Gimnazija KOPER

Sofinancira Evropska unija

Co-funded by the European Union

PETÄJÄVESI 1868

het Odulphus lyceum

IES Cavaleri

PAST – PRESENT – FUTURE: VISIONS AND CHALLENGES

(Erasmus+ project 2023/2024)

Petajaveden lukio: Petajavesi, Finland

Odulphus lyceum: Tilburg, Netherlands

Gimnazija Koper: Koper, Slovenia

IES Cavaleri: Mairena del Aljarafe, Spain

1. INTRODUCTION

In this year's project the theme was connected with how the past affects the present and how the present will affect the future – what we must pay attention to today, so that the future will be better.

The students researched how sustainable our local, national and European way of life is today. They raised their awareness about what are the challenges in today's world, and what are the visions of the future students imagine.

Through partnership with schools from Finland, the Netherlands, Slovenia and Spain, students and teachers observed, researched and learnt about and how traditional characteristics, habits, environments in different European countries can be connected with the latest knowledge, both in the fields of natural and social sciences. They were looking and researching practices, that are linked to tradition, but are modernized and sustainable (and friendlier to everyone, including nature).

The fields that were included are: history, fine arts, literature, biology, chemistry, sociology, sports ...

In Finland the students observed and researched sustainable practices in a northern maritime and continental climate. In the Netherlands they've learnt about the never-ending fight with water and sea, they also saw how a city and area incorporated it's industrial past into a new, modern sustainable model of city development. In Spain they've observed how a southern country can use the solar power, but also what are the challenges for the ocean's sustainable future.

In this handbook we are presenting the collection of teachers' preparations for work and the best student's results.

2. RESULTS

LOGO WORKSHOP – INSTRUCTIONS

Erasmus+ THE FUTURE VISIONS AND CHALLENGES,
SLO 18. - 25. 1. 2024, menthors: Helena Miklavčič & Matej Kocjan

Interpreting through art:

Futuristic visions of visited places

(green cities, our sea, our underground…)

AS LOGO ,SLOGAN, ILLUSTRATION

VISION / CHALLENGE

What is a:

- VISION
  *- the ability to think about or **plan the future** **with imagination or wisdom***
- CHALLENGE
  *– **being aware of problems** and having the ability / confidence to solve them*
- ENVIRONMENTAL AND SOCIAL CONTEXT
  *- **relating to the natural world** and the impact of human activity on its condition / define **sociocultural forces** (relations, culture, values, beliefs, attitudes…) **that shape people** behavior*

GREEN CITIES

https://visitkoper.si/znamenitosti/mestni-parki/

ECOLOGICAL ISSUES (solving inneficiency)

- **Transportation** - *traffic in the city center and connecting suburbs*
- **Food production** – *in urban areas, small farming and local production in the city surroundings (zero km)*
- **Energy consumption** – in producing electricity, heating, air-conditioning, light …using *renewables, local sources, save energy*
- **Pollution** – *of air, water, soil… and their filtration, regeneration…*
- **Waste** – *recycling, waste sorting, incinerators, waste buissneses*
- **Green areas** – *parks, orchards, gardens, artificial lakes, green roofs, …*
- **Reinventing abandoned / ruined / decaying facilities** – *as places as social, sport or rest centres, small buissineses (incubators)*

https://commons.wikimedia.org/wiki/File:Ljubljana_Metelkova_ulica_23.JPG

https://www.theguardian.com/cities/2019/may/23/zero-recycling-to-zero-waste-how-ljubljana-rethought-its-rubbish

OUR SEA

ECOLOGICAL ISSUES (solving inefficiency)

- **Saving biodiversity** - *establish nature reserves, monitoring*
- **Exploiting resources** – *overfishing, excessive fish farming, industrial salt production, oil drilling*
- **Transportation** – *the problems with commercial routes (shipment, ports) and local traffic (fishin, tourist boats)*
- **Tourism** – *its effect on the coastal environment and life*
- **Pollution and waste** – *dropping garbage, sewage and industrial waste into the sea*

https://www.dnevnik.si/1042773184

https://sl.wikipedia.org/wiki/Piran#/media/Slika:Piran_03.jpg

https://www.luka-kp.si/aktualno/foto-video/

https://ekopercapodistria.si/novice/naravni-rezervat-skocjanski-zatok-vabi-na-dan-odprtih-vrat/

OUR UNDERGROUND

ECOLOGICAL ISSUES (solving inefficiency)

- **Tourism** – *its effect on the cave environment and micro life*
- **Pollution and waste** – *the effect of garbage, sewage and industrial waste getting into the soil and polluting the groundwater, light pollution*
- OPPORTUNITIES
- ***Living and farming undergorund*** – *less ecological issues (controlled environment, stable temperatures), a safe haven, saving earth surface space (building deep instead of high)*
- **Recycling** – *use abandoned mines*
- **Renewable energy** – *from geothermal sources (water)*

https://www.park-skocjanske-jame.si/

https://www.tvambienti.si/oznake/sonaravna-gradnja/

https://kultnatura.eu/proizvodi/ocean-orchids-d-o-o-tropski-vrt/

WORKSHOP

- **DESIGN A LOGO**
- DESIGN A SLOGAN
- **ILLUSTRATE YOUR VISIONS AND SOLLUTIONS**

…FOR THE CHALLANGES OF THE FUTURE (address the articles!)

- *work individually or in couples*
- *use pencils, markers, colors, collage techniques…*
- *use (colour and tone) contrast in your art work*
- *be consistent and fully focused in efficiently addressing the message you try to express, share with others*

BRAINSTORMING

A list of ASSOCIATIONS about:

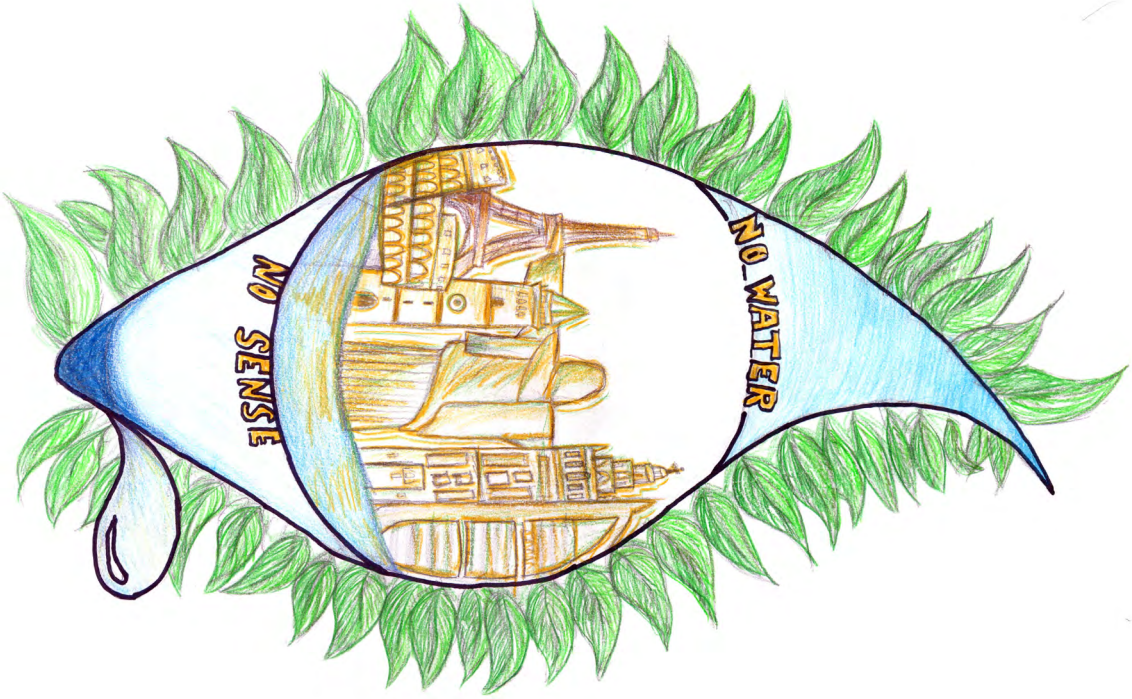
- GREEN CITIES
- OUR SEA
- OUR UNDERGROUND

Highlight at least **6 key words** that connect the topics and use them ***as the source for shapes, colours, abbreviations*** to design your logo.

LOGO WORKSHOP – RESULTS


OUR FUTURE
IS
PAPER

LOGO WORKSHOP – SELECTION



3. CULTURAL CHARACTERISTICS AS THE STARTING POINT

3. 1. INTERPRETING VISIONS AND CHALLENGES THROUGH ART

3. 1. 1. POETRY AND ILLUSTRATION – INSTRUCTIONS AND DEBATE

PPT KLIK:

https://docs.google.com/presentation/d/1R9itM8C0q1m_G5COkGEr5eiGHXTs7H25/edit?usp=drive_link&ouid=116639049721768673148&rtpof=true&

Matej Kocjan, Gimnazija Koper, 6. 10. 2023

The Future: Visons and Challenges
FINE ARTS (POETRY & ILLUSTRATION)

Anonymous - The Story World and Photodramatist (https://archive.org/details/storyworldphotod51phot)

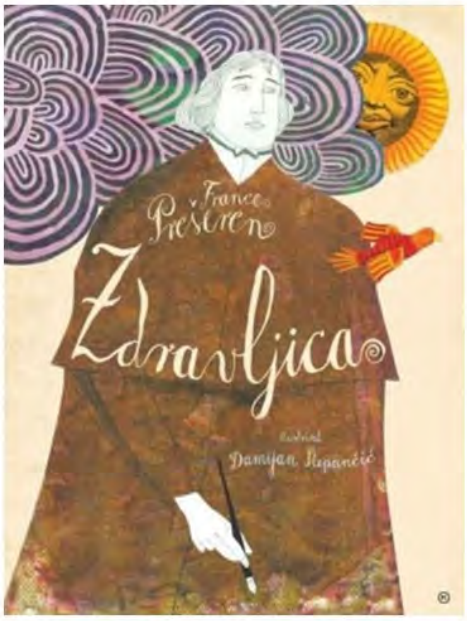
- **POETRY** – is a literary genre, where the **expressive form are poems**. The artist uses the **language's aesthetic and often also rhythmic properties**, which evoke in the reader associations and emotions that **go beyond the literal meaning**. Poetry can be epic (narrative poems) or lyrical (confessional poems).

ILLUSTRATION – the most common and widely understood (visual) language in the world, as ***a visual (artistic) interpretation of a text, concept, process*** …

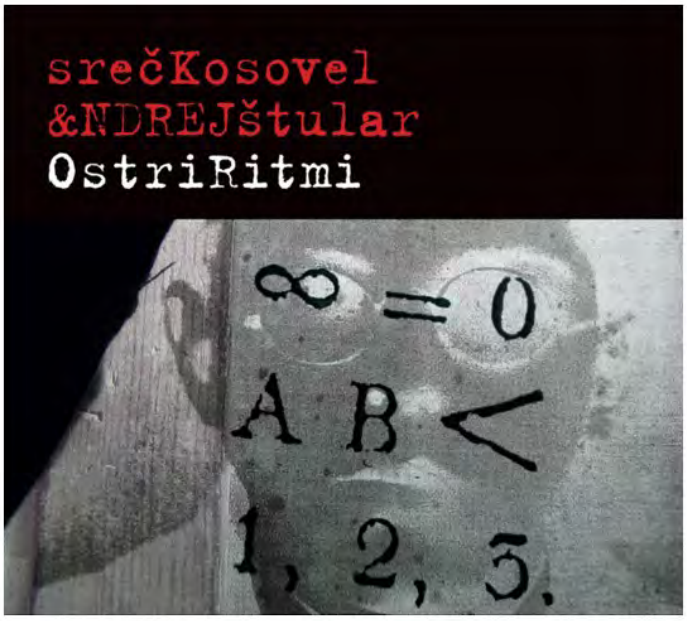
Visualisation generated with AI

Dalle-E 3.0

Human made visualisation



France Prešeren (1800-1849), romantic poet



Srečko Kosovel (1904-1926), modern poet

NATIONAL TRAITS AND STEREOTYPES IN FINE ARTS

SLOVENIANS:

- **struggle for** personal and national **independence** (complex of a tiny nation)
- **hard working** people
- **servile (conservative) mentality**
- **idealizing the** (heroic) suffering **mother**
- **worshipping wine**
- **idealizing home** and picturesque landscape (**nature**)
- **proud of ancestral traditions and origin**

France Prešeren, Zdravljica, 1844
France Prešeren –
http://www.hervardi.com/zdravica.php

NATIONAL TRAITS AND STEREOTYPES IN FINE ARTS

Do you agree?! Would you rather correct or supplement?

Johannes Vermeer
c. 1660-1661
Oil on canvas
Baroque painting, Dutch Golden Age painting
96.5 cm × 115.7 cm (38.0 in × 45.6 in)
Mauritshuis, The Hague

DUTCH:

- **took their land from the sea**
- **the land of cheese, tulips and clogs**
- **direct** , stingy **character**?
- family oriented people?
- **flat landscape** with **windmills**
- fanatic **cyclists** ?
- historically represented by the **orange color**

Credit:Jacobh
Largest size:8015 x 6114 px (26.72 x 20.38 in.) · 300 dpi · RGB
Stock photo ID:613319258
Upload date:October 10, 2016
Categories:Stock Photos| Netherlands

NATIONAL TRAITS AND STEREOTYPES IN FINE ARTS

Do you agree?! Would you rather correct or supplement?

https://pixabay.com/photos/small-sauna-finnish-wooden-2509214/

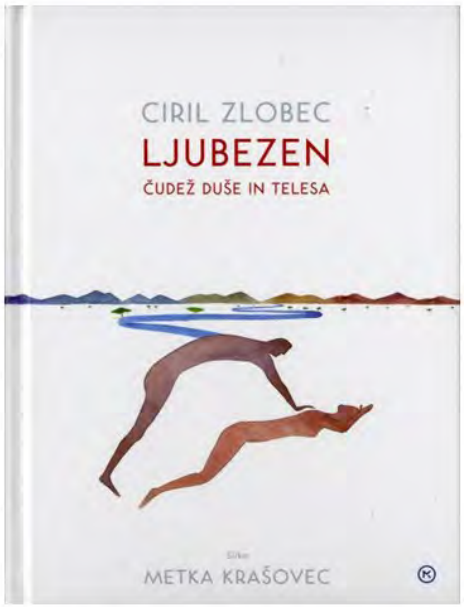
Akseli Gallen-Kallela: *Kullervon damnation*, 1899.

FINNISH:

- the **sauna** „cult“
- **reserved** (quiet) and polite **people** ?
- have **best schools** in the world ?
- **resilient** to cold weather and darkness (polar nights)
- **worshipping forests** (nature) and **hunting**
- **struggle for** personal and national **independence** (complex of a tiny nation) ?

VISUAL INTERPRETATION OF POETRY (examples)

America a Prophecy, William Blake, Poem, Circa 1795, American History, Archival Print



https://www.gkfb.si/dogodki/literarni-cetrtki/item/244-predstavitev-pesniske-zbirke-cirila-zlobca

VISUAL INTERPRETATION OF POETRY (examples)

https://www.stanislav.si/skg-za-dijake/natecaj-za-najboljso-konstruktivisticno-pesem/

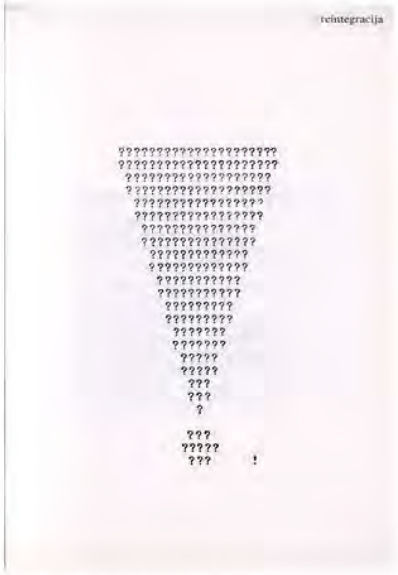
https://www.vetrinjski-dvor.si/dogodki/andrej-stular-proracun/

VISUAL INTERPRETATION OF POETRY (examples)

https://www.mladinska-knjiga.si/knjige/za-otroke/negotove-pesmi

https://dediscina.zrc-sazu.si/sl/2020/09/ziveti-s-savrinko/

VISUAL INTERPRETATION OF POETRY (examples)



https://www.bibliofil.hr/en/edicija-oho-eva

http://30gopoems.blogspot.com/2019/04/2019-post-28-concrete-clock-poem.html

VISUAL INTERPRETATION OF POETRY (examples)

https://www.istockphoto.com/illustrations/black-poetry

https://www.poetryfoundation.org/harriet-books/2014/04/poetry-banksy

Goals

- Productions:

1. A poem (by selected authors or an original one, written by individuals/groups) in all languages and translated into English
2. Written by hand on a paper
3. Illustration of at least one poem/each group

INSTRUCTIONS - POETRY (groups of 4: 2 foreigners and 2 Slovenes)

- find (or write by yourself) ***a verse/stanza /poem*** *from your culture, history, country, that speaks about* ***the future, the present and fears for the future, society's challenges, relations*** … - **one for each country**
- ***Write it down in your language*** and ***translate it into English***
- ***write it down in nice characters***
- ***prepare a PPT and rehearse reciting it*** (in your mother language and English) - the group will also explain it in English (group 1, 2) – on the last day

INSTRUCTIONS for illustrators

(individual work)

TECHNIQUES: drawing (BW, color pencils, crayon, markers …) collage, stencil

STYLES: modern, stylized, simplified …

SCHEDULE:

11.00

Introduction

11.30-12.45

1st part: researching poetry/writing poetry; translating and ilustrating

12.45-14.00

2nd part: preparing for stage presentation (rehearsing, preparing PPT presentation ...)

Final night: reciting poems & presenting illustrations

"Optimism is a strategy for making a better future. Because unless you believe that the future can be better, you are unlikely to step up and take responsibility for making it so."

Noam Chomsky

"For millions of years, mankind lived just like the animals. Then something happened which unleashed the power of our imagination. We learned to talk and we learned to listen. Speech has allowed the communication of ideas, enabling human beings to work together to build the impossible. Mankind's greatest achievements have come about by talking, and its greatest failures by not talking. /.../ With the technology at our disposal, the possibilities are unbounded. All we need to do is make sure we keep talking."

Stephen Hawking

3. 1. 2. FUTURISTIC VISIONS OF VISITED PLACES – INSTRUCTIONS AND DEBATE

PPT KLIK:

https://docs.google.com/presentation/d/1_jQqdV8yY5uwXu3LXVRlyBsEs1EUZq1E/edit?usp=drive_link&ouid=116639049721768673148&rtpof=true&sd=true

Erasmus+ THE FUTURE VISIONS AND CHALLENGES,
SLO 5. - 12. 10. 2023, menthor: Matej Kocjan

Interpreting through art:

Futuristic visions of visited places

(salt pans, Piran, olive plantation…)

HARVESTING SALT, COASTAL TOURISM, OLIVE INDUSTRY

HARVESTING SALT

- *chem.* **NaCl** *(sodium-chloride)*
- **salt as „white gold"** – for food conservation (dehydration) and is an essential spice in cooking – we can use it also to defrost ice, as detergent, disinfectant, ceramic coat, electrolyte in osmosis process, in producing new generation of sodium-ion batteries …
- it's a **strategic asset**
- traditional method of building **salt pans near sea water**
- use of **solar heat** to evaporate water
- harvesting **different types of salt** *(thin, coarse, salt flower)*

https://sl.wikipedia.org/wiki/Se%C4%8Doveljske_soline#/media/Slika:Salt_fields_near_Piran,_Slovenia_(19629102184).jpg

https://sl.wikipedia.org/wiki/Se%C4%8Doveljske_soline#/media/Slika:Se%C4%8Dovlje-234887.jpg

HARVESTING SALT, COASTAL TOURISM, OLIVE INDUSTRY

COASTAL TOURISM

- ***swimming, sun bathing, spa treatment sailing, fishing, sea food, festivals…***
- **pictoresque landscape, historic monuments** (old civilisations, first cities…)
- **traditional way of life**
- **temperate climate** through all the year

https://sl.wikipedia.org/wiki/Piran#/media/Slika:Piran_Tartini_St._Georg.JPG

https://sl.wikipedia.org/wiki/Piran#/media/Slika:Piran_03.jpg

HARVESTING SALT, COASTAL TOURISM, OLIVE INDUSTRY

OLIVE INDUSTRY

- **olive oil production:** *for frying and preserving other food, as lamp fuel, therapeutic agent in medicine, in massage oils, as wood protection coating, lubricant for joints, paint binder…*
- ***traditional (quality)*** and ***industrial (quantity) approach*** in poduction
- **protected designation of origin**
- **olives**: preserved in cans (pickled food), marinated
- **tree**: shade for herds, desalting terrain, quality wood source, roots are resistant to fire damage…
- **renewable source** and **strategic asset**

https://en.wikipedia.org/wiki/Olive_oil#/media/File:Egyptian_Olives.jpg

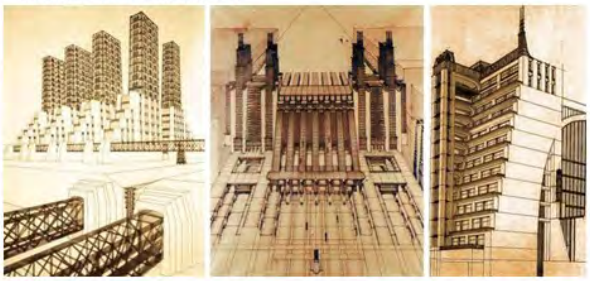
https://en.wikipedia.org/wiki/Olive#/media/File:Olive_Grove_prunings_in_neat_rows._Ostuni,_Puglia.jpg

FUTURISM

MODERNIST STYLE

Tullio Crali, Bombardamento aereo, 1932,
http://mariapaolaforlani.blogspot.com/2017/05/aereopittura.html

https://galeriadeartemx.com/futurismo/



Antonio Sant'Elia, *"Manifesto of Futurist Architecture"* (1914)
http://utopicus2013.blogspot.com/2013/06/introduction-to-antonio-sant-elia.html

FUTURISM

VISIONARY APPROACH

DALL·E

FUTURISM

VISIONARY & CRITICAL APPROACH

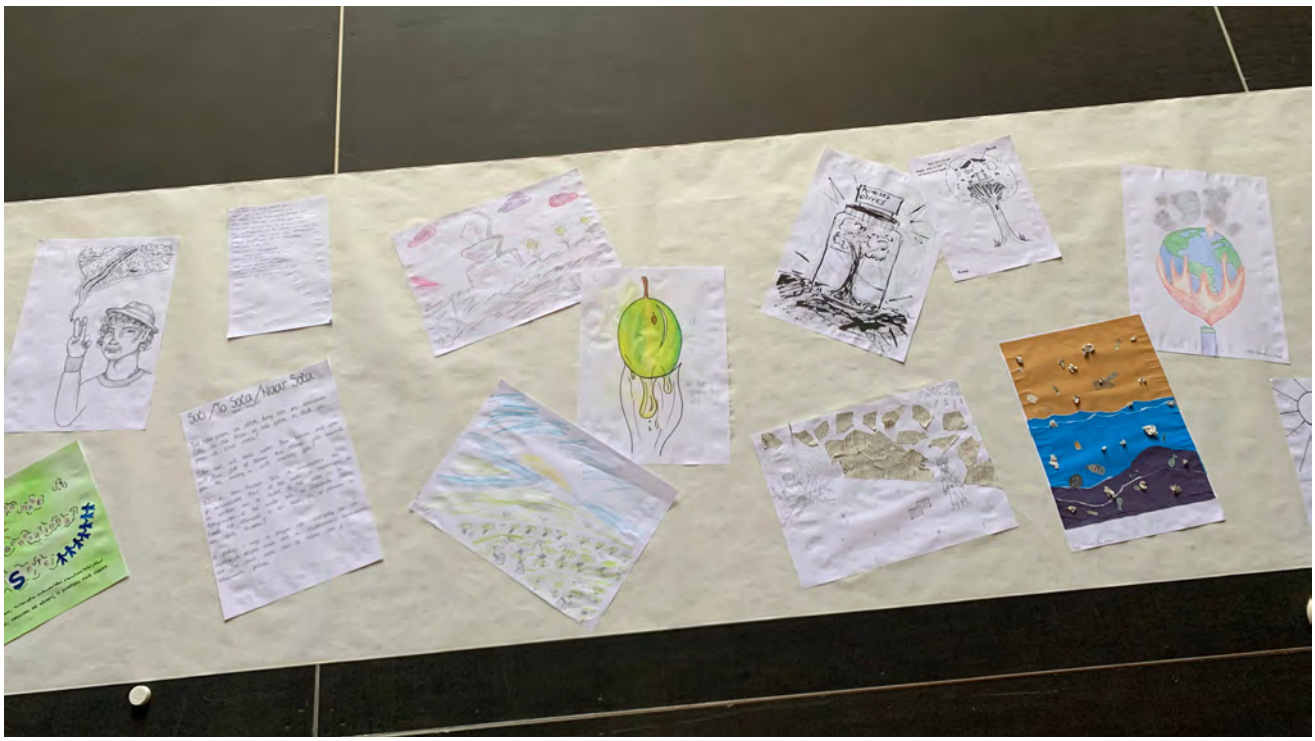
https://www.cntraveler.com/video/watch/how-cities-of-the-future-are-embracing-nature

WORKSHOP

- **make a futuristic (visual / textual) interpretation of *salt havesting, coastal turism* and *olive industry***
- use a **traditional or contemporary** (modern) approach **(style)** in your work
- be poetic, critical, humorous, direct…

- *work individually or in small groups (max. 3 people)*
- *use pencils, markers, colors, collage techniques…*
- *be clear in writing and use contrast in your art work*
- *at the end explain what message you tried to express*

3. 5 BEST STUDENTS' RESULTS RELATED TO CULTURE AND ARTISTIC VISIONS




NORTHERN LAPWING
LITTLE TERN
Flamingo

DANCE WORKSHOP

3. 2 INSTRUCTIONS AND PHOTOS FOR DANCE WORKSHOPS

- prepare students for collaborative group work

Dance:

Dance:

e/she tells his/her name and rolls the ball towards a student who's name he/she doesn't know.

er can't talk
he one who can't talk, leads the other

of the shoulders and back – scratching

: 1-2-3 strong steps “crashing the floor”

1-2-3 strong steps “crashing the floor”

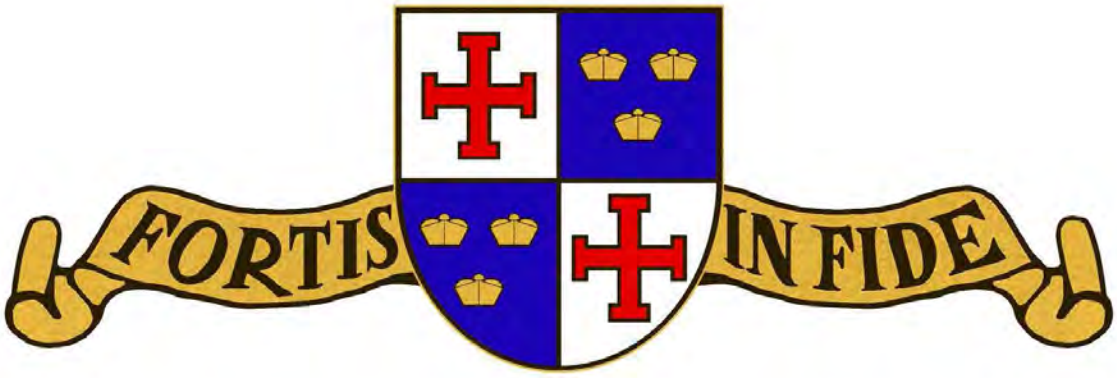
– click

Finland – Jenka - click)

PAST – PRESENT – FUTURE:

3. 3 INTRODUCTORY PPT FROM TILBURG

Welcome!



Tilburg, Rotterdam, The Hague and the Battle against Water:

- Tilburg a city that reinvented itself
  - King Willem II
  - Textile industry
  - Leisure and Festivities
- Rotterdam
  - World War II and the destruction of the historic centre
  - The rebuild
  - Port
- The battle against water
  - Flood of 1953
  - Delta Works
  - Dunes

Tilburg: a town that reinvented itself

A Strange little Palace, a Statue, and a Soccer club: King Willem II

Willem II, our Hero in the Fight against Napoleon and……the Belgians

Willem II, living the live and dying in Tilburg:

Den Haag, 6 december ; 1792 – Tilburg ; 17 maart 1849

Textile Industry

Textile factory workers: 'Jar Pissers' (Kruiken Zeikers)

A town re-emerging from its ruins

Cherishing our Industrial Heritage

City of Festivities: Carnaval and Annual Fun Fair

KRUIKENSTAD
Carnavalsstichting Tilburg

Rotterdam: A Modern City, risen from the Ashes of WWII

14-05-1940 Rotterdam bombarded. The Netherlands capitulates to the Germans

Don’t moan, get the job done!
(niet lullen maar poetsen)

The Dutch: a continuing Battle Against Water

Watersnoodramp (North Sea Flood) 1953

Deaths: 1873

Livestock: 47.000 cows

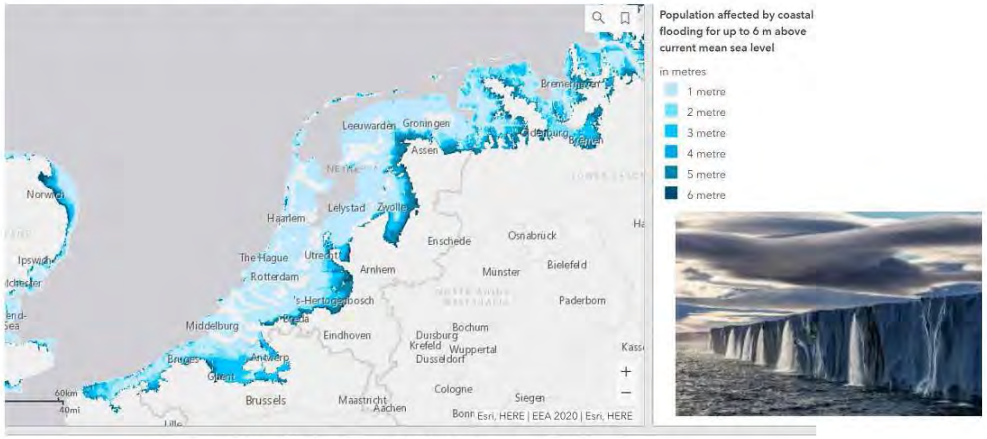
Houses destroyed: 4500

Flooded area: 200.000 ha

The Delta Works

Natural Defenses: Dunes

The Challenge of Climate Change



Population living within the respective height above mean sea level (in metres):

Scheveningen

The Hague: Centre of Political Power: King, Goverment and Parliament

Top UN court orders Israel to allow food and medical aid into Gaza

International Court of Justice

Enjoy Your Time!

Exchange Koper-Tilburg

4-11 April 2024

Welcome, Gimnazija Koper!

het Odulphus lyceum

Gimnazija Koper

Erasmus+

School buildings tour
Groups

Group 1
Ghislaine + Goa
Esmee + Mei
Karsten + Filip
Roos-Anne + Anja

Group 2
Madelief + Julia
Puk + Anastasia
Simone + Spela
Iby + Klara

Group 3
Kiki + Ema
Rowynn + Erika
Fenneke + Nina
Job + Jip

Group 4
Alessa + Maja
Abel + Jon
Sarah + Lara
Max + Luka

Group 5
Anna + Spela
Diewertje + Taja
Veerle + Anja
Lisa + Zarja

Group 6
Lieve + Tina
Amy + Veronika
Hanna + Lana
Veerle + Anja

Introduction

- This week's programme
  https://drive.google.com/drive/folders/1g_n09Le4W4fMLckUntg7O9wgnKZXloSh
- End product + presentations on Wednesday
- Today's programme

Friday 5-4

Today's programme

Friday 5th April Teachers: Emiel de Lange Anne van Hoef	8.30h	**Arrival + welcome at school (Kapel, 101)**	All students
	8.30h- 9.00h	Introduction of the week's programme	
	9.00h- 10.00h	Tour of the school buildings	All students in groups
	10.00- 11.00h	Lesson on Tilburg history and cultural heritage and Dutch Deltaplan (Kapel)	Dutch students arrange lunch in city centre/or provide packed lunch
	11.30h	Tour+Assignment in Tilburg city centre	
	12.45- 15.00h	**Excursion 1 - Tilburg Textile Museum** Guided tour	
	15.00- 15.10h	All students go home (to host families)	

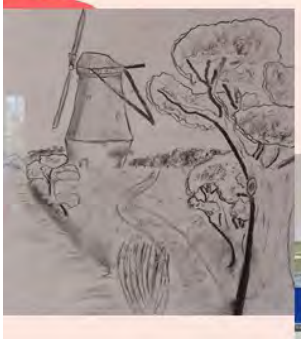
Assignment: End product + presentation

During the exchange, you will visit historical and modern places in Tilburg and in The Netherlands. You will get information about the challenges and chances of the past and the future.
Soak up as much information as you can and take pictures of the things you find interesting , moving, beautiful, concerning, striking etc.

On Wednesday, you and your buddy will make a collage about the challenges and chances of the places you have seen and visited.

During the 'exhibition' in the afternoon, you will briefly pitch your collage to the group.

Assignment: End product + presentation




Time: +/- 3,5 hours
Technique: collage on canvas (mixed techniques: paint, pencil, fabric, paper etc.)

11.00 Start City Centre Assignment + Lunchtime

Start 11.10
Walk through the city centre → Spoorzone (Lochal) →
To the Textielmuseum (Goirkestraat 96)

In the meantime, you can have lunch

Arrival at Textielmuseum: 12.45

Assignment:
Take 3 photographs each of industrial remains that you can see Throughout your walk

Information on the Netherlands + Tilburg

Theme:

The challenges and chances of the past and the future.

01 Orientation

02 Strategy

03 Implementation

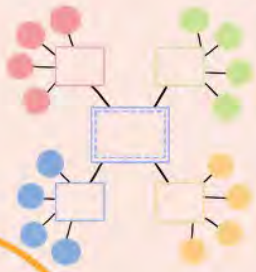
04 Pitches + vote

01 Orientation

Theme: The challenges and chances of the past and the future.

Max. 15 minutes

Orientation



We'll start with a brainstorm. Create a mind map on a piece of paper. Keep the theme in mind.

1. Write down at least 5 key words that come to mind when you think of your experiences over the the past weeks. What did you find beautiful, striking, interesting, concerning, moving etc? Discuss and exchange ideas with your buddy.
2. Now, expand the mind map further. Which other words do the key words evoke? Discuss together what you would like to share/tell about your experiences/about the theme.

02

Strategy

Max. 15 minutes

Collage preparation

How to translate your ideas onto your canvas?

Together with your partner, you will exchange ideas about and discuss the following:

- Which images come to mind when you think of the words in your mind map?
- Which colours and shapes come to mind?
- Which materials do you think will fit the words? Paper, fabric, wool, crayons, pencil or marker?

Collage

Decide on materials you want to use .

Look for images that think are fitting
(in magazines or online)

Use photographs that you took over the past week. (In your collage or as inspiration)

You can add text if you want to
(use magazine fonts or write)

03 Implementation

3 - 3,5 hours

04

Pitches and vote

Canvas pitch

Pitch your canvas to the group, together with your partner(s).

- Mention your pair's five key words
- Explain how the theme is expressed on your canvas
- Why did you choose certain materials, images, text, colours?
- Evaluate: what experience/piece of information/realisation stuck? What are you taking with you?

Vote

- You can vote for the canvas that speaks to you the most or
- You can vote for the canvas with the most interesting/fun/beautiful pitch
- Of course, you cannot vote for your own canvas...

PAST – PRESENT – FUTURE:

3. 4. INSTRUCTIONS FOR THE FINAL RESULTS

Prepare a National Geographic-type article:

- length of at least 2000 words,

- the photo material must be yours,

- all sources reliable and correctly cited.

We expect:

- a clear topic,

the goal of the article (not a summary of what is happening!),

- all of this also expressed in the title, subtitles (note that it is an article and not a seminar assignment),

- use (or find) appropriate professional terminology in English,

- use of reliable sources and appropriate citation.

Design the article (e.g. in the Scribus program, if there is no other way, you can also use the online designer Canva or similar).

FINNISH TEAM:

Topics (maximum two groups for the same topic):

1. Finland from prehistoric times to the present - life in a harsh environment

2. Countryside and city life in Finland and Slovenia

3. Forest countries: Sustainable facilities in Finland and the use of forests and challenges for the future in Slovenia

4. Finland and Slovenia; Helsinki and Ljubljana - green/sustainable countries and cities (including tourism) 5. Historical parallels between Finland and Slovenia, echoes in the present and challenges for the future.

6. Olive growing - between tradition and future: characteristics of this industry, green activity, challenges.

7. Salt pans: between tradition and entrepreneurial challenge - sustainable industries

SPANISH TEAM:

Topics (maximum two groups of the same topic):

1. The impact of ports on the environment on the example of Luka Koper

2. The sea – condition, protection, challenges (research and include the results of chemistry); include the Slovenian sea, as well as the Doñana Natural Reserve (Doñana Natural and National Park) and lectures by an oceanographer (Málaga Oceanographic Center, Mari Carmen García) and the Morigenos Society (name and surname).

3. Caves and ecology

4. Ljubljana, Bled, Karst: Green city and green tourism (also include the European City of Culture 2025 and the Go Borderless project)

5. Sustainable and renewable energy sources on the example of the Sanlúcar la Mayor solar plant

NETHERLAND TEAM

Topics (maximum two groups of the same topic):

1. The Netherlands – in coexistence and struggle with nature

2. Ljubljana and Bled: Green city and green tourism

3. Olive growing - between tradition and future: characteristics of this industry, green activity, challenges

4. Salt pans: between tradition and entrepreneurial challenge - sustainable industries

5. Past and present reused for the future – Netherlands

SLOVENIAN SEA

4. 1 Slovenian sea: Chemical analysis of pollutants in water

1) Ammonium NH_4^+:

Basics:

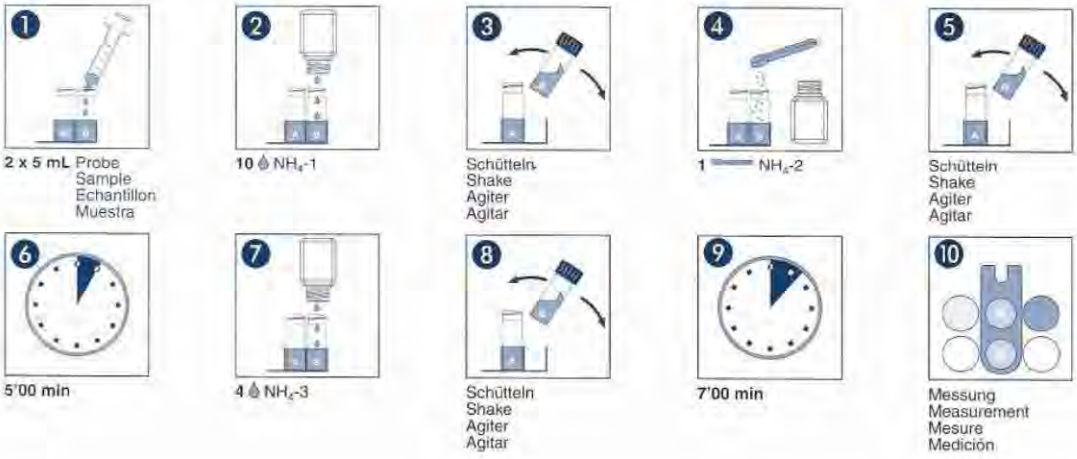
The presence of ammonia in water indicates that the water has been exposed to decomposing organic matter from agricultural, municipal, or industrial sewage. At the concentrations expected in drinking water, it does not pose an immediate threat to human health. Clean water contains less than 0,1 mg/L of ammonium ions, while contaminated water may contain more than 10 mg/L. According to Slovenian legislation, the limit value is 0,50 mg/L. **Measuring area:** 0,2-3 mg/L NH_4^+.

This method can also be used for analyzing seawater after dilution (1 + 9).

Procedure:

1. Fill a **5 mL water sample** into each of the measuring glasses using the plastic syringe. Place a measuring glass on position A in the comparator. Only add the **reagents to measuring glass B**.
2. Add **10 drops of NH4-1** reagent to **glass B**.
3. Seal the glass B with cap and mix.
4. Add **1 level-measuring spoonful of NH4-2** reagent to **glass B**.
5. Seal the glass and shake the mixture until the powder has dissolved.
6. Wait for **5 min**.
7. Open the glass, add **4 drops of NH4-3** reagent.
8. Seal the glass and mix.
9. Wait for **7 min**.
10. Open the glass, place it in position B of the comparator and slide the comparator along the color scale until the colors match. Check the result in the gap on the upper side of the comparator. Mid-values can be estimated.

After use, rinse both measuring glasses thoroughly and seal them.



Result: The concentration of ammonium NH_4^+ in the sample is _____mg/L.

2) Nitrate NO_3^-:

Basics:

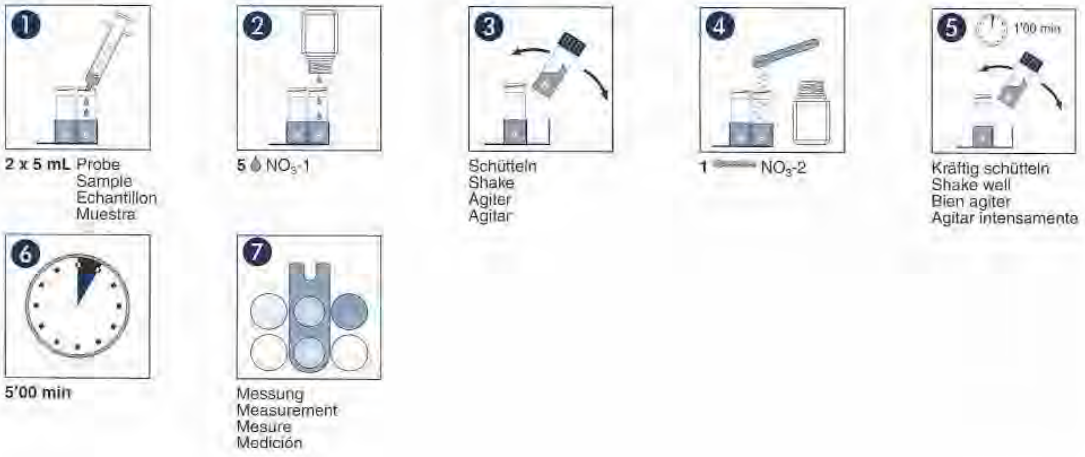
The increase in nitrates is due to the runoff of water from surfaces that have received excessive amounts of nitrogen fertilizers (fields). Increased concentration often leads to the appearance of algal blooms, which, as a result, leads to a lack of oxygen in the aquatic ecosystem. Among other things, the increased concentration can hinder growth, weaken the immune system, and cause stress to some aquatic organisms. In natural and uncontaminated water, the nitrate ion content is between 0,4 to 8 mg/L. In polluted water bodies, nitrate contents can range from 50 to 150 mg/L, even higher values are possible. According to Slovenian legislation, the limit value in drinking water is 50 mg/L. **Measuring area:** 1-90 mg/L NO_3^-.

This method can be used also for analyzing seawater (see conversion table).

Procedure:

1. Fill a **5 mL water sample** into each of the measuring glasses using the plastic syringe. Place a measuring glass on position A in the comparator. Only add the **reagents to measuring glass B**.
2. Add **5 drops** of **NO3-1** reagent to **glass B**.
3. Seal the glass with cap and mix.
4. Add **1 level-measuring spoonful of NO3-2** reagent to **glass B**.
5. Seal the glass and **immediately shake** the mixture **well for 1 min**.
6. Wait for **5 min**.
7. Open the glass, place it in position B of the comparator and slide the comparator along the color scale until the colors match. Check the result in the gap on the upper side of the comparator. Mid-values can be estimated.

After use, rinse both measuring glasses thoroughly and seal them.



Conversion table

mg/L NO_3^-	mg/L NO_3-N (Nitrate-nitrogen)	mmol/m³ NO_3^-	mg/L NO_3^- in sea water
1	0.2	16	1
5	1.1	81	5
10	2.3	160	12
20	4.5	320	25
50	11	810	65
90	20	1450	120

Result: The concentration of nitrate NO_3^- in the sample is _____mg/L.

3) pH value

Basics:

The pH value of water tells us the degree of alkalinity or acidity of water. Water with a lower pH has a greater ability to corrode, while water with a higher pH allows bacteria to develop, scale, and irritates the skin and eyes. At an elevated pH level, disinfectants operate with reduced strength, which, as a result, brings problems in maintaining clean water. Fish can only tolerate a certain pH range. Ideal fish water has a pH value between 6,5 and 8. Additionally, sewage networks as well as iron or concrete pipes are negatively affected at pH values below 5 and above 10. Normally, water bodies show a pH value between 6,7 and 7,5. Marsh water shows pH values in the acidic range due to organic acids. Domestic wastewater is normally neutral to alkaline, whereas industrial wastewater is most often acidic. Drinking water should have a pH value between 6,5 and 8,5. **Measuring area:** 4,0-9,0 pH.

This method can be used also for analyzing seawater.

Procedure:

1. Fill a **5 mL water sample** into each of the measuring glasses using the plastic syringe. Place a measuring glass on position A in the comparator. Only add the **reagent to measuring glass B**.
2. Add **4 drops** of **pH-1** reagent to **glass B.**
3. Seal the glass with cap and mix.
4. Open the glass, place it in position B of the comparator and slide the comparator along the color scale until the colors match. Check the result in the gap on the upper side of the comparator. Mid-values can be estimated.

After use, rinse both measuring glasses thoroughly and seal them.

Result: pH value in the sample is _____.

4) Nitrite NO_2^-:

Basics:

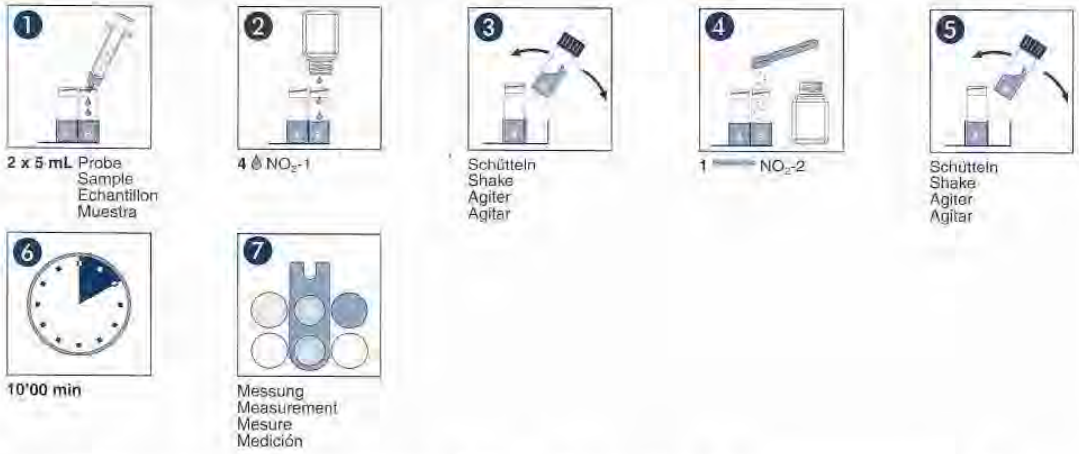
Wastewater can contain higher amounts of nitrite, which may be caused either by industrial wastewater from the metal or chemical industry, or due to the contamination with feces. Nitrite ions are also produced by the reduction of nitrate and are toxic to all living things - concentrations of up to 1 mg/L are regarded as non-hazardous. They cause cancer. In natural and uncontaminated water, the nitrite ion content is at most 0,01 mg/L. According to Slovenian legislation, the limit value is 0,50 mg/L or 0,10 mg/L in drinking water. **Measuring area:** 0,02-0,5 mg/L NO_2^-.

This method can be used also for analyzing seawater.

Procedure:

1. Fill a **5 mL water sample** into each of the measuring glasses using the plastic syringe. Place a measuring glass on position A in the comparator. Only add the **reagents to measuring glass B**.
2. Add **4 drops** of **NO2-1** reagent to **glass B**.
3. Seal the glass with cap and mix.
4. Add **1 level-measuring spoonful of NO2-** reagent to **glass B**.
5. Seal the glass and shake the mixture until the powder has dissolved.
6. Wait for **10 min**.
7. Open the glass, place it in position B of the comparator and slide the comparator along the color scale until the colors match. Check the result in the gap on the upper side of the comparator. Mid-values can be estimated.

After use, rinse both measuring glasses thoroughly and seal them.



Result: The concentration of nitrite NO_2^- in the sample is _____mg/L.

5) Phosphate PO_4^{3-}:

Basics:

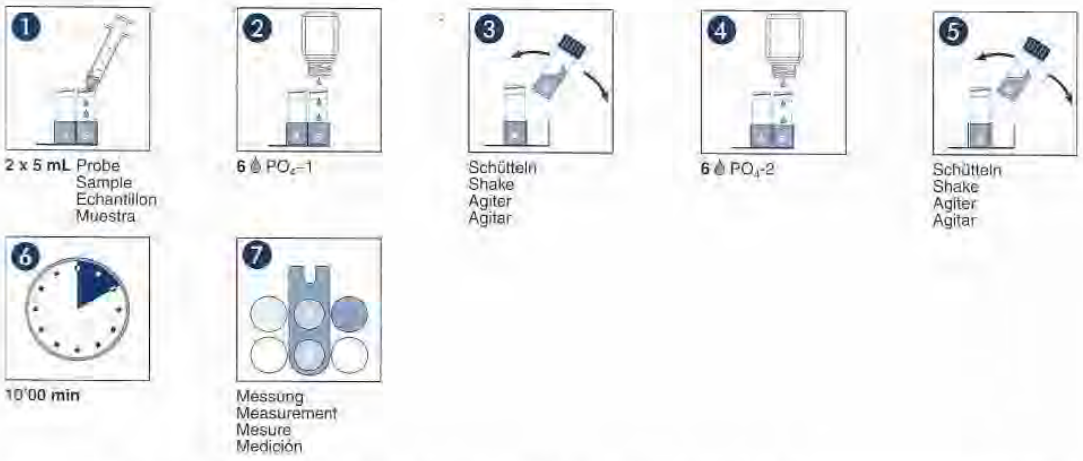
Water pollution with phosphates is most often the result of domestic sewage, which contains a large amount of washing powders and detergents. It is also common to wash artificially fertilized surfaces (high phosphate content) into groundwater. Phosphate, in addition to nitrate (NO_3^-), is the main culprit in algal blooms and fish diseases. Clean water bodies, especially in mountains, have phosphate contents of less than 0,1 mg/L. Phosphate concentrations exceeding 0,3 mg/L provide strong suspicion for contamination. An exception is marsh water, which may contain up to 1 mg/L. **Measuring area:** 0,5 - 15 mg/L PO_4^{3-}.

This method can be used also for analyzing seawater.

Procedure:

1. Fill a **5 mL water sample** into each of the measuring glasses using the plastic syringe. Place a measuring glass on position A in the comparator. Only add the **reagents to measuring glass B**.
2. Add **6 drops** of **PO4-1** reagent to **glass B**.
3. Seal the glass with cap and mix.
4. Add **6 drops** of **PO4-2** reagent to **glass B**.
5. Seal the glass and mix.
6. Wait for **10 min**.
7. Open the glass, place it in position B of the comparator and slide the comparator along the color scale until the colors match. Check the result in the gap on the upper side of the comparator. Mid-values can be estimated.

After use, rinse both measuring glasses thoroughly and seal them.



Result: The concentration of phosphate PO_4^{3-} in the sample is _____mg/L.

6) Total hardness:

Basics:

The hardness of water depends mainly on the substrate on which it flows. Total hardness refers to the concentration of metal ions, mainly calcium and magnesium. The increased concentration of calcium and magnesium salts increases the alkalinity and hardness of the water. Rainwater is extremely soft and has values close to 0 °d, while tap water can exceed

20 °d. Taken extreme geological conditions into account, generally, water with hardness levels of more than 445 mg/L $CaCO_3$ (ca. 25 °d) are considered to be polluted. Such pollution may for example result due to run-off from landfill sites. The main problem that hard water brings is the so-called limescale. **Measuring area:** 1 drop=1 °d=17,8 mg/L $CaCO_3$.

This method can be used also for the analysis of seawater after dilution (1 + 29).

Procedure:

1. Fill a **5 mL water sample** into the plastic tube using the plastic syringe or mini measuring cylinder.
2. Add **2 drops** of **GH-1**.
3. Shake gently to mix the contents (as shown in the picture). The water sample turns **red**. If the water sample turns green, this means that there are no hardness-producing substances.
4. Hold the dropping bottle **GH-2** vertical and add the reagent drop by drop, shaking the specimen at the same time to mix until it turns **green**.
5. When adding the GH-2 reagent, count the number of drops you added until the color changes and calculate the results using the formula: 1 drop=1 °d=17,8 mg/L $CaCO_3$.

Seal the dropping bottles immediately after use. Do not touch the dropping pipettes. After use, rinse out the plastic tube thoroughly.

Result: Total hardness in the sample is _____ °d = _____ mg/L $CaCO_3$.

Conclusion: Record your findings regarding the contamination of the sample. Help yourself with the obtained results and values, which are listed in the basics.

_____
_____
_____
_____
_____
_____

SALT BATH

Chemistry workshop: Making a Salt Bath

1. **Aim:** Use of natural materials in cosmetics

2. **Student's task:** Preparation of relaxation bath salt from natural materials

3. **Time:** 45 minutes

4. **Supplies and chemicals:**
   - a plastic bowl,
   - a plastic tablespoon,
   - a plastic teaspoon,
   - purple clay,
   - rough Piran salt,
   - lavender blossoms,
   - lavender essential oil,
   - a glass container,
   - decorative paper and cord.

5. **Security**: Long hair must be tied back or covered. Hands must be washed before leaving the laboratory.

6. **Workflow:**
   1. Put 200 g of salt, 1 tablespoon of lavender blossoms and 1 teaspoon of purple clay into a plastic bowl.
   2. Give it a good stir, so the clay colours the salt.
   3. Add 10 drops of essential oil and give it one last stir.
   4. Put the bath salt in a glass container onto which you stick the label and decorate the glass with decorative paper.

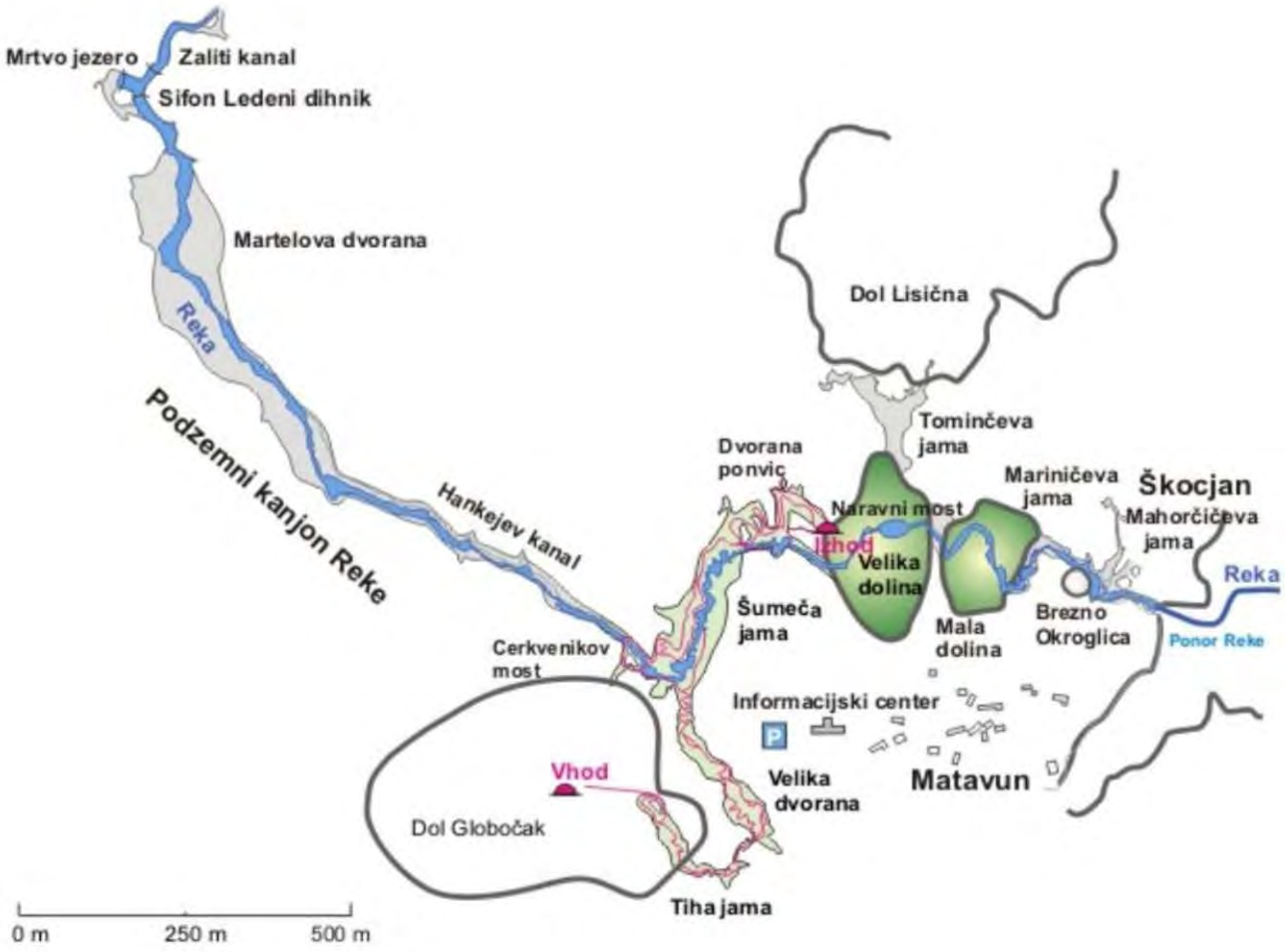
Use this bath salt after a rough day that was physically and psychologically exhausting. It will calm you and you will be able to sleep well.

žnik's foothill and runs on the surface for about _____km (up to the sink

in Škocjan caves). The area of the river covers has numerous streams. They come from impermeable

Co-funded by
the European Union

Co-funded by
the European Union



3. EXAMPLES OF OUTCOMES

DRAGONS IN SAUNA: from white Helsinki to green Ljubljana

Lana Derin, Julija Oberstar, Zoja Ulaga

In the school year 2023/2024 a Slovenian school, Gimnazija Koper collaborated with the Petäjävesi high school for the Erasmus+ project. Slovenian students hosted the Finns in their homes and introduced them to Slovenian culture and customs. Together they visited Koper, where they have done numerous activities. They also visited the capital city, Ljubljana, the city of Bled with a beautiful lake, the salt baths of Piran and tried out olive picking. After a few months the roles were reversed, the students of Gimnazija Koper, went on a one-week excursion to a small Finnish town, Petäjävesi, where the Finnish students presented them central Finland.

Similar to the exchange in Koper, they visited the Finnish capital Helsinki, later they got to know the school and visited the two churches of Petäjävesi. They also visited the closest bigger city Jyväskylä in which they went to the Museum of central Finland, where they got to know its history, then visited ProNemus, Metsä-group, a Bioproduct mill, joined a few classes and tried out the sauna together with a dip in the icy cold lake. On the last day, they could watch Finns perform a few traditional dances and even learn some themselves. The time passed too soon, but after seven days, it was time to part.

19 000 KM DISTANCE

While the students got along well and found many similarities between each other, their countries aren't that similar.

Geographically they are 1900 km distance from each other.

Slovenia belongs to Central Europe, while Finland is located in the colder, Northern region.

Slovenia is a small but topographically diverse country made up of portions of four major European geographic landscapes – the European Alps, the Karstic Dinaric Alps, the Pannonian and Danubian lowlands and hills, and the Mediterranean coast.

Finland, on the other hand can be geographically divided into four regions: Archipelago Finland, Coastal Finland, the Finnish lake district and the Upland Forest.

Slovenia is much more densely populated, with 105 people per square kilometre (worldmeters.info).

As of 2022, Finland, which is much bigger than the small Slavic country, had a population density of 18.3 people per square km.

The languages are far from similar with Finnish belonging to the Finno-Ugric language group and Slovenian is part of the Slavic one.

What the two countries do have in common, is that they are two of the most forested countries in Europe. According to Eurostat Finland takes the 1st place, right and not far behind them is Slovenia, in the 3rd place. This is proof that they have much more forests than the average country. (ec.europa.eu)

The Slovenes belong to the South Slavic people and have a unique language. For most of its history, Slovenia has largely been controlled by the Habsburgs of Austria, who ruled the Holy Roman Empire and its successor states, the Austrian Empire and Austria-Hungary; in addition, coastal portions were held for a time by Venice.

As part of Yugoslavia, Slovenia came under communist rule for the bulk of the post-World War II period. With the dissolution of the Yugoslav federation in 1991, a multiparty democratic political system emerged. Slovenia's economic prosperity in the late 20th century attracted hundreds of thousands of migrants from elsewhere in the Balkans. In the early 21st century, Slovenia integrated economically and politically with western Europe, joining the North Atlantic Treaty Organization as well as the European Union in 2004. Slovenia's capital and most important city is Ljubljana (Britannica).
Finland was a part of Sweden from the 12th century until 1809, Finland was then a Russian grand duchy until, following the Russian Revolution, the Finns declared independence on December 6, 1917. Finland's area decreased by about one-tenth during the 1940s, when it ceded the Petsamo (Pechenga) area, which had been a corridor to the ice-free Arctic coast, and a large part of southeastern Karelia to the Soviet Union (ceded portions now in Russia).

Throughout the Cold War era, Finland skillfully maintained a neutral political position, although a 1948 treaty with the Soviet Union, later terminated in 1991, required Finland to repel any attack on the Soviet Union carried out through Finnish territory by Germany or any of its allies. Since World War II, Finland has steadily been increasing its trading and cultural relations with other countries. Under a U.S.-Soviet agreement, Finland was admitted to the United Nations in 1955. Since then, Finland has sent representatives to the Nordic Council, which makes suggestions to member countries on the coordination of policies.

Finland's international activities became more widely known when the Conference on Security and Cooperation in Europe, which resulted in the creation of the Helsinki Accords, was held in that city in 1975. Finland has continued to have especially close ties with the other Scandinavian countries, sharing a free labour market and participating in various economic, cultural, and scientific projects. Finland became a full member of the European Union in 1995 (Britannica).

IS THE TEMPERATURE THE ONLY DIFFERENCE BETWEEN LJUBLJANA AN HELSKINKI?

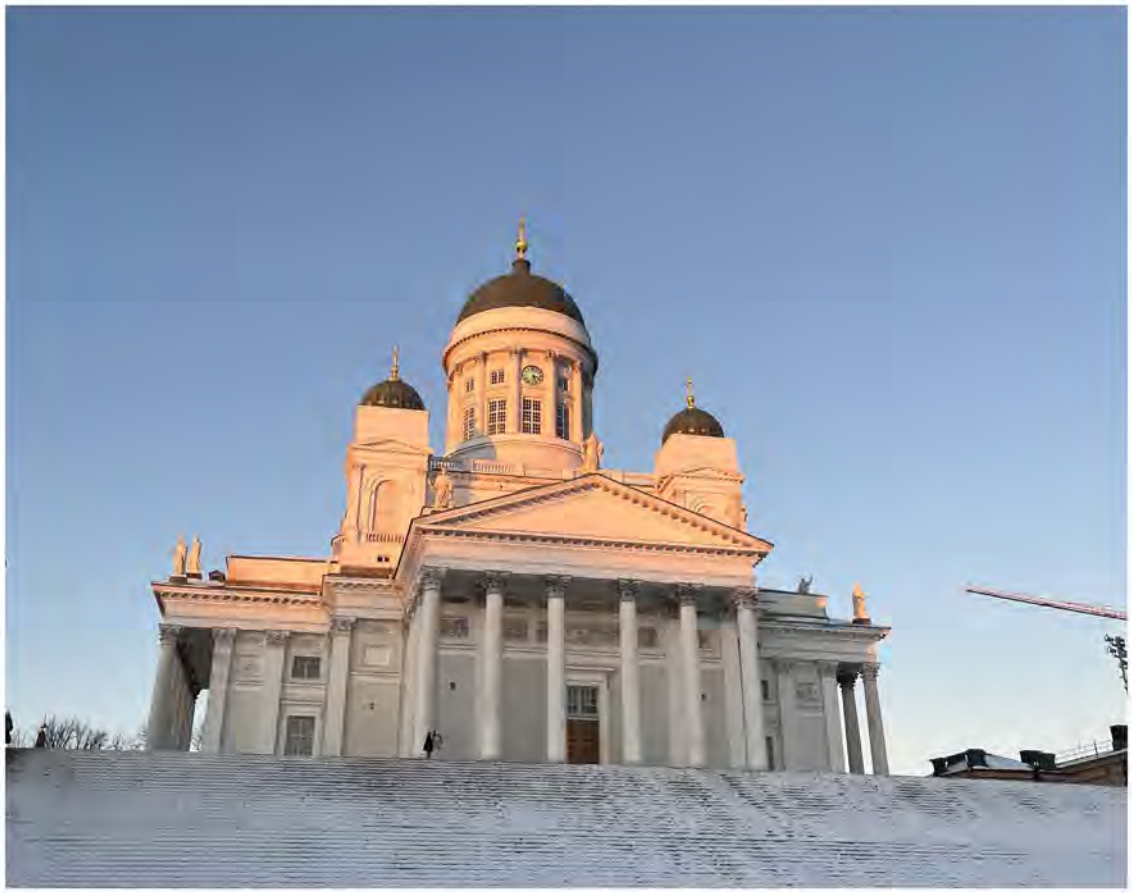
Although there are large differences in the climate of those two cities, which makes living in them very different, they have something in common. Both Helsinki and Ljubljana are the capitals of their own country.

Ljubljana is the political, cultural and scientific centre of Slovenia, with a population of a little over 289.000. It is the biggest city in the country. Its first inhabitants were the lake dwellers which lived there as early as 3900 BC. A legend has it that Ljubljana was founded by the Greek mythological hero Jason and his companions, the Argonauts. The lake where they made a stop was the dwelling place of a monster. Jason fought the monster and killed it. The creature is now referred to as the Ljubljana Dragon who found its place atop the castle tower on the Ljubljana coat of arms. Around 14 AD, the Romans established the city Emona and later on, because of its great location, the Ljubljana Gateway saw migration flows of numerous tribes and peoples, including the Illyrians and Celts. publishing of the first two books ever written in Slovenian, Primož Trubar's Catechismus and Abecedarium.
At the end of the 6th century, the Slovenians' Slavic forefathers arrived in the area.

A mediaeval city began to be built gradually. Ljubljana's rapid growth began in the 13th century, when the city, called Laibach at the time, was granted city rights. In 1270, Ljubljana was conquered by King Ottokar I. of Bohemia. Eight years later it fell under the Hapsburg rule as part of the Province of Carniola.

After the earthquake of 1511, the city was rebuilt in the renaissance style. Ljubljana was the centre of the Slovenian Reformation movement and culture and in 1550 saw the During the French occupation, Ljubljana was the capital of the Illyrian Provinces. In 1821, back under Austrian rule, Ljubljana hosted the Congress of the Holy Alliance, participated by several European rulers. In 1918, it became the administrative centre of Slovenia as part of the Kingdom of Serbs, Croats and Slovenians.
By the mid-1930s, Ljubljana had a population of over 80,000. During the Second World War, Ljubljana was occupied first by the Italian and then the German army. After the war, it became the capital of Slovenia, a republic in socialist Yugoslavia.

Today, Ljubljana is known for its historical heritage and tradition. Nonetheless, it is a youthful city with more than 293.000 inhabitants(ljubljana v stevilkah), a modern lifestyle and is actively striving to be a green capital city. (visit.ljubljana)



On the other hand, the area where Helsinki is today located,had the first settlements around 7000 years ago. It was established as a city by the order of Gustav Vasa in 1550. For centuries it had a population of a few hundred people, but was still the biggest city in Finland.

For a long while, Russia was in control of the city. It conquered the entire Finland and renamed it to the Grand Duchy of Finland. This led to industrialisation and building of railways which made Helsinki a city with valuable connections to the European market and by sea, finnish ships travelled as far as to South America.

Finland declared independence on December 6, 1917, but the nation drifted into a civil war as soon as January 1918.

During this period, Helsinki was captured twice: first in a coup by Red Finland in January, then by the German army in April. (Myhelsinki.fi)

Since the 1980s, the metro and local train network have altered public transport which was previously based only on buses and trams. Helsinki has now grown to an international, environmentally friendly and innovative city.

Today it has a population around 2.5 million inhabitants and 3.042 people per square kilometre. In the city there are 5 out of 14 universities that are in the country. The life standard is very high as well as the average pay.(facts.net)

IS THE GREEN DRAGON GOING INTO A GREEN FUTURE AND ARE THE FINNS JOINING IT?

Being green is becoming more and more important for destinations around the world. Many countries are trying to reverse the pollution and make the environment green again. One of the most successful countries in this field are Slovenia and Finland.

Slovenia has been striving to be a green destination for the past decade and its hard work didn't go to waste. There are many projects with which Slovenia is improving its greenness.

As early as 2016, the Green Destinations international organisation declared Slovenia the first green country in the world. Sustainable approach is their priority in different development fields, from energy, transport and waste to water resource management, biodiversity and climate change adaptation. Tourism is also developed in a way that is friendly to the environment, local communities and visitors.

Slovenia is the proud holder of the title of the European Region of Gastronomy 2021. Among its other qualities, it convinced the expert panel with its short supply chains, high quality of locally produced food and wine and a comprehensive organic approach. As many as six Slovenian culinary providers were awarded the new Michelin sustainability award, and many providers received the Green Key eco-label.(i feel slovenia)

Finland's Ministry of Economic Affairs and Employment has identified four priorities that will facilitate the sustainable growth and renewal of the tourism sector in Finland – first priority being supporting sustainable development. (visitfinland.fi) .

Finland has set an ambitious target of achieving carbon neutrality by 2035. Substantial reforms and investments are required to put the country on track towards the achievement of this goal. This concerns in particular the sectors that currently have the highest emissions including energy, housing, transport and industry. Finland's recovery and resilience plan includes an amendment to the Climate Act, which will anchor the country's ambitious 2035 target into law.
reform of the Waste Act will increase the targets for recycling and reuse.

The phase out of coal use in energy and a reform of energy taxation will contribute to promoting cleaner technologies.
Finland is highly committed to global Sustainable Development Goals (SDGs) and has been ranked number one in an international comparison of sustainable development in 2021 and 2022. The comparison assesses countries' progress on implementing the 2030 Agenda for Sustainable Development.

The plan supports the green transition through investments of €319 million in decarbonisation of the energy sector, namely in energy transmission and distribution and in new energy technologies.
€136 million will be invested in low-carbon hydrogen along the hydrogen value chain as well as in carbon capture, storage and recovery. On green transportation, €13.6 million will be invested in supporting private and public charging points for electric cars, gas charging and refuelling infrastructure. (commissioneuropa)

TOURISM;THE ENEMY OF THEM BOTH

Tourism can be harmful for nature, which is affected by many factors; from air, water and sound pollution, to destruction of natural environments. It often puts pressure on natural resources through over-consumption that can affect not only forests and water, but also the people that live there. (The World Counts)

Although it has its bad sides, tourism is important for many countries and regions. As well as creating jobs, it also brings in money to local businesses and preserves cultural heritage. It helps develop bonds between societies and allows people to explore new places and learn about different cultures. (e-unwto.org)

Sustainable tourism respects the needs of the environment and its inhabitants as well as the local economy. It aims to reduce the negative impacts caused by tourism for destinations, which can be achieved by protecting natural environments, wildfire and natural resources when developing and managing tourism activities. (mlad.si)

This kind of tourism is becoming popular, because of the increasing awareness about the negative impact that tourism has caused in the past and now people are looking for new ways to travel that are more environmentally and socially responsible.

SLOVENIA

The Green Scheme of Slovenian Tourism (ZSST) is a national program and certification scheme called Slovenia green. It combines all efforts for the sustainable development of tourism in Slovenia, it also offers destinations and providers concrete tools for assessing and improving sustainable operations and promotes this green action through the Slovenia Green brand.

The Slovenia Green project includes all destinations, accommodations, parks, agencies, sights, restaurants and beaches that have obtained the Slovenia Green label. In order to obtain the Slovenia Green Destination mark, destinations must meet the criteria of the Green Destinations Standard, while in order to obtain the Slovenia Green Accommodation/Park/Travel Agency/Attraction/Cuisine/Beach mark, providers must first obtain one of the internationally recognized and by the Verified Sustainability Labels Scheme.

Some recipients of the Slovenia Green Destination sign are: Ljubljana, Bled, Koper, Izola, Bohinj lake, Central Beach Portorož.

Slovenia, rich with cultural, historical and natural landmarks, provides diverse gastronomic experiences and boasts a growing choice of sport, culture and other activities. (Visit Ljubljana)

Ljubljana:

Ljubljana as a destination is characterised by authentic sustainability, which is an extremely important element of its international positioning.
The city offers various opportunities for sustainable tourism with its green image and sustainable development orientation.

Tourism Ljubljana is trying to develop Ljubljana as a green, attractive and environmentally friendly destination, creating a high quality of life for both citizens and visitors. (Sustainable tourism in Ljubljana » Visit Ljubljana)

HELSINKI

Helsinki prioritizes sustainability in all endeavors, including tourism. It's recognized internationally for its sustainable practices, which serve as a competitive advantage. Achieving sustainable growth requires responsible long-term changes from public as well as private sectors.This involves systematic planning, measurement, monitoring, and support for certification and ongoing improvements. The ultimate goal is for Helsinki to become the world's most sustainable destination.

SOURCES

1st subtopic(Julija Oberstar):
-population of slovenia per km2(online). Available on:https://www.worldometers.info/world-population/slovenia-population/
- forest statistics(online). Available on:https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Forests,_forestry_and_logging
-slovenia:hitory,geography and people(online). Available on https://www.britannica.com/place/Slovenia

2nd subtopic(Lana Derin):
- density of population- Worldmeters.info(online). Available on: https://www.worldometers.info/world-population/slovenia-population/#:~:text=Slovenia%202023%20population%20is%20estimated,273%20people%20per%20mi2
- number of inhabitants of Ljubljana(online). Available on: https://www.ljubljana.si/sl/o-ljubljani/ljubljana-v-stevilkah/
-41 facts about Finland(online). Available on:https://facts.net/world/countries/41-facts-about-finland/
3rd and 4th subtopic(Zja Ulaga):
-Green Scheme of Slovenian tourism (online). Available on: Green Scheme of Slovenian tourism | I feel Slovenia
- Finland – sustainable travel destination (online). Available on: Sustainability | Visit Finland
- Finland`s recovery and resilience plan (online). Available on: Finland's recovery and resilience plan - European Commission (europa.eu)
- European Union Tourism Trends (online). Available on: European Union Tourism Trends (e-unwto.org)
- Why is sustainable tourism trending and gaining popularity? (online). Available on: Why is sustainable tourism trending and gaining popularity? (etosglobal.com)
- Green Scheme of Slovenian Tourism (online). Available on: Green Scheme of Slovenian Tourism | Visit Ljubljana
- About Ljubljana Tourism (online). Available on: About Ljubljana Tourism | Visit Ljubljana
- Destination Finland: Sustainability Showcase (online). Available on: Destination Finland: Sustainable Tourism Strategies and Examples (sustainability-leaders.com)
- Tourism sustainability in Helsinki (online). Available on: Tourism sustainability in Helsinki | City of Helsinki

LJUBLJANA AND BLED

GREEN CITIES

SLOVENIA' S TRESURES

From the capital to the Julian Alps

Europe' s green capital

INTRODUCTION

Slovenia' s way of green life

LOCATION

Slovenia is a beutiful country with a great location; laying between the Julian Alps with spectacular views with lakes and mountains, the Balkan penincula with amazing culture and food, the Karst region which hides marvelous cave systems unlike any in the world and the Pannonian basin in the North-East and the Mediteranian sea both known for their rich history and diffrent types of wine and traditional dishes.

GREEN MIND

Over half of slovenia' s land is covered in forests making it one of the greenest countrys in Europe. Because of that it has made great effort to preserve natures beaty by more than 35% of its territory under protection. The Triglav National Park, one of the oldest in Europe, is a testament to Slovenia's commitment to preserving its natural heritage. This park, alongside numerous other protected areas, supports a diverse range of flora and fauna, including some endangered species.

Apart from protecting areas Slovenes have been committed to reducing its carbon footprint through the use of renewable energy sources. Hydropower plays an important role, providing a significant portion of the country's electricity. Additionally, Slovenia is investing in solar and wind energy to diversify its renewable energy portfolio. (source 1)

GREEN TOURISM

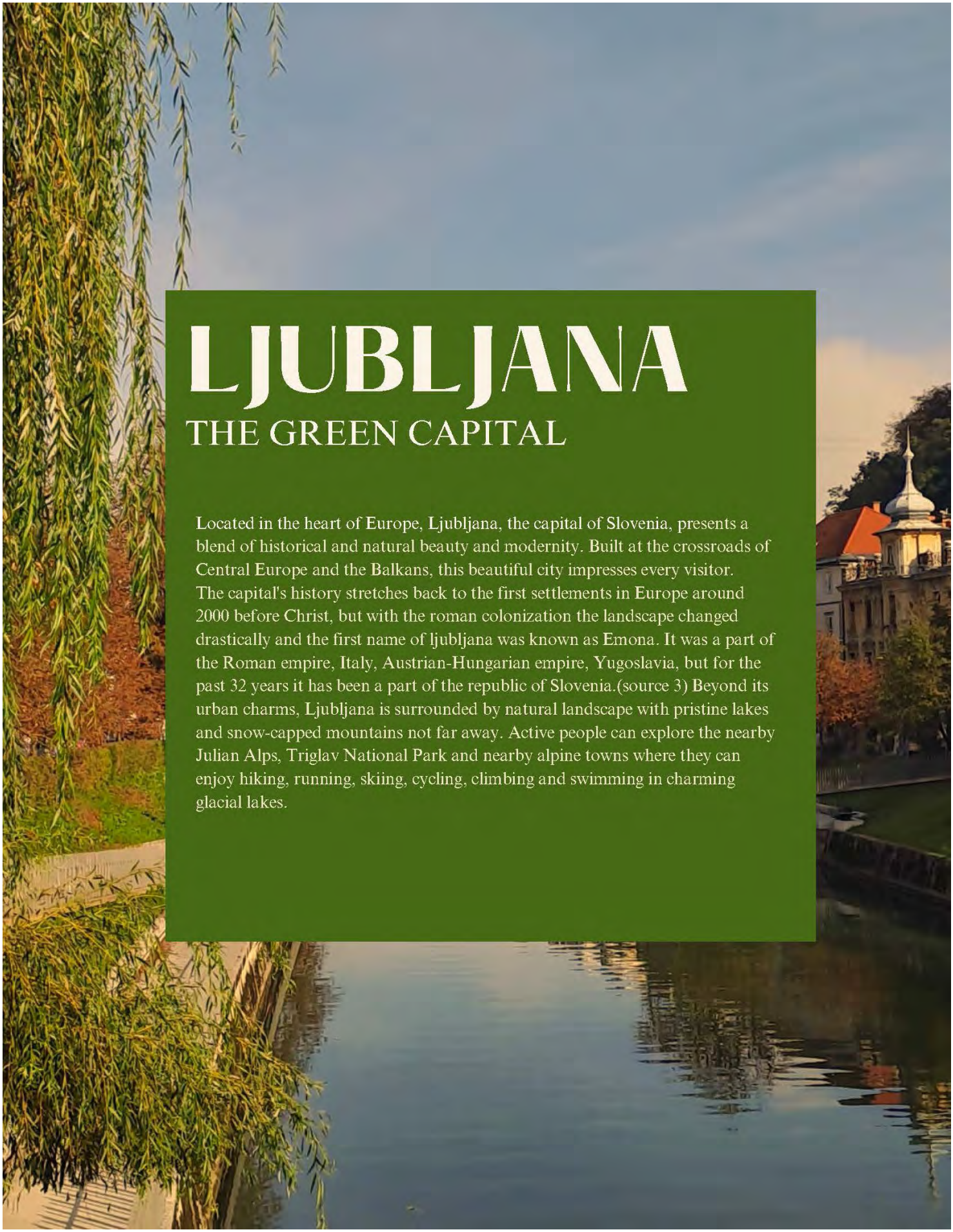
The development of sustainable forms of tourism is essential if we want to preserve the most beautiful corners of the planet so that future generations may explore them as well.

The Green Scheme of Slovenian Tourism is a national tool helping destinations and tourism businesses operating under the brand SLOVENIA GREEN introduce sustainable tourism principles into their operations.

The scheme was developed and started operating in 2015, when the first pilot destinations and tourism businesses joined the project.

Since then, the network of sustainably-oriented destinations and service providers has grown across the entire country. Currently, it includes more than 130 destinations, accommodations, natural parks, tourist agencies, tourist landmarks, restaurants and beaches.

The key strategic goal of the project is to introduce sustainable models in Slovenia's tourism sector for the country to become and remain an attractive green and healthy destination. (source 2)



LJUBLJANA

THE GREEN CAPITAL

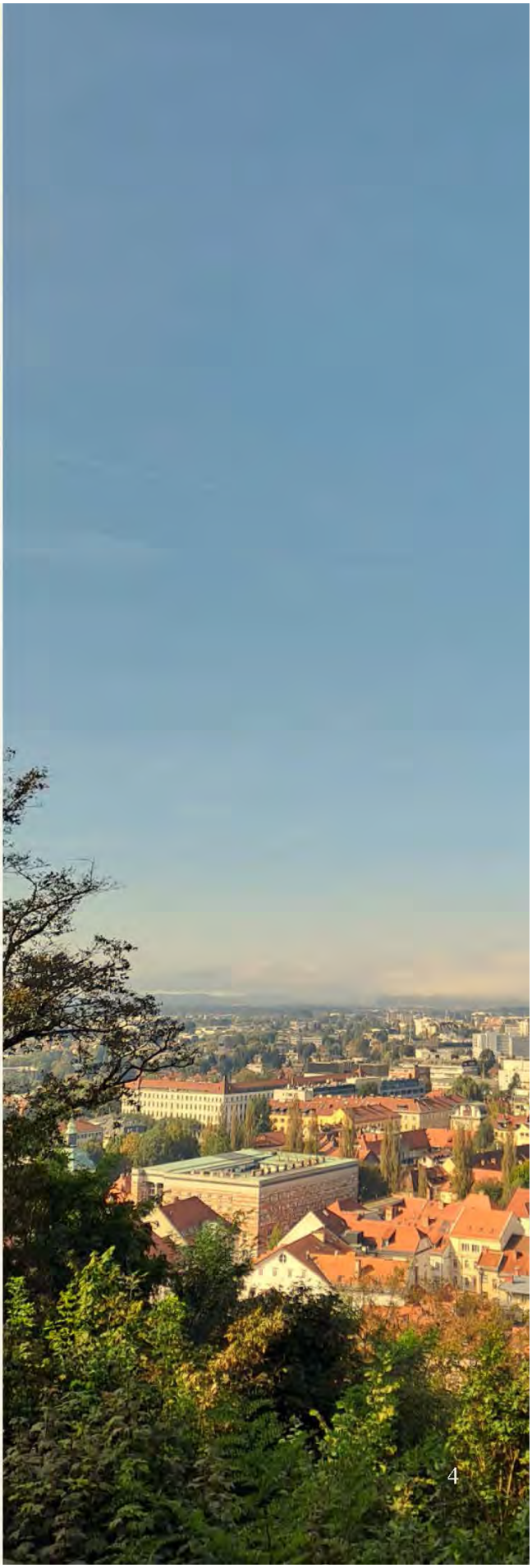
Located in the heart of Europe, Ljubljana, the capital of Slovenia, presents a blend of historical and natural beauty and modernity. Built at the crossroads of Central Europe and the Balkans, this beautiful city impresses every visitor. The capital's history stretches back to the first settlements in Europe around 2000 before Christ, but with the roman colonization the landscape changed drastically and the first name of ljubljana was known as Emona. It was a part of the Roman empire, Italy, Austrian-Hungarian empire, Yugoslavia, but for the past 32 years it has been a part of the republic of Slovenia.(source 3) Beyond its urban charms, Ljubljana is surrounded by natural landscape with pristine lakes and snow-capped mountains not far away. Active people can explore the nearby Julian Alps, Triglav National Park and nearby alpine towns where they can enjoy hiking, running, skiing, cycling, climbing and swimming in charming glacial lakes.

AN AWARD WINNING CITY

The European Commission's green city awards include two titles. The European Green Capital (EGC) for cities over 100.000 habitants and the European Green Leaf (EGL) for smaller cities as of 20.000 habitants. The awards recognise and reward local action towards a transition to a greener, more sustainable future.(source 4)

For the last decade, Ljubljana has been working hard to achieve high environmental standards. Twelve cities applied to become European Green Capital 2016. Each entry was assessed by an international panel of 12 experts and five cities were shortlisted – Essen, Ljubljana, Nijmegen, Oslo and Umeå.

The jury interviewed city representatives at the European Environment Agency (EEA). All the finalists provided real-life examples of how respect for the environment, excellent quality of life and economic growth can all be successfully combined. (Source 5) In June 2014, the European Commission announced that the Slovenian capital had been awarded the Official European Green Capital Award 2016. Over the las couple of years, the capital has been completely redesigned with sustainability in mind. Transportation in Ljubljana has changed dramatically over the past decade and the city has become more comfortable and more charming for both, tourists and locals. (Source 6)



BicikeLJ

CYCLING ON ANCIENT GROUND

Since May 2011, residents of Ljubljana and visitors can ride city bikes in the BicikeLJ self-service rental system, which complements other forms of public transportation in the city.(source 7)
The BicikeLJ bicycle-sharing system gives an opportunity to hire bikes from self-service terminals located across the Ljubljana city centre. BicikeLJ bikes are particularly suitable for shorter, up to an hour-long rides as hire is free if you return a hired bicycle to the nearest docking station within an hour and wait for five minutes before hiring a new one.
The use of the BicikeLJ system is free. The only cost involved is the fee for compulsory online registration with the system, which stands at €1.00 for a week and €3.00 for a year and must be completed in advance of hiring. (source 8)

KAVALIR

An eco-gentelman

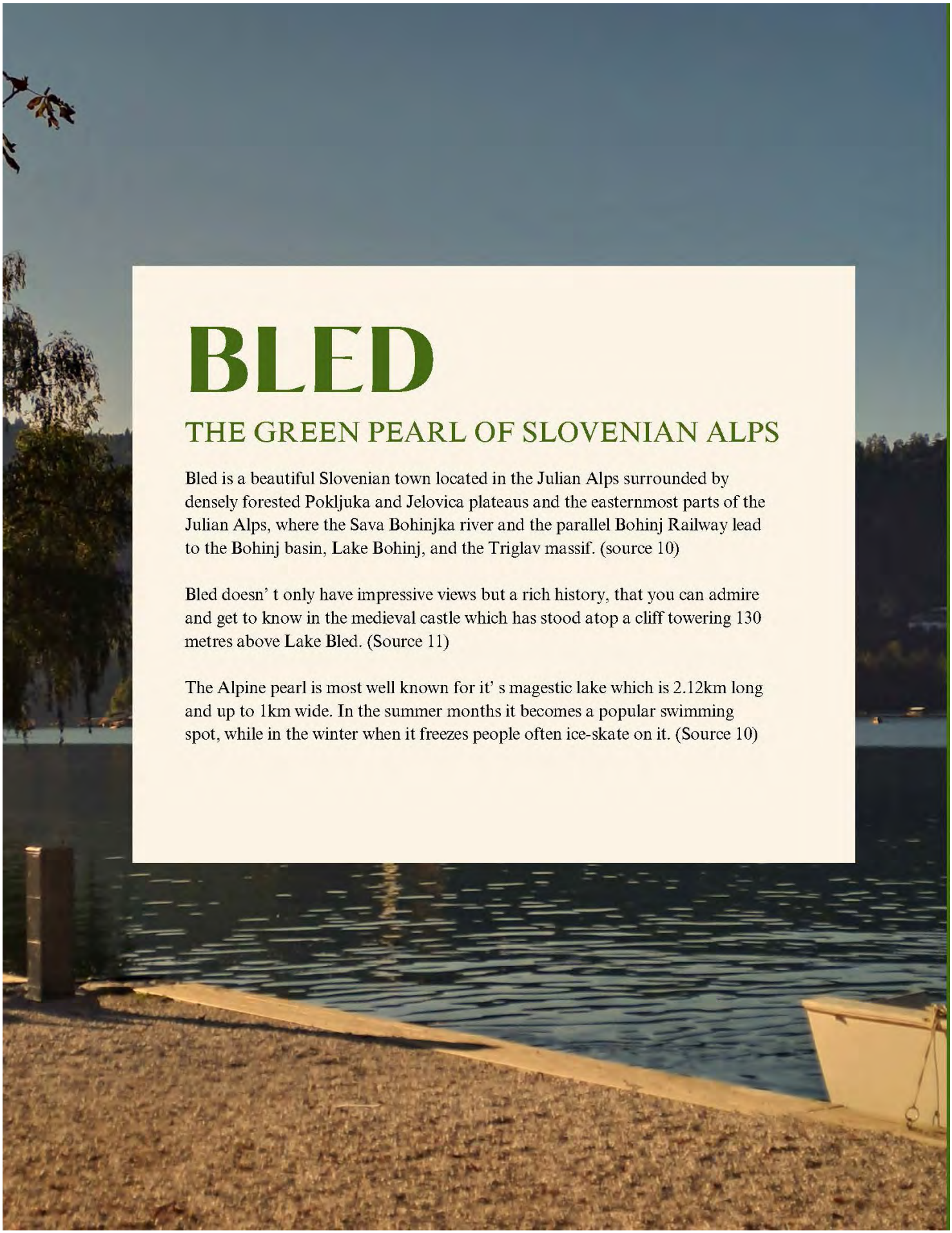
Despite the fact that the majority of the city center is dedicated to pedestrianc and cyclist, there is a certain type of electric car which is allowed called "kavalir" wich in Slovenian means gentelman.
Open Cavalier vehicles are used in the warmer months, and closed vehicles operate all year around. Closed vehicles also have a low entry platform and sliding doors to facilitate wheelchair entry and exit. Their low speed enables them to stop during journeys. A passenger can wave at the driver and he will stop and take the passenger along. Ordering the Cavalier via phone call is also an option. One Cavalier takes up to 5 people. They are without routes as they cover a specific part of the city centre where you are allowed to walk or bike. One Cavalier drives up to 300 passengers a day. Around 1.2 million passengers have been picked up in the last eight years. Cavaliers run all year around, from 6am to 10pm in the pedestrian zone. (Source 9)

FOR VISITORS

As you wander through Ljubljana, you'll encounter its numerous parks and green spaces.
Tivoli Park, the largest park in the city is a great place to unwind after a long day, have a picnic or do go jogging. During the year it hosts diffrent events from musical performances to art instalastions. The atmosphere is especially magical during the spring months when all the trees and flowers are blossoming.

Bikes and Kavalirs aren' t the only means of transport availible. Ljubljana has a great bus system that drives to any and evry part of the city. Buses are availible for both visitors and residents of the capital.

The Slovenian capital is not only known for it' s beauty. It has a rich culinary side where "foodies" can explore Slovenia on a plate, since the majority of ingrediants are sourced by local farmers



BLED

THE GREEN PEARL OF SLOVENIAN ALPS

Bled is a beautiful Slovenian town located in the Julian Alps surrounded by densely forested Pokljuka and Jelovica plateaus and the easternmost parts of the Julian Alps, where the Sava Bohinjka river and the parallel Bohinj Railway lead to the Bohinj basin, Lake Bohinj, and the Triglav massif. (source 10)

Bled doesn' t only have impressive views but a rich history, that you can admire and get to know in the medieval castle which has stood atop a cliff towering 130 metres above Lake Bled. (Source 11)

The Alpine pearl is most well known for it' s magestic lake which is 2.12km long and up to 1km wide. In the summer months it becomes a popular swimming spot, while in the winter when it freezes people often ice-skate on it. (Source 10)

POWER-HOUSE OF SLOVENIAN GREEN TOURISM

For several years now, Bled has been advocating green tourism and is the proud recipient of the gold label of the Green Scheme of Slovenian Tourism. As part of the 2019 Green Destinations international non-governmental project, Bled was selected as the second best place in sustainable development in Europe, and since 2008 it is member of the Alpine Pearls group, the objective of which is to promote sustainable mobility. (Source 12)

Since all the mai attractions in bled are in walking distance, there aren' t many cars in town. The majorty of people commute by foot or by bike in order to reduce the environmental impact to a minimum. Bled has also introduced sustainable transportation in and around Bled with a similar bike sharing system as Ljbubljanacalled BLED GREEN WAYS. (Source 12)

Bled encourages visitors to reduce their waste by setting fountains with drinkable water in evry part of the town aswell as recycle bins.

A big problem that this Alpine gem has faced is the destruction and degredation of the lakes flora by visiting swimmers who bathed wherever they wanted. Now people can only bathe in public baths such as Grajsko kopališče, Velika Zaka, Mala Zaka, etc. (Source 12)

But the most green thing in Bled is Bled itself. Because of it' s location visitors enjoy nature in it' s full glory. From Blejski vintgar with majestic waterfals with numerous hikiing path near, this town ecourages people to feel the nature around them, and make us aware of the natural beautys that could not be there for future generacions if we do not keep a green mind.

Sources

Source 1:
https://chatgpt.com/c/e9949908-cf0f-4cf5-95da-fa9d4e4682a6

Source 2:
https://www.slovenia-green.si/o-slovenia-green/

Source 3:
https://sl.wikipedia.org/wiki/Ljubljana

Source 4:
https://environment.ec.europa.eu/topics/urban-environment/european-green-capital-award_en

Source 5:
https://www.eea.europa.eu/highlights/ljubljana-wins-european-green-capital-2016

Source 6:
https://www.visitljubljana.com/en/media/press-resources/ljubljana-proud-european-green-capital-2016/

Source 7:
https://www.ljubljana.si/sl/moja-ljubljana/ljubljana-zate/pregled-vseh-projektov/sistem-izposoje-koles-bicikelj/

Source 8:
https://www.visitljubljana.com/en/visitors/travel-information/getting-around/bicikelj/

Source 9:
https://extranet.who.int/agefriendlyworld/afp/electric-vehicles-cavalier-kavalir-in-the-city-of-ljubljana/

Source 10:
https://en.wikipedia.org/wiki/Bled

Source 11:
https://www.blejski-grad.si/en/

Source 12:
https://www.bled.si/en/inspiration/green-bled/

FINLAND 1


OBJECTIVE 2.
9.10.2023
I as a CEO of my own life
Erasmus+


Learning new things is important in work life. Today i learned how to pick up olives.
Erasmus+


Doing things together is important in work life. There is power in doing together. Today when we were picking the olives, everyone picked some and the amount increased
Erasmus+


Today i learned that you need to pick up a big amount olives to get good compensation.
Erasmus+


I have the ability to start doing work and I also enjoy new tasks.
Erasmus+


In worklife leading skills are important. Today i learned to lead the group to pick up olives.
Erasmus+


Being social and having ability to communicate are important, especially when working with people from different countries.
Erasmus+

FINLAND 2

OBJECTIVE 3.

10.10.2023

"English speaking me"

Erasmus+

As Finns, we often understimate our language skills and feeling insecure can affect our actions.

When you try to get rid of those habits, speaking English becomes more natural.

Erasmus+

I have noticed that I don't have to be scared to use a foreign language. By daring to try different words you can get a good laugh out of everybody.

For example today I learned to use the word "kaj" (what).

Erasmus+

I have learned that Slovenians often say "dober tek" as a good appetite before eating.

Slovenian language has a lot of loanwords from for example Italy, Croatia, Germany, Serbia and England.
It's always fun to dive into foreign languages.

Erasmus+

I understand Italian with the help of my Spanish language skills.

Erasmus+

For example while shopping there may occur funny situations when some Finnish words mean something way different in Slovenian... Like kurpitsa!

Erasmus+

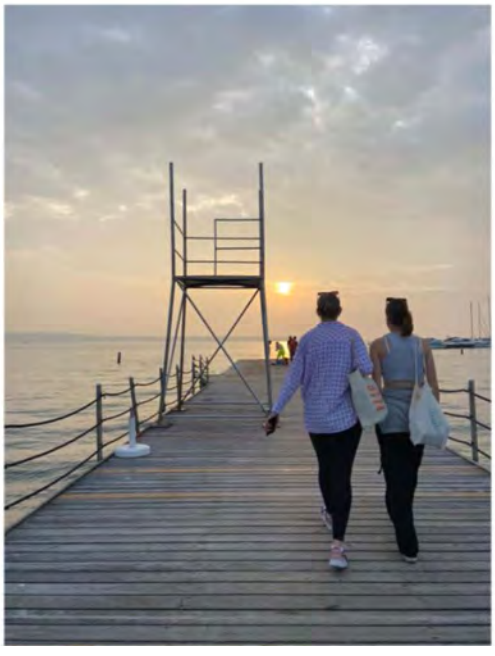
I have noticed that even during the end of the exchange week I might greet Slovenians in Finnish by accident.

Erasmus+

Language is the key for building friendships. It works like a bridge!

I have been able to create a lot of friendships with different people and share our culture to each other.

Erasmus+



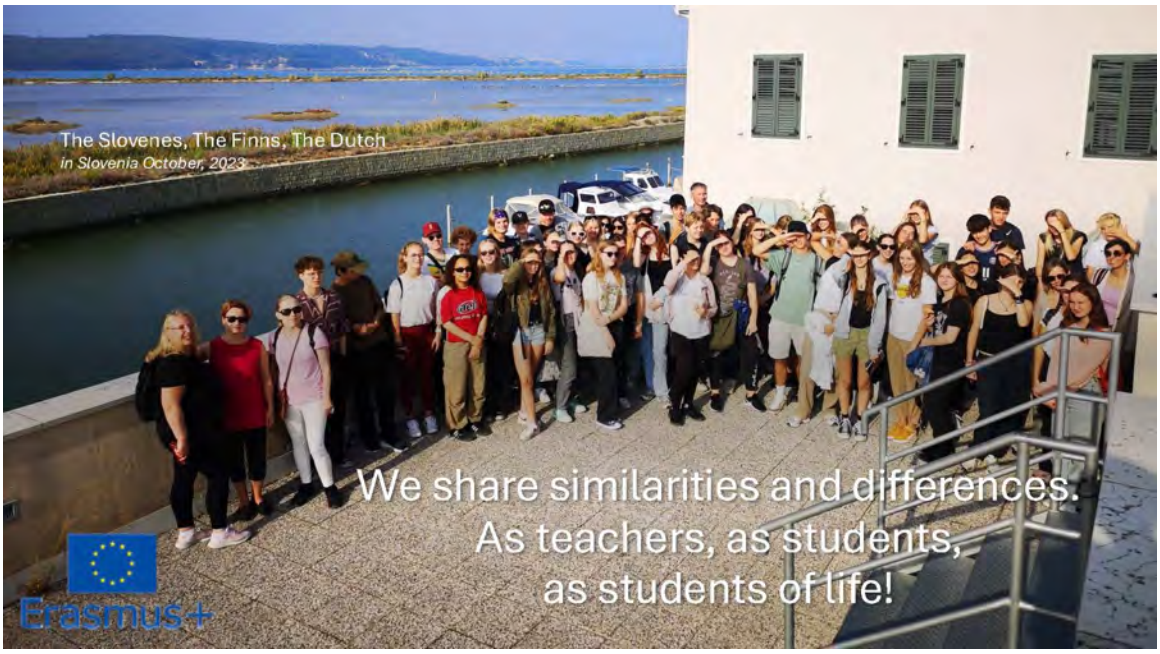
Talking in English is easier when we are in a group and the atmosphere is gracious.

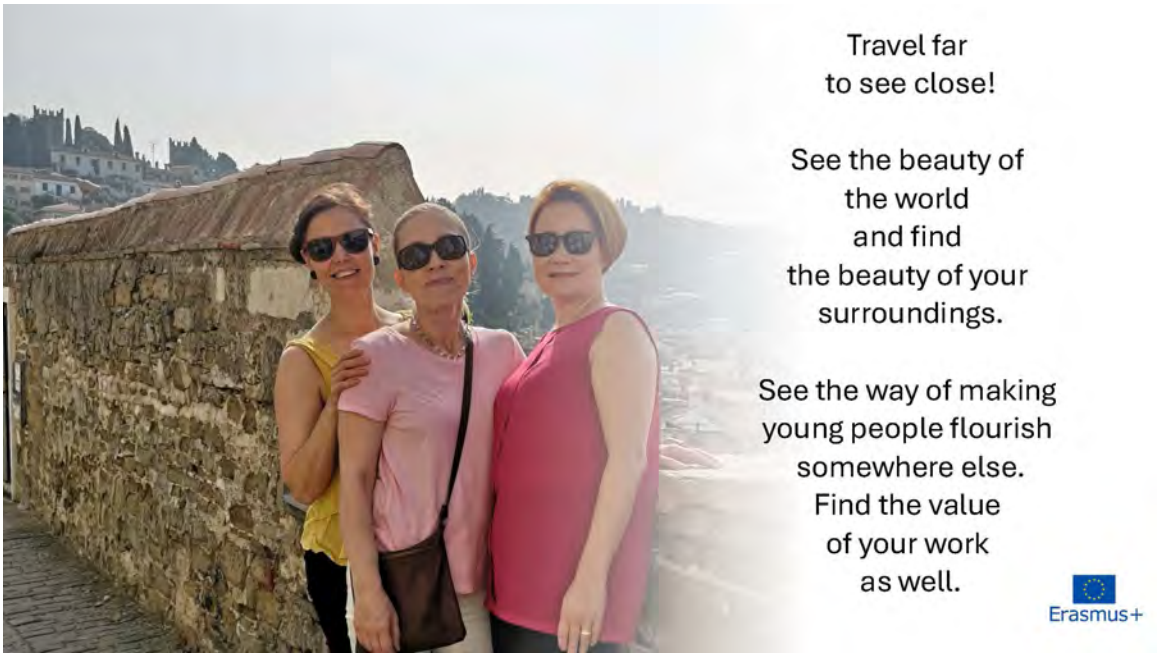
You don't feel pressure even though you can't always find the right words.

Erasmus+

FINLAND 3


OBJECTIVE 4. (for prof.)
More opportunities for internationalisation!
5.10.-12.10.2023
Erasmus+


The Slovenes, The Finns, The Dutch
in Slovenia October, 2023
We share similarities and differences.
As teachers, as students,
as students of life!
Erasmus+


Travel far
to see close!
See the beauty of
the world
and find
the beauty of your
surroundings.
See the way of making
young people flourish
somewhere else.
Find the value
of your work
as well.
Erasmus+

Let's change
sometimes
the view
of
our everyday life.
Physically. Together.

We will see
with different eyes
and open new doors.

When we share experiences,
we will share memories
and connection.
Connection to others
makes us humans.

Erasmus+

Sharing opinions and methods

It is so interesting to learn about the school system of the other country. What are the books like? What kind of matriculation examinations they have?

Sharing the conventions and the ways of working is highly enriching.

Erasmus+

Establishing connection

Spending time together, sharing moments of our lives, shared experiences - these things establish the connection between them and us, you and me.

We are sharing the humanity together. That is a valuable experience, valuable thing to learn. For example while picking olives together!

Erasmus+

During this project my
professional identity as
a Finnish teacher has strengthend.
I have had a possibility to see the
teacherhood from a wider
perspective.

I'm proud being a teacher in Finland!

Erasmus+

THE NETEHRLANDS: FIGHT AND COLLABORATION WITH NATURE

THE NETHERLANDS: THE FIGHT AND COLLABORATION WITH NATURE

Co-funded by the Erasmus+ Programme of the European Union

Gimnazija Koper

Article made for the Erasmus+ project.

By Anja Tomovski, Lia Medveš, Mei Trunkl Abram, Špela Frančeškin.

2023/2024

The Netherlands:
the fight and collaboration with nature

Introduction

The Dutch have been facing difficulties because of the water rising from the moment that the first inhabitants settled in the area. But that didn't stop them from using the good soil below the sea and the storm winds as a way to produce food and even electricity.

Photo 1: the flag of the Netherlands

The Netherlands, informally known as Holland, is a parliamentary monarchy located in the Northwest Europe. The capital city is Amsterdam, and the seat of the Government is in The Haag.

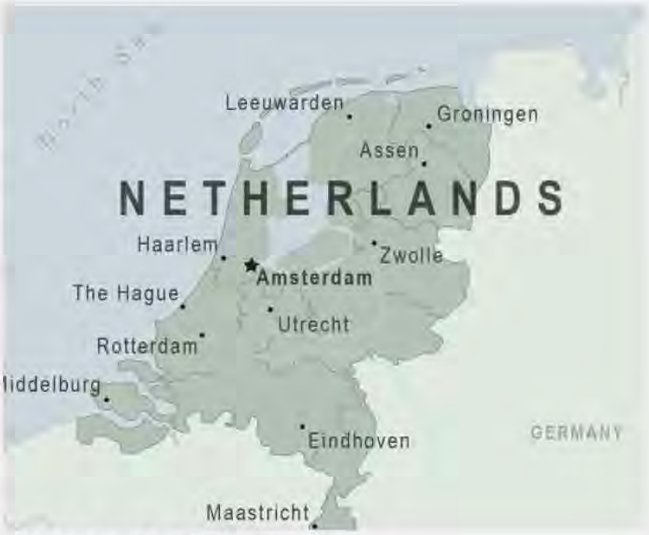


Photo 2: the Netherlands

Basic information

It borders Germany and Belgium. It is located in the temperate zone of the northern hemisphere and has a maritime climate. For the most part it is composed of mostly coastal lowland and reclaimed land-polders, and some hills, the tallest one, Vaalserberg, reaching 322 metres, in the southeast of the country. It is liable to flooding, since a lot of its terrain has been reclaimed from the North Sea, though a quarter of the country still lies under the sea level. It is part of a lot of international agreements concerning the environment and how to help stop the pollution.

(Sources:https://www.countryreports.org/country/Netherlands/geography.htm)

Photo 3: Charles of the Habsburg dynasty

Photo 4: the golden age

Photo 5: Phillip II

History

The earliest historical records of the Netherlands trace back to its four centuries as part of the Roman Empire. As Roman influence got smaller, Germanic tribes began invading the land. Among them, the Franks emerged as the dominant force in the 5th century. It wasn't until the 9th century that the Netherlands became part of Charlemagne's powerful Frankish Empire.

Following the decline of Charlemagne's realm, the Dutch territory fragmented into smaller states ruled by dukes and counts. In 1555, Charles of the Habsburg dynasty granted the Netherlands to his son, Philip II, who became the king of Spain. Philip II, a devout Catholic, implemented strict measures against Calvinism, leading to religious polarisation in present-day Belgium and Holland.

After gaining independence from Spanish rule in the 17th century, the Netherlands flourished as a colonial empire and a robust trading nation of Calvinists. This period coincided with the trans-Atlantic slave trade, and the Dutch experienced their Golden Age—a time of prosperity marked by flourishing trade, industry, arts, and sciences.

The fight with water

In antiquity, the region that would later become the Netherlands was a patchwork of small islands scattered across rivers, marshes, and estuaries. These islands were largely uninhabitable due to their wet, swampy conditions. Around the 10th century, the inhabitants of this area embarked on the ambitious endeavour that was draining the land for cultivation. They constructed intricate systems of ditches, canals, and windmills to pump out excess water. Unfortunately, this drainage process had unintended consequences. The soil began to shrink dramatically and the ground level fell to such an extent that it was lower than the stream itself, causing the land surface to sink by up to fifteen metres. By the 16th century, the situation remained precarious. The sea level was rising, low-lying areas were prone to flooding, and people needed more habitable land. And so, they built dikes. The Dutch constructed an extensive network of dikes (embankments) to protect against flooding. These dikes not only prevented flooding but also allowed for the reclamation of land from the sea. And after taking care of that problem, no matter how temporarily, they focused their efforts on reclaiming land from rivers and lakes, which resulted in the creation of polders, special areas of land that had been drained of water. These polders were fertile and ideal for agriculture.

Photo 6: Maeslant barrier

By the 16th century, the situation remained precarious. The sea level was rising, low-lying areas were prone to flooding, and people needed more habitable land. And so, they built dikes. The Dutch constructed an extensive network of dikes (embankments) to protect against flooding. These dikes not only prevented flooding but also allowed for the reclamation of land from the sea. And after taking care of that problem, no matter how temporarily, they focused their efforts on reclaiming land from rivers and lakes, which resulted in the creation of polders, special areas of land that had been drained of water. These polders were fertile and ideal for agriculture.
The Dutch also reshaped river courses. They diverted rivers, straightened their paths, and controlled water flow to suit their needs. These alterations allowed for better navigation, irrigation, and flood prevention.
Remarkably, all these developments occurred during the same period when the Netherlands was gaining independence.

(Source: https://www.quora.com/What-processes-does-the-Netherlands-use-to-reclaim-land-from-the-sea-and-why)
(Source: https://www.helpdeskwater.nl/publish/pages/165190/rij_8475_watermanagement_en_dv_1.pdf)

Dunes

On top of that, the man-made defences against the water are not the only ones that exist. There is also a form of natural defence. 254 miles of the Dutch North Sea coastline is made up of dunes, which are mounds of sand created by the wind. The coastal area of dunes begins where the beach ends and is composed of one or several rows of dunes. Due to the constant erosion and accumulation by the wind and the sea, they are always changing.
Dunes form on sandy coasts, which are typically located next to shallow seas. The process is caused by an irregularity on the beach. The wind, which blows from the sea on the coast, collides with the bulge. Because of that, the area behind it is less windy, so the sand, which the wind has brought, can accumulate. The dune grows as long as the wind keeps bringing more sand and water does not wash it away. Plants are an important part of the dune-forming process, because they keep the sand in place with their roots, stems, and leaves. When the dune grows to around one metre in height, rainwater collects in a freshwater bubble under the surface. As a result, more species of plants, including Marram grass, can grow and consequently hold more sand so the dune does not slowly disappear.

(Source: https://www.ecomare.nl/en/in-depth/reading-material/landscapes/dunes)

Photo 7: dunes

Windmills

The Dutch started building windmills as early as the 12th century and initially used them to grind grains. However, their purpose evolved over time. By the 19th century, more than nine thousand mills existed. At that time, they were primarily used for pumping excess water from the land lying below the sea level and back into the rivers beyond the dikes.

Photo 8: Kinderdijk windmills

Photo 9: windmill up close

One of the key components of the traditional Dutch windmill is the gear. They are used for transmitting power from the rotating sails to a mechanical device within the mill. The sails are mounted on the horizontal wind shaft. The function of the shaft is that it supports the sails and enables their rotation. It can be made of either wood, iron or a mix of both.

In the past, windmills played a crucial role in making the low Dutch land suitable for living. The people developed the mechanisms inside of the mills, so they could use the mills to pump the water from the flooded ground back into the river. In the beginning, the windmills used paddle wheels to lift water. However, this method was proven to be inefficient, because the water could have been lifted for only about 1,5 metres high. To solve this issue, someone came up with the idea of attaching an Archimedean screw to the mills. The results were astounding: they could now pump water higher and faster. In peak conditions some mills equipped with this screw could have pumped up to 1000 liters of water per second.

To ensure optimal results, all windmills had to face the wind and adjust the sails to suit the wind speed. That is why, unlike industrial mills, water pumping mills had to have someone operating them at all times. Because of this, the mills were often also used as homes for the millers and their families. The millers also found a way of communicating amongst themselves without leaving their mill. If they placed the sails in a certain position, it meant that something important had happened. That could have been a birth, baptism, marriage, or even death.

(Source: https://thatdamguide.com/blog/how-do-dutch-windmills-work/)

Floods

Around 400 BCE, the first Frisians settled in the Netherlands. Their villages soon became endangered by floods, so they had to figure out a solution. Eventually they found it. They built terpen or earth mounds on top of which they constructed houses or even entire villages. Many terpen were built, although only about a thousand of them still exist today. Around the same time, many small dikes were built. They were typically around 70 centimetres high and constructed from locally collected natural materials.

Photo 10: Saint Lucia's Flood

Despite all of these defences, on December 14th 1287, catastrophe struck. Both the terpen and dikes, which held the North Sea, failed. As a result, water flooded the country. This event is known as the Saint Lucia's Flood. It is considered as one of the worst floods in history, as it resulted in over 50,000 deaths. Moreover, the floodwaters created a new bay, known as Zuiderzee or South Sea, by flooding farmland.

Over the following centuries, the Dutch people slowly reclaimed land from the Zuiderzee by constructing dikes and creating polders. After the dikes were built, they used canals and pumps to first drain the land and then keep it dry. The storms and floods in 1916 gave the Dutch a reason to start reclaiming the Zuiderzee land back with more urgency. Between 1927 and 1932, they built a 30.5-kilometre-long dike called Afsluitdijk (the "Closing dike"), which turned the South Sea into the Ijsselmeer, a freshwater lake.

Photo 11: the flood of 1953

On the night of February 1st 1953, another terrible flood hit the Netherlands. It happened because of the combination of two different factors: a powerful storm over the North Sea and the spring tide. The waves reached four and a half metres in height. In certain areas, the water rose above existing dikes and flooded entire towns. Tragically, a little over 1,800 people lost their lives and more than 70,000 were evacuated. Additionally, a ginormous amount of food supplies was lost and there was extensive property damage.

(Source: https://www.thoughtco.com/polders-and-dikes-of-the-netherlands-1435535)

Delta works

The Delta Works, located in the southwestern Netherlands, is a monumental flood-control project. They were built with the goal of protecting the low-lying areas of the country from devastating floods. It achieves this by closing off the estuaries of major rivers—the Rhine, Meuse, and Scheldt—with an intricate system of dikes. These dikes connected several islands and transformed vulnerable coastal areas into freshwater lakes as freshwater from the Rhine and other rivers gradually replaced the previously entrapped saltwater. The transformation kept the once treacherous coastal areas safe from tides and storm surges. Furthermore, thirteen dams were meticulously constructed, along with four barrier dams and nine secondary dams. Their strategic placement closed off the mouths and inner reaches of interconnected inlets that had long exposed the area to flooding.

Photo 12: map of the Delta Works barriers

The project gained urgency following the catastrophic North Sea flood on February 1, 1953, and the construction of the Delta Works officially commenced shortly thereafter. The work lasted for decades and ended with the completion of the final phase in 1986.

After it was finished, the project shortened the vulnerable coastline by a staggering 700 kilometres. By doing so, it dramatically reduced the length of dikes exposed to the sea. This also bolstered the region's resilience.

The American Society of Civil Engineers even bestowed upon the Delta Works the honour of being one of the Seven Wonders of the Modern World.

(Source: https://www.britannica.com/event/Delta-Works)

Photo 13: Delta Works

Storm barriers

One of the current solutions for protection against the rising sea levels is building storm surge barriers, which are fixed installations that can be closed in case of storm surges or high tide. In normal conditions they are opened, allowing water to pass.

(Source: https://climate-adapt.eea.europa.eu/en/metadata/adaptation-options/storm-surge-gates-flood-barriers)

The Maeslant Storm Surge Barrier was built between 1991 and 1997 on the Nieuwe Waterweg in South Holland. It is an important part of the Delta Works system. The barrier closes its gates automatically when Rotterdam is threatened by floods. It was designed to shield the land from the rising sea level. Experts say that the gates expected lifespan is around a hundred years and it can withstand an increase of the water level of up to five metres before needing significant modifications.

(Source: https://www.euronews.com/green/2023/09/18/how-are-the-dutch-facing-the-threat-of-rising-sea-levels)

Photo 14: Maeslant storm barrier

Luckily, the Maeslant Storm Surge Barrier has only closed once since it was built in 1997. That happened on the 21st of December 2023. It closed because of the combined effects of high tides and strong winds caused by the storm named Pia. All of the major storm barriers along the Netherlands' coast closed that night. The Maeslant Barrier successfully separated Rotterdam from the North Sea ensuring the safety of its citizens.

(Source: https://www.netherlandswaterpartnership.com/news/maeslant-storm-surge-barrier-largest-moveable-object-world-was-closed-last-night-first-time)

Photo 15: global warming

Climate change

Across Europe, including the Netherlands, we observe distinct trends in extreme temperatures. Notably, the frequency of cold days has decreased, while warm days have become more common, especially since 1975. Interestingly, these trends are not synchronising at the same rate. The most significant warming effect in recent decades primarily correlates with an increase in warm days, albeit with a lesser impact on reducing cold days.

In the 20th century, global temperatures rose by approximately 0.7°C, with the Netherlands experiencing about a 1°C increase. Notably, there has been an increase in extreme rainfall, with the winters there becoming wetter and the likelihood of severe summer downpours on the rise. These downpours have grown increasingly major due to warmer air's capacity to hold more moisture. As a result, weather patterns are shifting. Looking ahead, we can expect further rises in both average and extreme rainfall, although the exact geographic distribution remains uncertain.

Besides that, the probability of prolonged droughts is growing. Higher temperatures lead to increased water evaporation and when evaporation exceeds precipitation, droughts are almost guaranteed to ensue. The impact of these shifts can severely affect water availability and the balances of ecosystems.

Photo 16: climate change

Summers are experiencing rising temperatures, and heat waves occur more frequently and last longer. These extreme heat events have implications for public health, agriculture, and energy demand

The Netherlands, as ever, faces an increasing probability of flooding. According to the United Nations, sea levels are currently rising more than twice as fast as in the 20th century. That, coupled with higher peak river discharges contribute to this risk. Extreme precipitation events play a significant role. The Dutch have implemented innovative flood-control measures, including the Delta Works.

(Source: https://klimaatadaptatienederland.nl/en/knowledge-dossiers/themes/climate-change/how-climate-netherlands-changing/#:~:text=Global%20warming%20is%20causing%20more,in%20the%20summer%20of%202021.)
(Source: https://www.pbl.nl/sites/default/files/downloads/773001037.pdf)

To combat climate change, the Dutch government wants to reduce the Netherlands' greenhouse gas emissions by 49% by 2030, compared to 1990 levels, and a 95% reduction by 2050. These goals are laid down in the Climate Act on May 28, 2019. The Climate Plan, the National Energy and Climate Plan (NECP) and the National Climate Agreement contain the policy and measures to achieve these climate goals.
(Quote: https://www.government.nl/topics/climate-change/climate-policy)

As the urgency of flood prevention becomes increasingly evident, the Dutch have not confined themselves solely to new water management technologies. Instead, they've harnessed their ingenuity to explore sustainable approaches for living and addressing global warming. For example, in Rotterdam, the world's first floating farm has been operational since May 2019. Developed by the Dutch property company Beladon, this offshore facility is situated in the middle of Rotterdam's Merwehaven harbour. The farm hosts 40 Meuse-Rhine-Issel cows, which are milked by robots. The goal is to produce dairy in a sustainable, transparent manner, emphasising animal welfare. With about 40 cows, they yield 320,000 litres of raw milk annually, which is then processed into pasteurised milk and yoghurt. The modular design allows for scalability, and the team plans to expand by creating a floating farm for chickens and vegetables
(Source: https://www.euronews.com/green/2022/12/09/as-floods-threaten-our-cities-supply-chains-are-floating-farms-the-solution)

Photo 17: windmills

Conclusion

As we have just learned, throughout history the Dutch have indeed demonstrated some genius ideas for battling and using nature. Structures such as windmills and Delta Works have transformed the dangerous waters into nothing more than merely another slightly overflowing sea. Most of the collaboration with nature originates from what were once problems and dangers, such as land disappearing under the sea and the coastal cities disappearing, which nicely demonstrates how the Dutch turned the downsides of their homeland to their benefit.

Photo 18: storm barriers

Photo sources

- **First page:** our photo
- **Photo 1:** https://www.goodfon.com/textures/wallpaper-niderlandy-flag-gollandiya.html
- **Photo 2:** https://wwwnc.cdc.gov/travel/destinations/traveler/none/netherlands
- **Photo 3:** https://www.rijksmuseum.nl/en/rijksstudio/historical-figures/charles-v
- **Photo 4:** https://en.wikipedia.org/wiki/Dutch_Golden_Age#/media/File:Abraham_Storck_-_A_river_landscape_with_fishermen_in_rowing_boats_(1679).jpg
- **Photo 5:** https://en.wikipedia.org/wiki/Philip_II_of_Spain#/media/File:Philip_II_of_Spain_by_Antonio_Moro.jpg
- **Photo 6:** https://www.ft.com/content/44c2d2ee-422c-11ea-bdb5-169ba7be433d
- **Photo 7:** our photo
- **Photo 8:** our photo
- **Photo 9:** our photo
- **Photo 10:** https://x.com/Geology_History/status/1205808950395977728
- **Photo 11:** https://dirkdeklein.net/2017/01/31/31-january-1953-the-day-the-dutch-lost-the-battle-against-the-sea/
- **Photo 12:** https://www.architectural-review.com/essays/dutch-delta-works-from-engineering-feat-to-cultural-statement
- **Photo 13:** https://www.britannica.com/event/Delta-Works
- **Photo14:** https://eindhovennews.com/news/2018/01/today-storm-surge-barriers-closed/
- **Photo 15:** https://www.pinterest.com/pin/what-is-the-dew-chart--413979390760128259/
- **Photo 16:** https://www.business-standard.com/article/current-affairs/global-warming-un-says-temperature-may-rise-by-1-5-deg-c-between-2030-2052-118100800070_1.html
- **Photo 17:** our photo
- **Photo 18:** https://www.holland.com/global/tourism/discover-the-netherlands/visit-the-regions/zeeland/oosterschelde-storm-surge-barrier

PAST – PRESENT – FUTURE: IN SPAIN

4. 3. 2 Legacy from the Past and Present

Our Habitat: Use of Renewable Sources of Energy (Gimnazija Koper visits IES Cavaleri)

The solar plant in Sanlucar

What did we learn?

- Photovoltaic energy is one of the most important source of energy for Andalusia.
- Renewable energy can supply a whole town (Sanlúcar la Mayor).
- How solar plants actually work.
- There are different ways to store solar energy.

QUIZ

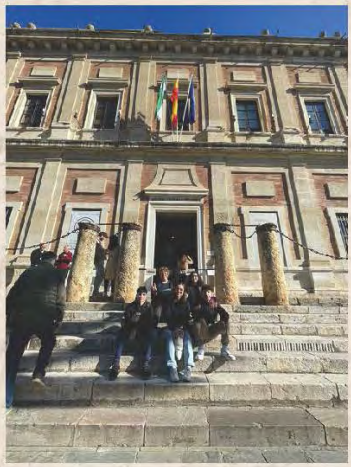
https://docs.google.com/forms/d/e/1FAIpQLScBIC_OWF3rJefC9MtjJObuK9RKElhnfX5ChLACxyB6CBneLw/viewform?vc=0&c=0&w=1&flr=0

SLOVENIANS IN SPAIN

Slovenian mobility

Gimnazija Koper in Sevilla

- Presentations of the Spanish students.
- Visit to the music class to listen to a piano and flamenco performance.
- Visit around the Sevilla city centre.
- Using the underground to the city center fo Seville and we reccomend that you always use it to move around in Seville.



The Solar Plant

- Visit to the Solar Plant in Sanlucar.
- Explanation of its operation
- Renewables energies

Oceanicas' director explination and christmas decorations :

- We listened to a presentation from the director of the Málaga Oceanographic Center, Mari Carmen García, where we learned more about climate change, and the importance of the oceans.
- Later we reused materials to create Christmas decorations in collaboration with the specific classroom and its students.

Tuesday: Doñana Natural and National Park

- Visit to the Doñana Natural and National Park
- Stop and visit in El Rocío
- apreciate the biodiversity and our ecosystem and why we cannot pollute it.

ART WORKS IN TILBURG

Art – Final presentation

Challenges of the Past, Changes for the Future

Tilburg April 2024

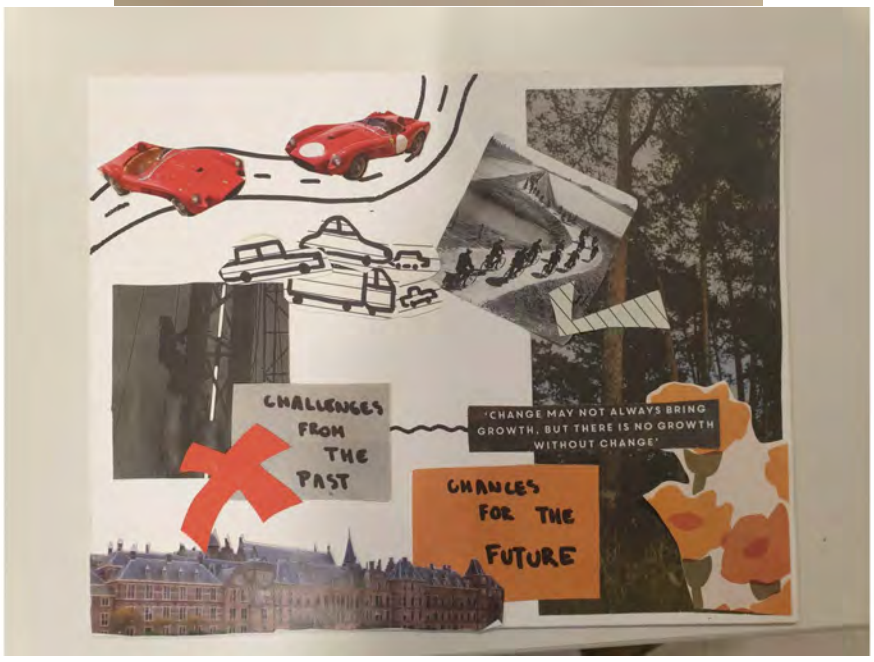

niet
MAAR


past
future


What
Now?


DIVERSITY
MODERNIZATION
CULTURE
PROGRESS


EFTELING
SCHEVENINGEN
EINDHOVEN AIRPORT
ROTTERDAM
Parliament of the Netherlands
LooHal
Kinderdijk
LooHal
Mauritshuis Museum
TextielMuseum


CHALLENGES FROM THE PAST
'CHANGE MAY NOT ALWAYS BRING GROWTH, BUT THERE IS NO GROWTH WITHOUT CHANGE'
CHANCES FOR THE FUTURE

INDEX