WATER IN LIFE

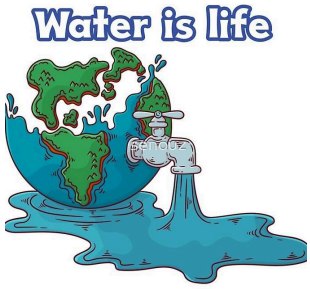
Saint Joseph La Salle LORIENT

SCHILLERSCHULE FROM FRANKFURT

GYMNASIUM FROM HANKENSBUTTEL

SAINT JOSEPH LA SALLE FROM LORIENT

3 schools, 2 countries
A team of European Friends



Water is a precious substance that meets our physical needs while at the same time being of great importance to many people and species.

OUR PROJECT

Our Erasmus+ school project, "Water in Life," is a comprehensive exploration of the central role of water in our everyday lives. Water, the elemental basis of life, influences nearly all aspects of our existence. This project offers our students the opportunity to develop a profound understanding of the importance of water in various contexts, to recognize the relevance of the topic in their personal lives, and simultaneously contribute to the promotion of sustainable practices in water management. Different aspects will be studied. The results will be shared on a collaborative padlet :

- Flood Protection
- The origin of drinking water
- Water conservation
- The fate of waste water
- Clean drinking water
- Water supply in agriculture
- Life on the water
- Water sports

contents

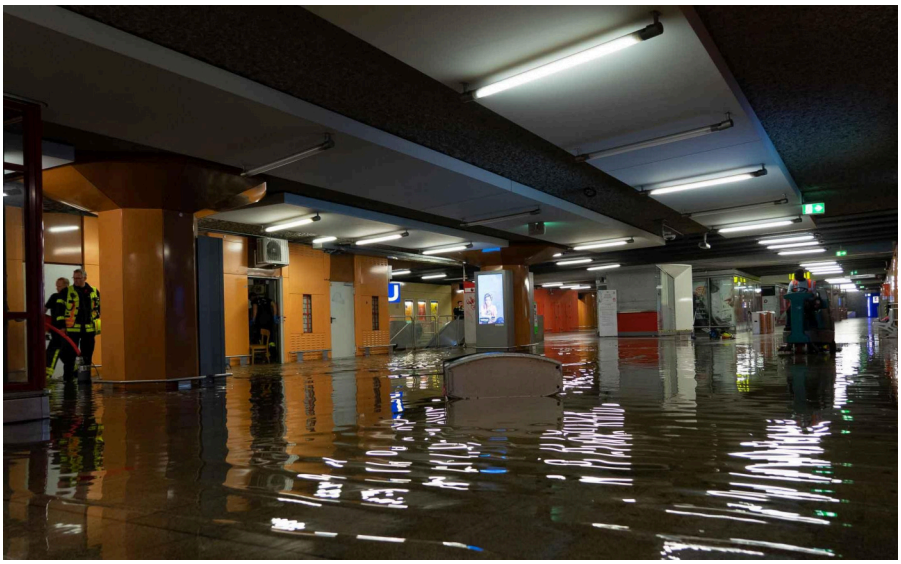

FLOOD PROTECTION

What is flooding?

flooding corresponds to the temporary submergence of areas normallyout of water.It can be caused by the overflowing of a river or by heavy rainfall as water does not infiltrate into the ground. Stormwater drainage networks can quickly be saturated. The water flows through the streets. it can be dangerous submersion: on the

In Quimperlé, near Lorient

Are you ready to visit Quimperlé and to have facts about the most important floodings?



Flood in “Südbahnhof” Frankfurt

Flood Protection of Frankfurt am Main The Main River has a complete length of 525 Kilometers and originates from Fichtelgebirge in the Fränkische Alb. The river crosses the cities Frankfurt, Offenbach, Würzburg and more. The Main is often designated as the longest river in Germany, because he originates and ends in Germany and isn't like the rhine and Danube, which just flows through Germany

On the 16th of august in the 2023 the „Südbahnhof" of Frankfurt was flooded. The water was about a meter high on that day outside of the railway stadion, but no one was injured - although there were pieces floating in the water- all passengers were able to get out without being hurt. That the "Südbahnhof" is flooded isn't that unusual, during heavy rains it has been flooded several times. The worst two times were in 2004 and 2007. To prevent there were various ideas, but nothing planed.

MARINE SUBMERSION IN LORIENT

Between 1901 and 2018 , the water nose to 20 cm and it will rise to 20 to 40 cm in britttany. 41 towns which are vulnerable prepare to adapt themselves 3 scènarios are possible: undergs that is to say do nothing , resist by building embankment, adapt to the sea levels.

IN BRIEF

The water cycle begins with collected water evaporating and then condensing, and ends with water precipitating.Then the cycle starts all over again, in what we call an "infinite cycle". but if a dam disturbs the water cycle, the whole planet will be affected. It will impact animals, plants, humans and fish. this could cause the end of the world, but if we put the cycle back on track, there will be time for humans and the planet to recover as before.

Save water to protect your earth.

How does it get filtered?

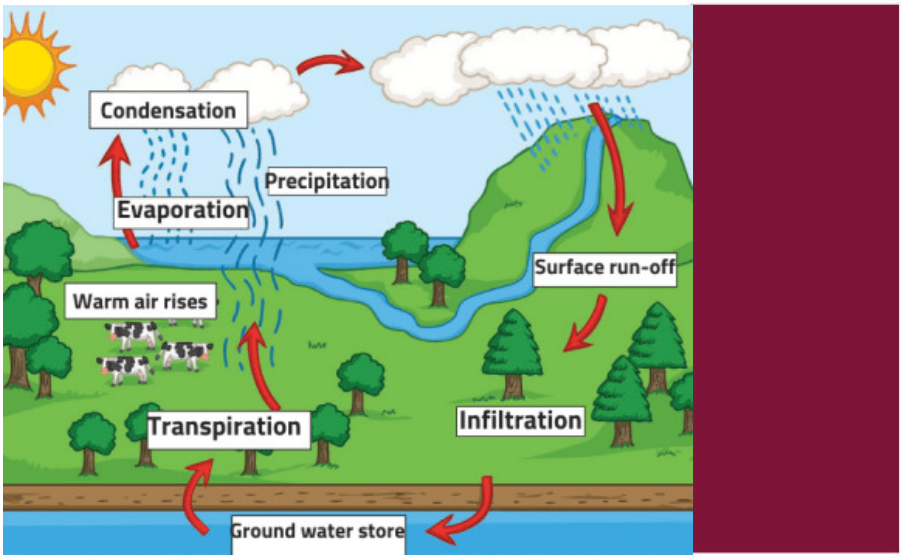
Filtering water is one of the most important processes in water treatment. First, the particles in the water are removed by filtration or flocculation, which can be done using a sand filter, for example. This step is usually followed by pre-oxidation. Pre-oxidation removes harmful substances and greatly enhances the appearance, smell and taste. A membrane process is used to remove very small particles from the water. The final step is disinfection, which can be either chemical or biological.s.

Is this water good quality? Let's check it!

WHERE DOES THE WATER COME FROM ?

Groundwater provides the majority, 95%, of our drinking water in Frankfurt. The groundwater is mainly formed by rainwater seeping into the ground. This runs through many different layers of soil, such as the pore spaces, which consist of sand and gravel gravel layers and the fissure spaces, which consist of rocks and small stones. This filters and cleans the rainwater. With the help of pumps, the groundwater is extracted from the depths of the earth, it is checked for quality standards quality standards and if these are not sufficient or not present at all, the water is the water is first purified and cleaned. .

When the future drinking water has reached the quality standards, it is fed into the water network. Another Another part of the water supply is connected to the surface water. It is created by rainwater that is stored in reservoirs such as those on the Vogelsberg or in stored for private use. This is already used for washing machines, toilet flushing and garden irrigation. The advantage of this is that it does not need to be purified or that valuable groundwater is wasted.

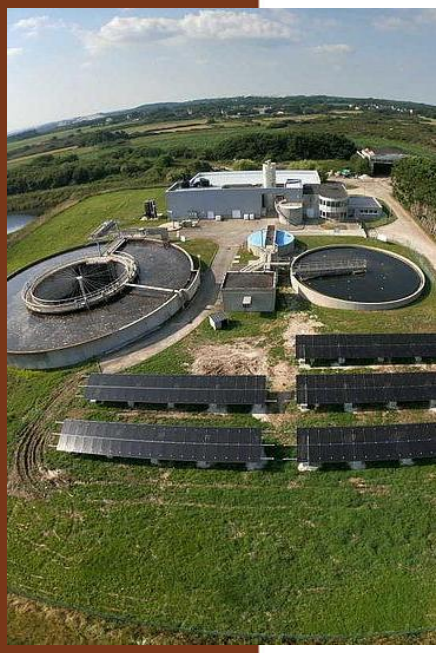


However therefore does not meet drinking water standards, so it is not potable and it is not recommended not recommended for use as shower water, as the water could contain impurities. could contain impurities. The Main is not used directly as a water source. Some of the water is tapped and fed into the underground well connections so that the wells do not run dry and continue to dry up and continue to supply water. In summary, it can be said that thethe largest proportion of our drinking water is covered by groundwater and there are also other smaller

The drinking water is subject to particularly strict controls. This is necessary to guarantee the high quality standard. There are strict guidelines that must be observed in order to guarantee good quality.

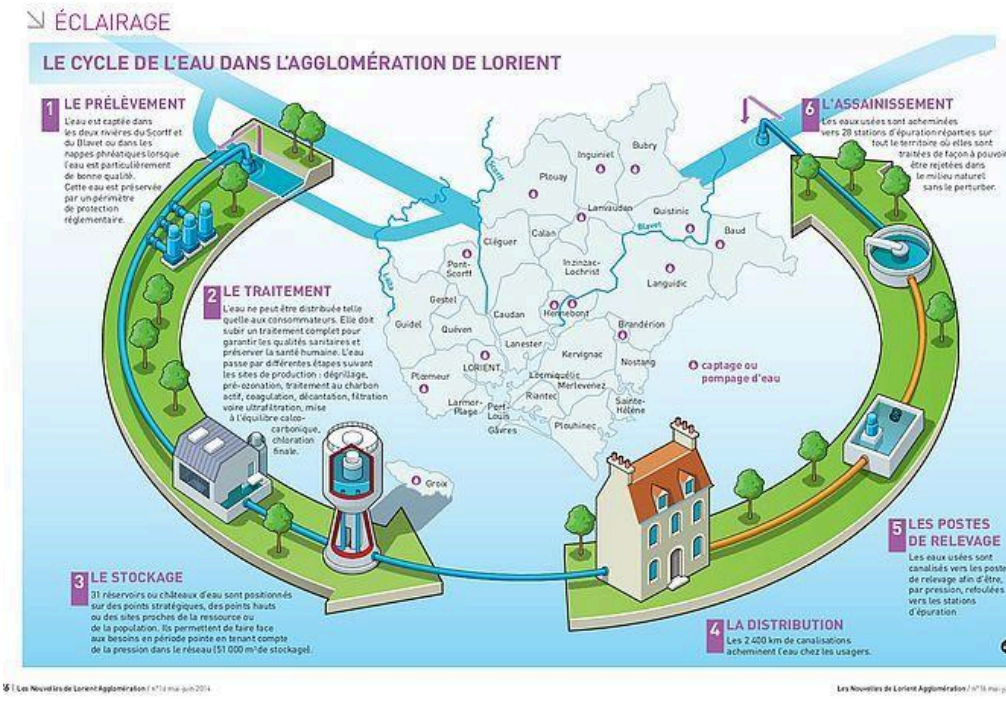
CLEAN DRINKING WATER

One example in Lorient



The water distribution system Hello, today we are going to talk about the water distribution system. Water distribution refers to all the devices and companies ensuring the distribution of drinking water and industrial water. The water distribution system may be impacted due to mega basins, they collect too much water and pose problems in distributing the water. After treatment, the water is sorted in water tower or semi-buried tanks, from where the water is transported to the consumer's top.

Seawater can also be the source of water distribution ; in this case it must first be desalinated, wich requires a lot of energy. Drinkable water is made with 60% underground water and 40% surface water. In France, sink water is drinkable. We consume on overage 137 liters per day. Here is a example taken from Lorient ; This photo represents a wastewater treatment plan and its water tower situated in the north of Lorient. This plant produces drinkable water and distributes it. On this photo taken by drone we can see setting tanks or airing tanks right in the middle of Lorient.



WATER CONSERVATION

Saving water at home

• using dishwashers and washing machines instead of washing by hand and using eco-programs
• not rinsing or washing anything under running water
• reusing water (for example: after washing fruits, saving that water and reusing it to water plants)

Saving water: Hygene

• showering instead of taking a bath saves up to 60 litres
• using a flow limiting showerhead saves water
• install efficient flush-keys with a stop-function
• close the tab while washing hands and brushing teeth • fixing leaky taps

Saving water in your garden

• only water your plants in the morning or the evening to prevent the water from evaporing immediately
• collect rainwater to water your plants with
• do not frequently water your plants, but water them every once in a while intensively and close to the trunk/roots
•mow your lawn rarely and don't water it, because grass only dries on the surface in the heat (it doesn't die)
• place your indoor plants outside when its raining, instead of watering them separately

THE FADE OF WASTEWATER IN FRANKFURT

The cleaning process
In a wastewater treatment plant in Frankfurt, wastewater from homes and businesses is cleaned before it is released back into nature.

First, large items like sand, stones and sometimes toys are filtered out of the water. This takes place in large basins where the water flows slowly and the heavy objects sink to the bottom, then small creatures are added to the water to eat the dirt out of the water. They work in special tanks where they have enough space and food. After the microorganisms (that's how you calls them) have done their work, the dirt must be removed from the water. This is done by allowing the water to stand slowly. The dirt particles then slowly sink to the bottom of the pool. To ensure that no pathogens remain in the purified water, it is then disinfected. This means that the water is treated with special chemicals that kill all bacteria and viruses. The remaining dirt is turned into a solid lump and either disposed of or recycled. The purified water can then flow back into nature and keep the environment clean or it can be used for other purposes such as irrigation. In this way, the wastewater treatment plant ensures that the wastewater is treated in a safe and environmentally friendly way before it is released back into nature.

The way to the wastewater treatment plant
The path of the water from Schillerschule to the sewage treatment plant When you flush the toilet, the water is pumped from the sewage system into the sewerage system. The water then runs through the sewerage system to the nearest sewage treatment plant. The nearest sewage treatment plant is about 5 kilometres away from the Schillerschule and is located nearby the Main. It is the Frankfurt-Niederrad sewage treatment plant. This sewage treatment plant treats the water from Frankfurt and neighbouring communities .

Wastewater treatment

What about the situation in Lorient?

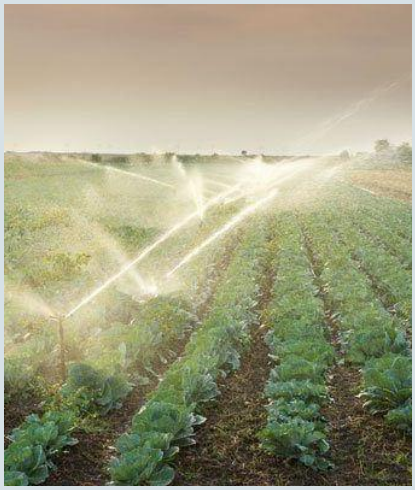
Water treatment is a process an action that enables wastewater to be returned to a quality defined by various articles of law and préfectoral decrees.
Wastewater comes from human activity industrial production or domestic use.Water treatment product are toxic and very dangerous to health. This can have serious consequences, such as cancer. Europe has therefore decided to reduce treatment rates to protect people health, but the water drink remains quite dangerous.

The water distributed in Lorient in 2020 is enough gord quality standards for 100 % of samples. The water also met the quality standards for 95% of samples. The quality reference exedances observed do not represent a health risk. The plant underwent partial refurbishment in its treatment process in 2020.

90% water are rejected sewage treatment plants. 80% of wastewater resulting from human activities is discharged into rivers or the sea without any depollutions.

WATER SUPPLY IN AGRICULTURE

ARE FARMERS KILLING OUR WATER SUPPLY?

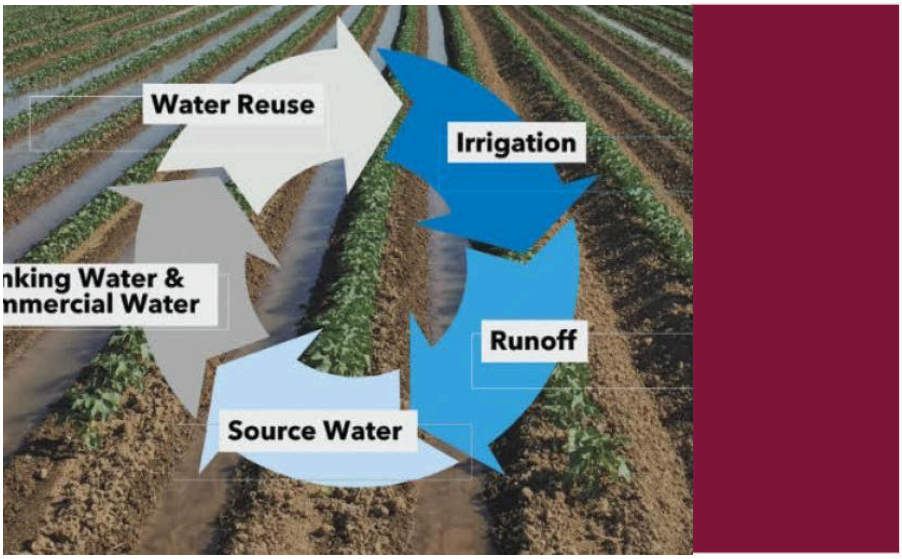


IN BRITTANY

SUPPORT THE FARMERS TO REGENERATE THE SOIL

In Frankfurt am Main, Germany,

around 25 percent of the drinking water is acquired through extraction plants in Frankfurt's city forest and in praunheim. The remaining 75 percent is sourced from the surrounding area. The primary used areas are the Hessian Ried, the Vogelsberg and the Main-Kinzig region. That this much water is sourced from the surrounding areas does not sit well with the people that live in these areas because they are worried that when another dry year comes that they don't have enough water. In Frankfurt are 4000 hectares that are used for agriculture.Most of this land is in the north of Frankfurt.n 2018 was the driest year where the water consumption was at 54,3 million cubic meter. Farmers can use various techniques to reduce water usage in agriculture. Some methods include using drip irrigation systems,using mulch to retain soil moisture, practicing crop rotation to improve soil health and choosing drought resistant crop so the crops don't die directly when there is a drought and don't get much water. Additionally, only watering when necessary can help farmers optimize water usage. Overall,adopting sustainable farming practices and utilizing technology can help farmers reduce water consumption in agriculture. Farmers can also start to collect rain water so they can use that to water their plants



water and biodiversity in nature

Water is necessary for nature to grow. Watering plants is vital but you have to use the necessary amount of water, at the right moment. Plants can adapt and resist to an occasional lack of water. You have to remember that water can evaporate because of sun and wind. And in Brittany, there is a lot of wind… To save water, gardeners encourage drip irrigation. This system can be autonomous and can be used when necessary. Mulching is also a solution to prevent evaporation for vegetables for example. Mulching protect also the soil from erosion and is a shelter for insects. Some wood chips can also be used to fertilize the soil. Gardeners can also set up water skimmers, it is very useful in Brittany as rain is our friend. This water is ideal for plantations. In some Breton farms, we can find wells too. They were dug in the past and they were used by our ancestors. Industrial plants must also protect biodiversity by avoiding discharging industrial products in the soils which will impact biodiversity and climate because of the disappearance of certain species. So remember water is necessary for life so we have to save it but also we have to protect the Earth's fauna or the world will decline. So ACT NOW!

IN BRIEF

By Argantael

A mine in the HARTZ mountains

The goal of this mine was to extract minerals like silver, iron, copper, zinc and more. This mine had ingenious systems to make the the miners work faster. This systems were water-powered. It's a big wheel created very long ago. This wheel was moved with the pressure of water.

Some more?

It's around twelve meters in diameter. The water was extracted from a lake. The wheel was satisfying to watch. It was fun because we got to experience different cultures. We ate together, we talk with each other.

Work in the mine

EXPERIENCES WITH THE HANKENSBUTTEL TEAM

Visits and fun with our friends from Hankensbuttel

The Mine : Today, we visited a mine and we saw that the water is essential for the minors : no water?no energy?no access to the mine. With the operation of the mine, they can produce covered, money. To avoid that, the population built a lot of dams, to retain the water and not to lack of water.

The students of Hankensbüttel : We met the Germans, they can do pratically everything ! There are sausages everywhere ! And we can buy yoghurt one to one ! The persons are very nice and welcoming.

The school : Today, we went to the classes of the Germans and we looked what they usually do when they go to school. They eat every time ! In this school there aren't a lot of rules and the supervisors are the professors.

Otter center : After, we visited the otter center. We looked at otters and many informations about them (them habitations, them foods). We learnt about the climate change too and the quantity of water used to create clothes and hamburgers for example. funny !

Anais and Manon

The **best group ever.**

A Good experience

On the 13th May we discovered a mine with our erasmus partners. The mine works of water but it doesn't work. The mine used to serve to extract minerals like silver and coppers. There is a dangerous escalator. It was necessary to jump on a platform to climb. This escalator was created in 19th century. When they were 10 years old, the kids worked on the mine and after they went to school. When they were 16 years old, the kids got a job on the mine. The big wheel was shocking and impressive.On the 14th of May 2024, we went to our German partners. We were integrated in different classes, French- English - Politics - Physics - Maths.. it was hard because we didnt speak one word of German. In the afternoon we visited "otter centrum". Then we went to the swimming pool. In the classes, there was a lot of noise and many students were doing what they wanted to .For our departure, the Germans of the school of Hankesbuttel prepared a good-bye breakfast, it was very cool but sad because we developed a lot of affinity with the German partners. After we went on the train, "it was very long".

Gabriel, Sam and Thomas

Let's meet otters

They are so cute. we love them.

Time to relax at the swimming pool all together

OTTER CENTRUM AND OUTDOORS SWIMMING POOL

We visited the otters' centrum and we discovered their habitat.

We also had a workshop on water and on the necessity to save water if we want to be sustainable and protect our earth. That was very interesting.

We also had a great time at the Hankensbuttel outdoors swimming pool to have fun all together. We swam, played volley ball and enjoyed ourselves all together

We visited the otter center. We learnt about the climate change too and the quantity of water used to create clothes and hamburgers for example.

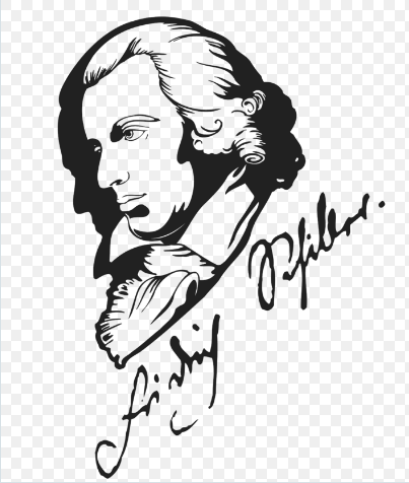
Thank you Ivo for translation.

IN BRIEF

Friedrich von Schiller

we discovered the school of our Frankfurt partner.

The man who is on the school's name is Friedrich von Schiller.
He was a historic figure. He was born on the 10th November in Marbach am Neckar and he died the 9th May 1805 in Weimar.
He wrote books.



In 1766, he and his family relocated in Louisbourg, where he met the Wutemberg's duke. Who suggest him to join the establishment he created. He studied law and then medicine. He started at the same ti

EXPERIENCES WITH THE FRANKFURT TEAM

Meeting our new partners

"We went to meet the other German partners from Frankfurt am Main.

After meeting them, we went to a ward with rowing boats and we had to practise with them. We learned how not to capsize the boat and how to row, .We had to elevate our rams and not to panic, we needed to pull the rams towards ourselves. It was such a good activity. "

"we all went rowing at the Germania-Rowing-Club. First we practiced on the ergometer and after we went on the Main in real boats. We got an introduction to rowing and safety precautions on the water. After a little race we went back to the shore and boathouse to clean the boats before putting them away. Thankfully no one fell in the water. "

Rowing is so fun! ready for the Olympics.

We met at school at 8:15 am and walked together to the rowing house.

After that we we got a short introduction how we should row and we were also guided trough the house. After a short training on a so called "Argumeter" , we took the nessesary equipment and on to the water to get started. For our security we learned some emergency tips. After on we were ready to start in groups of five, with each four rowers and one stearing person in the front. In the beginning we had some troubles, but with some help from the teachers we got better. We did a racing against each other and got back to the web. After we cleaned the boats we went to the stairs to our next stop.

.We arrived at the "Goethe Turm", and sat down to eat "Winer Schnitzel" with fries. After lunch we all went to the top of the "Goethe Turm" and took some pictures. All in all, we enjoyed the day.

What a fabulous view from the Goethe Tower

Time for lunch with friends

Typical german food : Schnizzels

TRADITIONS AND HISTORY

THE GOETHE TOWER

We ate with the Germans in the restaurant next to the Goethe tower. We spoke with the Germans and we met the different awesome people and personalities, the girls were very kind but the boys always played on their phone.

The Goethe tower is a 43 metres high public observation tower built entirely of wood on the northern edge of the Frankfurt city forest, located in sachsenhausen. The tower was built in honor of the German writer and poet Johann Wolfgang Von Goethe. The tower was created in November 1939.

Ready to climb a few steps. You can do it French boys and girls!

Goethetum

French and German friends.

Time to look in the river

Water is cold !

EXPERIENCES AT THE RIVER

Thank you to the biologist who accompanied us on this activity and explained us the different types of animals we can find and the link with the quality of the water.

" we went to Niederursel and Met an Biologist at the Train Station. We walked into the Forest an stopped at a small River next to a small Bridge. She tought us a few things about the waterlife in this River and then we started to try to catch a few aquatic animals. We put Everything we Catched into a plastic box With water, for example leech or mud Tube Worms. Then we got an paper and learned how to identify the aquatic animals we caught.
This was very interesting because we learned a lot of New stuff about the life in the Rivers of Frankfurt. Meanwhile we developed deeperrelationships with out Partners."

"we went to a river in Niederursel,where we looked at different types of animals who live there. Then we went into the water and tried to catch some little animals with fishing net and they we collected in two Boxes their crutacean. We looked at a form of a table chart in which you can look at different aspects and decide which kind of animal it is. Than we had to translate the question on english to the other gruop and show it with an example of the catch animals to them."

A fascinating experience

"we went to a river with the Germans to find some insects larva, some leeches and other insects. We learnt that certain animals live in a good water and certain animals live in a bad water. So we saw the animals who live in a good water and approximately one or two in a bad water. "

Thank you Mr Caillibot for your presentation

In the control station.

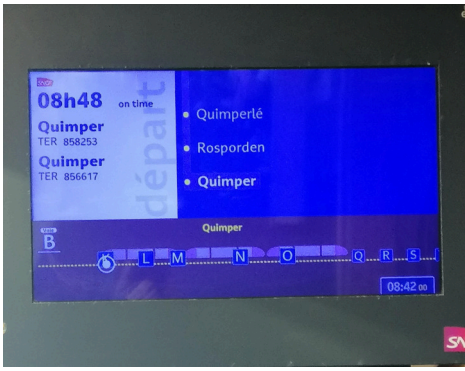
QUIMPERLE, a city that is number one in terms of flooding prevention

On Tuesday 20th September, we all went to the centre for flood protection and prevention together and listened to a presentation by the developer of the flood protection and prevention system. He told us all about past floods, safety measures, but also that the inhabitants of Quimperle have embraced the floods and accepted that they're just something they will have to live with. About 800 residents are affected by Quimperles floods. In Quimperle there are three big rivers. The Ellé, the Isole and the Laïta. The three together cover a surface of about 920 square kilometres. Floods in Quimperle can be caused by a single one of those rivers or many simultaneously. In 2000 for example there was a big flood here in Quimperle. The water was about 5,9 metres high, because of both the Ellé and the Isole. Over the years Quimperle has developed a system to prevent and protect from the floods. The four crucial parts are informing the residents, protecting the buildings in Quimperle, controlling, especially slowing down the water streams, and to progress the systems and alerts.

Let's go to Quimperlé by train: a 12 minutes drive

Let's have lunch at "ty Pouce", a sustainable place

the team on the way to Quimperlé



Ready to go!

Let's work on the project: FLOODINGS

There are 3 rivers in Quimperlé:
- The Ellé
- The Isole
- The Laïta

We first met with the staff and the mayor at the police/security station in Quimperlé, they made a presentation for us, they were very nice and they explained how they avoided the floods and when the biggest flood accured in the December of 2000's with the water measuring at 6m, they were caused from the Ellé and Isole rivers.

The city is devided in the higher city and the lower city. Furthermore we discovered little shops like a beautiful pizzaria or a shop for vegetables, fruits and fish, sadly it was closed at this moment but it seemed like you could get much delicious food there. We saw precious places there. There were many flowers too

we drove to a big beautiful city called Quimperlé. After we learned that parts of the city often gets flooded and what they did to try to save the city, we did a quiz about the city.

Quimperlé is devided in two parts, can you name them?

the city is devided in the higher city and the lower city. .

The fauna in Groix, a small island 45 mn from lorient

On the 18th september we took the ferry to the island Groix. We walked across the island to an old harbour where we met a biology teacher from the school in Lorient, who gave us some exercises. We were split up in groups of three so one person had to be from Frankfurt, one from Hankensbuettel and one from Lorient. The first task was to find specific sea life with the help of a paper with pictures of the things we had to search in the water and on the shore

Amazing discoveries

After a short lunch break they gave us the task to create land art with objects we could find at the beach. Some groups used flowers, rocks and sticks or they used their hair to create their piece of art. After relaxing in the sun and eating our lunch we became in the morning we started walking back in the direction from the harbour. On our way back we saw a dam which is very important for the water supply of the inhabitants of the island. We walked along the coast back to the harbour where we had free time before we took the ferry back to Lorient.

Our execution to Ile de Groix

We walked through different tunnels and climbed some hills where we had a beautiful view from. We started a game called "Bingo" where we had to find different kinds of sea animals living there and collect pictures of them. The variety of the sea animals was big, so there was very much to see and to touch. We catched some living fish that were stranded in a puddle a few meters away from the ocean. We were able to collect all the sea animals we were supposed to find and even more. For example we were able to find a ray and a cute little octopus.

A fun day at groix

To get to the island we took a boat at 8.30am and we walked 45minutes to the seashore on the other coast, Port-Saint-Nicolas. At first the biology teacher told us something about the environment and habitat of the sea animals. She told us that if we take a stone, we have to rest it in the exact same place. After we split in groups of three, one French, one German from Frankfurt and one from Hankensbüttel, the professor gave us a bingo with photos and names of nine animals: two kinds of mussels, anemone, sea cucumber, urchin, starfish, shrimp, crabs, Gobbie fish and more.

The bingo

To help us to find and identify the animals a teacher gave us a paper where there are informations on animals. We had one hour to search in the water or climb on the rocks to find the species. When we searched for animals, we exchanged ideas and places where we found those and other, with the other groups and when we find something we were always very enthusiastic. Some of them were really hard to find at first, like the Gobbie. But in the end, we found every animal on the bingo, and we also found dead ray and many dead fishes.

Land art

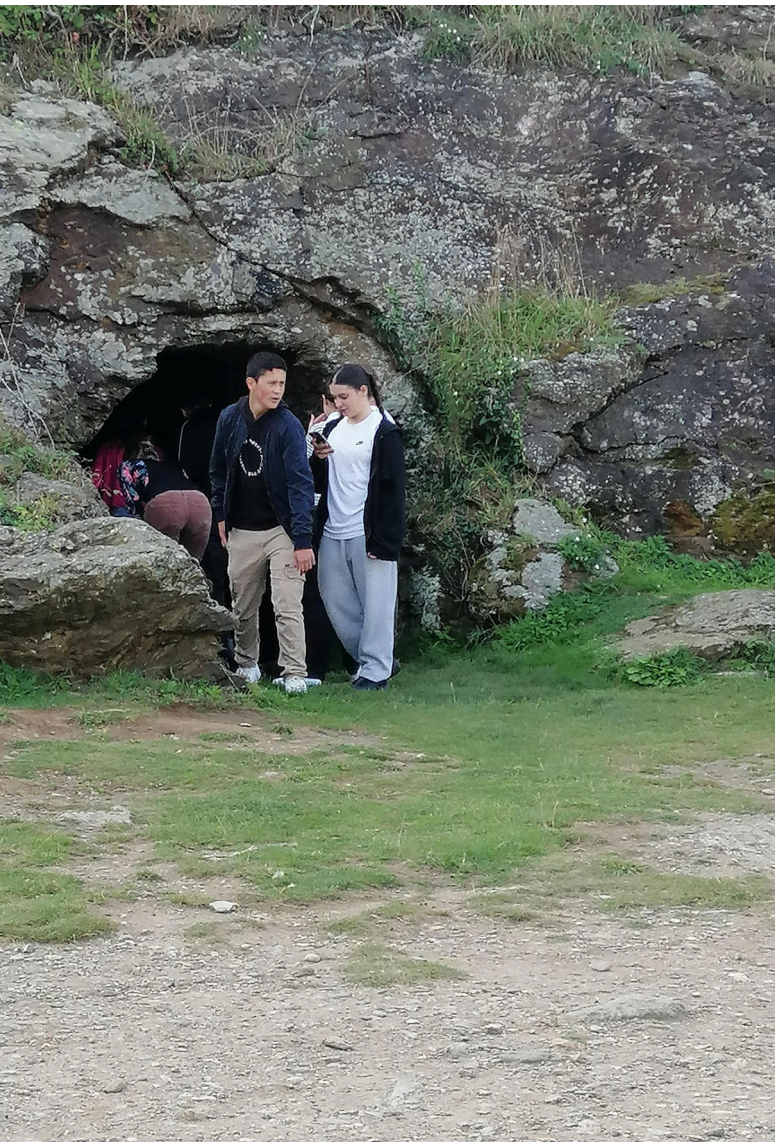
Then we had an art competition.We had to create an art piece out of nature. There was: a dragon, a turtle, a tree, a fish etc… Then we left to go the port of Groix, Port Tudy, there we had an hour to do what we want.

Land art : The Lollipop tree.

Using nature to create land art.

A stop at the dam to talk about water management on an island

The crossing on the ferry with the Erasmus mates.



Very happy to learn new things, thank you Mrs Mellet

The teachers' inspiration for land art

A cave full of breton legends. Be careful, a witch is living there!!!

Happy on the ferry back It was such a good day: 10 km walk the sun and friends

Quand Quimperlé donne l'exemple en matière de gestion de l'eau et de prévention des crues

T Article réservé aux abonnés

Le 21 septembre 2024 à 08h00

Mieux comprendre l'importance de l'eau et sa gestion, en partageant cette richesse à travers les frontières : les jeunes Lorientais et leurs collègues allemands sont passés par Quimperlé, dans le cadre du projet Erasmus + « Water in life ».

Les jeunes du collège Saint-Joseph La Salle et leurs copains de Francfort et Hankensbüttel ont découvert Quimperlé et sa gestion de crise des crues. (Le Télégramme/Gwen Rastoll)

« Cela fait trois ans que nous avons lancé ce projet autour de l'eau. Huit élèves du collège Saint-Joseph La Salle ont été choisis pour travailler ensemble autour d'un engagement fort pour la planète », explique Christelle Tristant, professeure d'anglais et enseignante référente au collège de Lorient. Ce projet, financé par le programme Erasmus + de l'Union européenne, doit permettre aux élèves de « prendre conscience de la fragilité des réserves en eau, de la rapidité avec laquelle la quantité de cette ressource naturelle diminue, et de travailler ensemble pour identifier les moyens d'assurer une gestion durable de l'eau ».