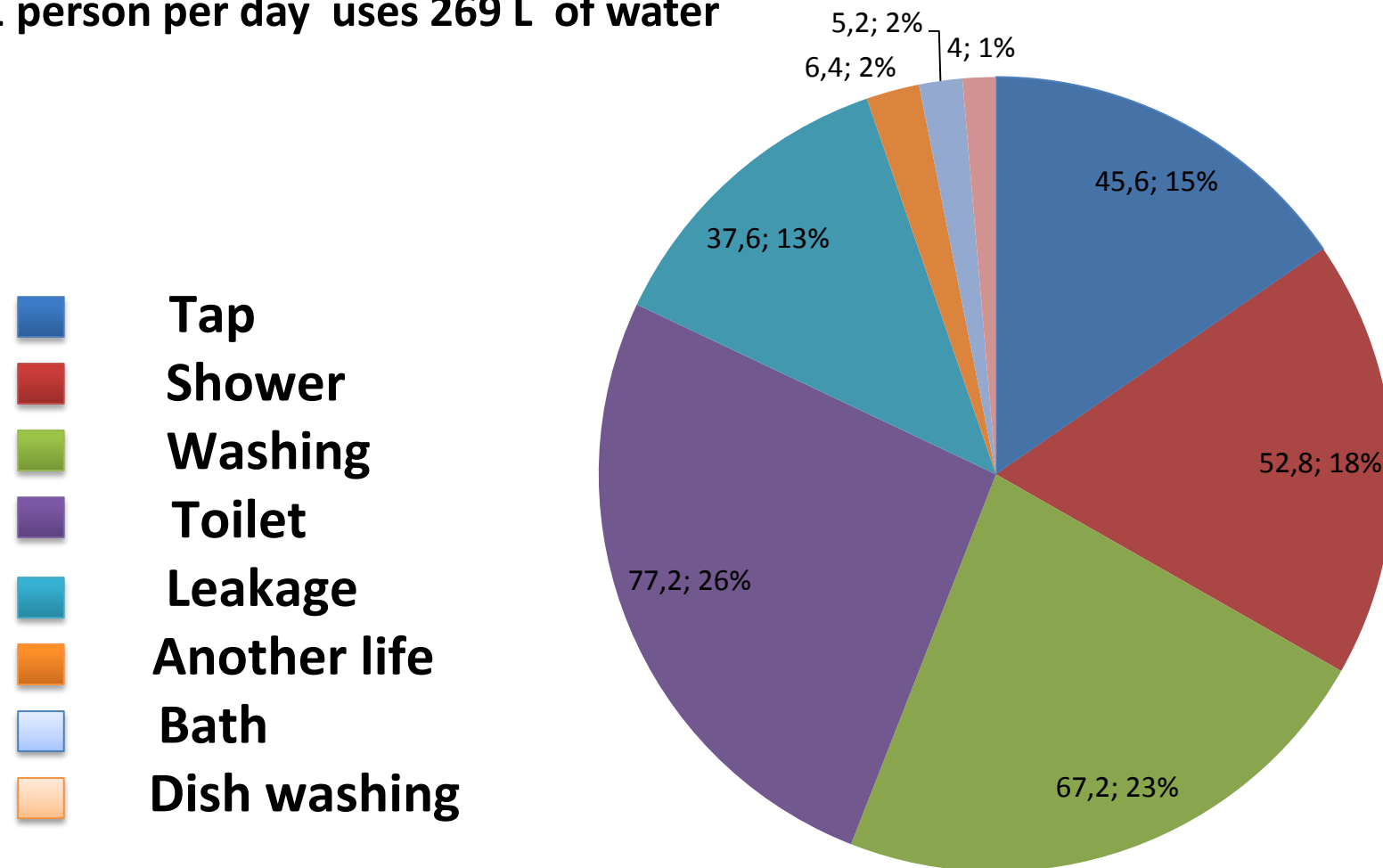


Water use in the home



Water consumption in households

1 person per day uses 269 L of water



Typical water use at home per day per person

• Activities

- Bath
- Shower
- Dishwash
- Toilet
- Clothes washing
- Hand washing
- Cooking
- Tap water for drinking
- Kitchen water

• Water consumption

- 2,8 litres
- 48.5 litres
- 5,0 litres
- 33.7 litres
- 15,4 litres
- 6.1 litres
- 1.4 litres
- 1.8 litres
- **5.3 litres**

Water handling



We talked to our school manager Mrs Daiva Lažinskienė to find out how much water is used in our school per day



❑ Minija progymnasium needs water to cook food, to wash dishes, to clean the classrooms, to flush the toilets.



❑ Per day we use 12 m^3 , per month the water usage makes up 264 m^3 .



- ☐ We asked our students to calculate the amount of water their family uses in a day.
- ☐ Typical household with 3 people uses from 0,327 m³ 0,62 m³ of water.
- ☐ The household with 4 people uses from 0,5 m³ to 0,8 m³ of water per day.
- ☐ The household with 5 people uses 0,8 m³ to 1,37 m³ in a day.

water use parameters	Days of the week
229,211	Thursday
229,283	Friday
230,60	Saturday
230,162	Sunday
230,266	Monday
231,50	Tuesday
231,154	Wednesday

1. Kiek gysena žmoniu? 3
2. Ar skalbi rūbais? Taip
3. Ar vyko traukų masis? Taip

Be the change*

Parameters	Days of the week
* 00458 m ³	Monday
* 00458/5 m ³	Tuesday
* 00459 m ³	Wednesday
* 00459/5 m ³	Thursday
* 004560 m ³	Friday
* 00460,5 m ³	Saturday
* 00461 m ³	Sunday

1. 4 people / + a dog
2. Taip, skalbi.

Be the change...

Parameters	Days of the week
00551 m ³	Monday
00533 m ³	Tuesday
00511 m ³	Wednesday
00548 m ³	Thursday
00562 m ³	Friday
00521 m ³	Saturday
00564 m ³	Sunday

1. Seimon narių skaičius: 5
2. Mauna skalbi
3. Tranki namas

Doing a **survey** about handling of water

- We undertook a survey of water handling in households.
- 140 households were surveyed in Gargždai
- Instruments of the survey: we preped a “Household questionnaire”

Objectives:

- To investigate domestic water uses
- To estimate household water consumption

HOUSEHOLD QUESTIONNAIRE

1 . What is your household size?	
2.What is the main water source for drinking and cooking for members of your household?	<input type="checkbox"/> hand dug well with bucket and cover <input type="checkbox"/> hand dug well with hand pump <input type="checkbox"/> borehole with hand pump <input type="checkbox"/> public tap <input type="checkbox"/> piped into my yard <input type="checkbox"/> piped into my house <input type="checkbox"/> rainwater collection <input type="checkbox"/> stream / river /pond
3.Do you use water for washing, gardening from the same source as the drinking water ?	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.1.If no, what is the main sourse for washing?	<input type="checkbox"/> hand dug well with bucket and cover <input type="checkbox"/> hand dug well with hand pump <input type="checkbox"/> borehole with hand pump <input type="checkbox"/> public tap <input type="checkbox"/> piped into my yard <input type="checkbox"/> piped into my house <input type="checkbox"/> rainwater collection

3.2 .If no, what is the main source for gardening?

- ☐ hand dug well with bucket and cover
- ☐ hand dug well with hand pump
- ☐ borehole with hand pump
- ☐ public tap
- ☐ piped into my yard
- ☐ piped into my house
- ☐ rainwater collection
- ☐ stream / river / pond

4. How much water does your household consume per day on average?

5. How much water does your household consume per day on drinking/ cooking?

6. How much water does your household consume per day on washing?

7. How much water does your household consume per day on gardening?

8. How much water does your household consume per day on bathing?

Information obtained

1 . What is your household size?

- 2 people - 15 respondents
- 3 people - 40 respondents
- 4 people - 74 respondents
- 5 people - 11 respondents

2.What is the main water source for drinking and cooking for members of your household?

- hand dug well with bucket and cover –
- hand dug well with hand pump 23 people
- borehole with hand pump 46 people
- public tap –
- piped into my yard –
- piped into my house 71 people
- rainwater collection –
- stream / river /pond -

3. Do you use water for washing, gardening from the same source as the drinking water ?

- Yes 69 respondents
- No 71 respondent

3.2. If no, what is the main source for gardening?

- hand dug well with bucket and cover
- hand dug well with hand pump - 38 people
- borehole with hand pump – 46 people
- public tap
- piped into my yard – 17 people
- piped into my house
- rainwater collection – 2 people
- stream / river / pond – 37 people

4. How much water does your household consume per day on average?

- 0, 450 m³ - 23 households
- 0, 750 m³ - 31 households
- about 1 m³ -59 households
- 1,3 m³ - 27 households

5. How much water does your household consume per day on drinking/ cooking?

10 respondents; they guess they consume about 0,110 m³

6. How much water does your household consume per day on washing?

10 households say about 1 m³

7. How much water does your household consume per day on gardening?

No answers

8. How much water does your household consume per day on bathing?

No answers

CONCLUSION

Drinking water is mainly coming from tubewells, on the contrary households still rely on other sources for other domestic uses.

For example river is the most common source of water for gardening.

It was quite difficult for us to tell apart such water uses:

- 1. Consumptive uses (i.e., drinking and cooking)
- 2. Hygiene uses (i.e., bathing, washing clothes, cleaning and toilet flushing)
- 3. Amenities uses(watering lawns, car- washing, gardens-watering and other nonessential tasks)

Water. Use It Wisely!

There are many ways to conserve water in homes

1. Take a shower rather a bath.
2. Taking “navy showers” (turning off the water while you’re soaping yourself).
3. Turn off the tap while brushing your teeth after you wet your toothbrush.
4. Turn off the tap while washing your hands. You don’t need the water to run while you’re scrubbing your hands.
5. Don’t wash up dishes under running water. Fill up your sink with water, instead of letting it run the whole time that you’re scrubbing.
6. Use your automatic dishwasher for full loads only.
7. Use/install dual flush toilets.
8. Keep an eye on all your taps to watch for drips, and fix them quickly.
9. Do not plant lavish lawns and water them only when it’s needed.
10. Don’t use the hose when you wash the car, it is very wasteful. Use a bucket, or take the car to a carwash that recycles water.
11. Install a rainwater tank. It can be a great way to save and store rainwater to use on your garden

1. Taking “navy showers” (turning off the water while you’re soaping yourself).



2. Take a shower rather than a bath.



3. Turn off the tap while brushing your teeth after you wet your toothbrush.



4. Turn off the tap while washing your hands. You don't need the water to run while you're scrubbing your hands.



5. Don't wash up dishes under running water. Fill up your sink with water, instead of letting it run the whole time that you're scrubbing.

6. Use your automatic dishwasher for full loads only.



10. Don't use the hose when you wash the car, it is very wasteful. Use a bucket, or take the car to a carwash that recycles water.



11. Install a rainwater tank. It can be a great way to save and store rainwater to use on your garden.



Learning outcomes

Culture

- Learning together
- Sharing ideas
- Looking at how things are done and how they might be improved
- Everyone involved and contributing
- Develop a vision for a sustainable future.

Learning

- Student leadership opportunities
- Students included in decisions that affect them
- Students taking action on what they've learnt
- Lesson plans include learning about the local environment and sustainability
- Students learn about their world through hands-on activities
- Students further develop life skills.

LESS
IS
MORE

