

# ERASMUS+ PROJECT

2020-2022

## The Power of Discovery



LATVIA



POLAND



GREECE



BULGARIA



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

2020-1-PL01-KA229-081775

## THE STUDENTS' MAGAZINE

4<sup>TH</sup> ISSUE

LUBSKO 2022

# POLAND



**The flag**



**The emblem**



Poland - the Republic of Poland is a country in Central Europe. It is divided into 16 administrative provinces called voivodeships, covering an area of 312,696 km<sup>2</sup>. Poland has a population of over 38 million and is the fifth-most populous member state of the European Union. Its territory extends from the Baltic Sea in the north to the Sudeten and Carpathian Mountains in the south. The country is bordered by Lithuania and Russia to the northeast, Belarus and Ukraine to the east, Slovakia and the Czech Republic to the south, and Germany to the west.



Warsaw is the nation's capital and largest metropolis. Other major cities include Kraków, Wrocław, Łódź, Poznań, Gdańsk, and Szczecin.

# HOLIDAYS AND TRADITIONS



Independence Day 11.11



Constitution Day 03.05



Polish Soldiers' Day 15.08



Warsaw Uprising (01.08.1944)



Easter in Poland: March/April



Christmas Eve (24.12)



Christmas



## Our town – Lubsko



Lubsko is situated on Lubsza river in the valley, in the south-eastern part of Lubusz Voivodship. The commune is inhabited by 20.033 citizens and encompasses 18 villages. The area abounds in forests, which account for about 45% of the total area. The region of Lubsko is located in the west part of Poland. Sits on the Polish-German borderland in the Lubuskie Province. It covers 183 square km of the area.



The castle



The town hall



The church



The Żarska Tower

In the early Middle Ages there was a West Slavic or Lechitic stronghold here, followed by a market settlement on the border between Poland and Lusatia. The first historical mention of the city (as Sommerfeld) dates back to 1258. The last prince of the Piast dynasty ruling Lubsko was John II the Mad. This prince finally lost the city after the war of the Głogów succession in 1482 to Brandenburg, with which it later became part of Prussia in 1701. From 1871 to 1945 the town was part of Germany. During the war the town survived from any severe destruction and artillery fire, thus its medieval Old Town and Market Square are preserved to this day. In the years that followed World War II the town was resettled with ethnic Polish people, expelled from the pre-war Polish Eastern Borderlands, annexed by the Soviet Union.

## Our school



We are a primary school, from the 1st to the 8th grade located in a town with 14 000 inhabitants. There are 222 students aged 7-15 and 37 teachers. The students are from Lubsko and surrounding villages. It is a school with integrated classes where disadvantaged students are taught with the rest of pupils. Specially trained teachers help the students with disabilities to overcome their learning problems. We want to show our students practical use of knowledge learnt at school, encourage them to learn STEAM subject through attractive activities and workshops, teach students in interdisciplinary way, find new methods to overcome their difficulties and increase their learning results.

## Activities at the school



## Scientists from the partner countries



### Asen Yordanov



[https://en.wikipedia.org/wiki/Asen\\_Jordanoff](https://en.wikipedia.org/wiki/Asen_Jordanoff)

Asen Jordanov, a Bulgarian, invented a lot of things. At the age of 16 he began to make the first Bulgarian glider, and then created the first Bulgarian aircraft "Yordanov-1", which was adopted. However, after the First World War, the treaty prohibits Bulgaria to have its own aircraft, the aircraft were destroyed. Then he finds himself in the United States (a separate story, as two Bulgarians flew to international competitions for flying around the Earth by plane and so back to Bulgaria and did not return). Works for a bunch of aircraft manufacturers: Curtiss-Wright, Lockheed, Douglas, Piper, Boeing and McDonald. Participated in the creation of the "flying fortress" B-17, B-24 and B-29 bombers.



### Archimedes



<https://www.britannica.com/biography/Archimedes>

Archimedes, (born c. 287 BCE, Syracuse, Sicily [Italy]—died 212/211 BCE, Syracuse), the most famous mathematician and inventor in ancient Greece. Archimedes is especially important for his discovery of the relation between the surface and volume of a sphere and its circumscribing cylinder. He is known for his formulation of a hydrostatic principle (known as Archimedes' principle) and a device for raising water, still used, known as the Archimedes screw





## Walter Zapp



[https://en.wikipedia.org/wiki/Walter\\_Zapp](https://en.wikipedia.org/wiki/Walter_Zapp)

Walter Zapp (Latvian: Valters Caps; 1905 –2003) was a Baltic German inventor. His greatest creation was the Minox subminiature camera. Zapp was born in Riga, Governorate of Livonia (now Latvia). In 1932, while living in Estonia, he began developing the then subminiature camera by first creating wooden models, which led to the first prototype in 1936. It was introduced to the market in 1938. Minox cameras were made by VEF (Valsts Elektrotehniskā Fabrika) in Latvia. VEF made 17,000 Minox cameras.

During the Spring 1941 Resettlement of Baltic Germans, Walter Zapp moved to Germany. From 1941 to 1945, he worked on the development of electron microscopy at AEG in Berlin. After World War II, in 1945, he founded the Minox GmbH in Wetzlar, Germany. The company still exists. In 2001, when he went to Latvia for the last time, he said that he had gone to celebrate his 100th birthday in Latvia. He died aged 97, in Binningen near Basel, Switzerland.



## Maria Skłodowska - Curie



<https://www.britannica.com/biography/Marie-Curie>

Marie Curie, née Maria Salomea Skłodowska, (born November 7, 1867, Warsaw, Congress Kingdom of Poland, Russian Empire—died July 4, 1934, near Sallanches, France), Polish-born French physicist, famous for her work on radioactivity and twice a winner of the Nobel Prize. With Henri Becquerel and her husband, Pierre Curie, she was awarded the 1903 Nobel Prize for Physics. She was the sole winner of the 1911 Nobel Prize for Chemistry. She was the first woman to win a Nobel Prize, and she is the only woman to win the award in two different fields.

# MATHS – good practices

## MATHS in Bulgaria

### The Bulgarian good method

#### Golden Ratio Bulgarian good practice

- We measured the relevant dimensions and calculated the ratios. For the last figure, we found the ratio of the corresponding numbers.
- We found that in different cases the ratio is the same – 1.618.
- The golden ratio in art, in construction, in nature



### The Greek good method

The collage consists of three parts. On the left, two students are looking at a laptop. In the middle, a student is writing on a whiteboard. On the right, a whiteboard displays a problem in Bulgarian and its solution.

**Problem (in Bulgarian):** В квадрат (Площта му е, че аз не знам) вписан е правоъгълник. Дължината на хипотенузата му е 26 cm, а дължината на катетите му е 11,24 cm и 24,32 cm. Ще успее ли да се впише вътрешен квадрат? (1 отс = 2,5cm)

**Solution:**

$$a = 37 \text{ cm}$$
$$b = 26 \text{ cm}$$
$$2D^2 = 37^2 + 26^2$$
$$D^2 = 1969 + 676 = 2645$$
$$D = \sqrt{2645}$$
$$D = 45,54 \text{ cm}$$
$$1442 = 2,54 \text{ cm}$$
$$45,22 : 2,54 = 17,8 \text{ cm}$$



# The Latvian good method



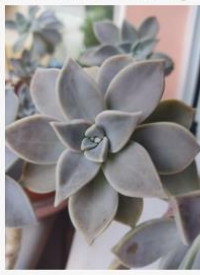
# The Polish good method



# MATHS in Greece

## The Bulgarian good method

### The good practices



The **Bulgarian** good practice

Plants don't know about the Fibonacci sequence - they just grow in the most efficient way. If one counts the petals of a flower, one will find that their number is often 3, 5, 8, 13, 21, 34 or even 55. Rarely will we come across a flower with two petals. We found that the flowers in our pots follow these numbers.

We also noticed that the leaves of an apple tree the division of the length of the sheet by its width is equal to  $21/13=1,625$

## The Greek good method

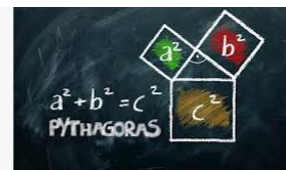
### The good Practices

#### Maths

The aim is to find what the height of the wall is. We counted the length of the ladder and the distance from the bottom of the ladder to the wall. We used this measurement and the Pythagorean theorem to find the solution.

#### Pythagorean theorem

The Greek good practice is about the Pythagorean theorem.



## The Latvian good method

### The good practices in Maths



#### The Latvian good practice

It takes about 5.6 m<sup>3</sup> or 3.5 tons of wood to make about 1 ton of office paper. We went to the school yard and took measurements.

Tree height=1,7m  
 Tree perimeter=1,8m  
 We have to find the radius  $P=2\pi r$   
 $r=0,28m$

Base area  $A=\pi r^2$   $A=0,24m^2$   
 Volume  $V=A h$   $V=0,4m^3$   
 We found that we can take 250Kg of wood  
 Then we calculate that the mass of the paper is 71,5Kg  
 If a piece of paper weights 4,7g we can take about 15000 sheets of A4.

## The Polish good method

### The good practices in Maths



#### The polish good practice

The snack 'Trail mix', in Poland called "Student mix" includes: 25% peanuts, 30% golden raisins, 15% sultana raisins, 10% cashews, 8% cranberries. The rest are almonds. a) calculate the weight of the almonds in a 250 gram packet of the mixture. b) are there more raisins or nuts in the student mix?

|                    |             |
|--------------------|-------------|
| in 100g of the mix | 12g almonds |
| in 250g            | x;          |
| -----              |             |
| x=30g almonds      |             |

Nuts are  $25+10+12=47\%$   
 raisins are  $30+15+8=53\%$   
 so there are more raisins



# Maths in Latvia

## The Greek good method

### Mathematic task –

- Determine how high from the ground the window of the 2nd floor of the school is! You can use the stairs, but it is forbidden to climb up!

### Calculation steps –

- First, we placed the ladder so its besides the window, so the measurements are correct
- Second, we measured the space between the wall and ladder
- Third, we measured the whole ladder
- Fourth – doing calculations



# The Latvian good method

## Practical test work "Geometric bodies"

1. Find, photograph and send to the teacher following geometric bodies in or around the house:

- > rectangular parallelepiped and / or cube
- > prism other than a rectangular parallelepiped or cube
- > cylinder
- > sphere
- > cone
- > pyramid.

*The photograph must be accompanied by an identification mark that it is indeed self-photographed.*

2. From the objects found, choose two different types of geometric bodies, perform the necessary measurements and calculate their full surface area and volume!  
Send both measurements and calculations to the teacher. (*Answer only will not count.*)

3. It takes about  $5.6 \text{ m}^3$  or 3.5 tons of wood to make about 1 ton of office paper. Go outside, make appropriate measurements, and calculate how many  $\text{m}^3$  of wood would be obtained from a 3 meter long log (assume that the diameter is constant along the entire length of the log), if it is cut from a tree growing in the vicinity of your house (spruce, birch, larch, aspen).



Calculate how many *Inacopia elite* (see picture) A4 paper sheets sized 210x297 mm can be made from this log?

Send measurements, the progress of the calculations and a photograph of the measured tree to the teacher. (*Answer only will not count.*)

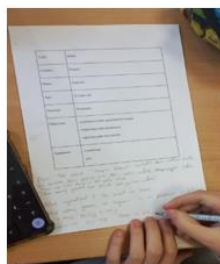
# The Polish good method

## Mathematic task –

- Calculate the weight of the almonds in a 250-gram packet of the mixture (trail mix)

## Calculation steps –

- 1st we calculated how much is 1%,
- 2nd we calculated how much grams is each raisin and nut
- 3rd we counted all the grams together
- 4th we subtracted the result from 250g
- And then we got the result of how many almonds are in a pack (30g)
- After we did our task, we thought of other things we could calculate about this pack of trail mix
- We produced another task we fulfilled - How many grams of sugar are there in the papaya mix given by the teacher? (There is 21,6g )

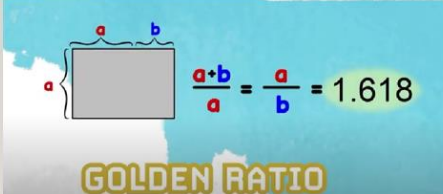


# MATHS in Poland

## The Bulgarian good method

### MATHS: THE BULGARIAN GOOD PRACTICE



[https://www.youtube.com/watch?v=4YLF6TUJ-EO&AB\\_CHANNEL=BIGOSMATEMATYCZNY](https://www.youtube.com/watch?v=4YLF6TUJ-EO&AB_CHANNEL=BIGOSMATEMATYCZNY)



**GOLDEN RATIO**

**Złoty podział**

Złoty podział, podział harmoniczny, złota proporcja, boska proporcja – podział odcinka na dwie części tak, by stosunek długości dłuższej z nich do krótszej był taki sam, jak całego odcinka do części dłuższej. Innymi słowy: długość dłuższej części ma być średnią geometryczną długości krótszej części i całego odcinka. Wikipedia

## The Greek good method

### MATHS: THE GREEK GOOD PRACTICE



$a^2 + b^2 = c^2$   
 $140^2 + 30^2 = c^2$   
 $19600 + 900 = c^2$   
 $c^2 = 20500$   
 $c \approx 143 \text{ cm}$






How high is the wall? It is 220 cm high.  
 How long is the ladder? It is 222 cm long.  
 How far is it from the bottom of the ladder to the wall? It is 33 cm.



# The Latvian good method

## MATHS: THE LATVIAN GOOD PRACTICE

The collage illustrates the 'Latvian good method' through practical application and problem-solving. On the left, students are seen measuring the circumference of tree trunks. In the center, a student is measuring a tree trunk with a yellow tape. On the right, several blackboards and a notebook show mathematical work. One blackboard displays a system of equations:  $\begin{cases} x + y = 10 \\ x - y = 2 \end{cases}$  with the solution  $x = 6, y = 4$ . Another blackboard shows a calculation:  $11 - 5,6 = 5,4$  and  $11 - 5,4 = 5,6$ . A notebook page shows a calculation:  $x = \frac{10 \cdot 10}{10 + 10} = 5$ .

# The Polish good method

## MATHS: THE POLISH GOOD PRACTICE

The snack 'Trail mix', in Poland called "Student mix" includes: 25% peanuts, 30% golden raisins, 15% sultana raisins, 10% cashews, 8% cranberries. The rest are almonds.

a) calculate the weight of the almonds in a 250 gram packet of the mixture.

b) are there more raisins or nuts in the student mix?

The collage illustrates the 'Polish good method' through practical application and problem-solving. On the left, a packet of trail mix is shown. In the center, a pie chart shows the distribution of fruit: jabłka (10%), gruszkę (20%), i figi (30%), and morele (30%). On the right, a notebook page shows a calculation:  $x = \frac{250 \cdot 10}{100} = 25$  g - migdały. Another notebook page shows a calculation:  $100\% - 10\% - 20\% - 30\% = 40\%$  and  $14 \text{ kg} \cdot 4 = 56 \text{ kg}$ . A third notebook page shows a calculation:  $6 + 20 + 8 = 34$  and  $50 : 2 = 25$ .

## Activities during the fourth LTTA in Poland



### Monday

STEAM experiments for students (and teachers) carried out by 'KRAINA EKSPERYMENTÓW' (scientists) from Zielona Góra.





## Lubsko sightseeing





# Tuesday

Centrum Nauki Keplera – Kepler Science Center – STEAM workshops



10.15 – 11.30 – Biodiversity

11.30-12.15 The life by the river

12.15- 13.30 - Visiting the interactive exhibition

<http://centrumprzyrodnicze.pl/>





Centrum Nauki Keplera – Science Center – 3D Educational Movie on the Universe

<http://planetariumwenus.pl/>





# Wednesday

MATHS activities at school

- working in international groups to solve maths activities



- platonic solid – cardblocks

Scientists from partner countries: searching for information, making posters and presenting them





## Bowling and pool



## Thursday

### Art activities: felting



Art activities: egg shell art



Physical activities, and dances. Zumba and yoga







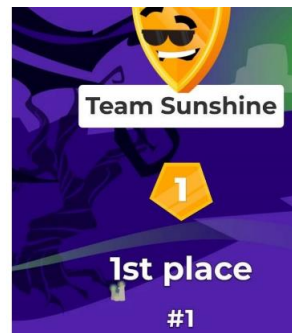
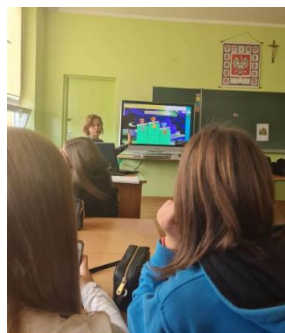
## Friday

STEAM workshops: various engineering activities, working in international groups





Evaluation of the LTTA and the project for students and teachers





## Outdoor STEAM learning: a trip to a local town Żagań



## Farewell dinner with all participants - students and teachers



## The participants



Greece



Bulgaria



Latvia



Poland



## Students opinion

### By the Bulgarian team

It was an amazing week and I am happy I had the opportunity to be a part of this project! The experience is unforgettable and I have so many memories that I will remember for life! There were a lot of beautiful views, moments and people! I made many new friendships and I definitely miss every second that I spent on this project! Ivelina

Spending this last week with everyone was marvelous. Being able to be with some of the best people from the project made the time in Poland so special. All of the activities organized were so fun and some of them were new for me like the bowling and the zumba. The DJ party was a great addition to the whole experience. The arts and crafts gave us the opportunity to create some decorations for our home and letting us have it as a keepsake. I am so thankful to all of the teachers, students and everybody else that was part of the project and gave us the chance to meet everyone and make forever-lasting connections. I will never forget this week! ❤️ Polia

Well, my impressions of Poland are overall fine. The most interesting thing was that I saw new places and experienced a different culture. The visit gave me the opportunity to use English to communicate with people my age and make new friends. I still keep some of the things from my visit there for memories. I am a more open-minded person now. Maria

I liked Poland because it is very beautiful, very calm and the people were so friendly and the food was good and delicious. I enjoyed the Math and Science classes and was impressed by the visit to the Kepler Center. Lyubomir

I liked that I met so many new people. Also that I made so many new friends. Every day we did new and interesting things. I also really liked the Polish food. I appreciate that I was able to get to know Polish culture at least a little. Adrian

It was a very nice visit. Everyone was nice and kind. I liked the chance to meet some of the students from other countries again and get to know others. The best were the team activities in class and the sport competitions organized by the Polish hosts. Georgi

### By the Greek team

Everything started in the 16th day of October. That day was amazing itself because it was the first time for me and most of the kids travelling by plane. The view was outstanding and the airports they were giants an unprecedented experience.

On the first day we saw the children from all the countries again and started hanging out with them. moreover, it was the day of presentations and exploration of the town. the most interesting thing was the architecture, the historical buildings we visited, the canals, the cleanliness, and the beauty of the city

The second day was characterized by interesting activities in the field of animals and plants. On the same day we went for a walk in the city of Zielona Gora, where I was delighted with the large squares, the nature, and the buildings.

In the third day we solved math activities like card blocks. We created Posters for a great scientist of our country. We visited a beautiful lake full of trees with autumn colours and the best part of the day was the bowling alley and pool where we had a fantastic time.



Fourth day was the day of the arts. we dealt with different types of arts which I liked a lot. The day ended with dancing and yoga but also with a party at the hotel. The last day in Poland started with robotic lessons. The day continued with an excursion to Zagan city where we visited places of great historical importance. And the night a big party followed.

Overall, it was an unforgettable, a great experience with much new knowledge, a visionary view of the world, but best of all the great company with the children from the other countries!

THEODORE

I have to say that this week in Lubsko was the most beautiful week of my life. Everything was great, the hospitality, the friends that made and the activities that we did all together. One day after our departure we visited the school. I have to say that it was very big and amazing. After we learned all about the town of Lubsko and it was very interesting and I really like it. One of my favourite activities was the volleyball tournament that it was very good. Our visit at Zielona Gora was very interesting both the city and the film that we saw there. Generally, I really liked this project and I have learned from this a lot of things that will be useful to my life. Miltiadis

The days in Poland was amazing and unforgettable because we had the opportunity to see and do things that we cannot do in our country. From the first to the last day, we had wonderful activities. I had the luck to do experiments with two amazing polish scientists. I visited Zielona Góra a beautiful town even though it was raining I enjoyed it especially in the centrum Nauki Keplera. I learnt more things about biodiversity the best was that I touched a snake for the first time in my entire life. I will not forget the eggshell sell and felting art of course. In the afternoon we went to the gym danced with a very talented dance teacher it was great.

These activities however, brought us closer. Especially when we had to cooperate with children from other countries and we had to do an activity, to solve problems in maths or to play a game.

I made so many friends in Poland that I miss them already.

The school it was very big and clean. The school yard was my favourite in this school because all children used to get together there. One thing that it was very strange for me was that students eat in the school because in Greece we don't eat in school.

The food I ate was excellent. I love polish traditional kitchen I will try once again in my life for sure. Last but not least, I want to thank you all for giving me this experience and I hope someday to see you again because I loved you all from the bottom of my heart Stella

Overall, my visit to Poland was an amazing experience and I really enjoyed this trip. I learned about the Polish culture, language, and their everyday life.

The activities that we tried were interesting and fun. Some of the things we did were completely new to me such as felting and eggshell art, but it was exciting to try them for the first time. Some other activities that I enjoyed were going to Zielona Gora and learning about insects and snakes. Furthermore, working in international groups to solve math problems was fun as it required cooperation and communication.

In my opinion, the Polish school was very nicely decorated and in good condition. It was very nice to go to their school every day to do activities and sometimes we even played volleyball in the school yard which was fun. The town of Lubsko is beautiful and the local people that we talked to, were very kind and friendly.

During the whole trip, I got to socialize with people from other countries and different cultural backgrounds and it was fun to spend time with them. I made friends that I still talk to, online. The other students were very friendly and fun to talk to, so we had an amazing time together.

To sum up, my trip to Poland was incredibly fun and I want to say a huge thank you to the Polish team for making this an amazing and memorable experience. I had so much fun during this visit and if I could go again, I would. Dimitra

My trip to Poland was one of the best experience I've ever had.

At first the school activities helped us know each other better and talk with the students from the other countries more. The places we visited was very beautiful and we learned new things.

The best thing was that we got closed with the students from the other countries and have so much fun. Dimitra

### **By the Latvian team**

I'm really happy and thankful that I could participate in this project. I liked everything, activities were well prepared. It was fun to talk and participate in activities with partnercountry students. When we had activities it gave me opportunity to use my English language skills and be more involved in those works. All activities in school were planned really good. The most I liked activities were we needed to participate in experiments and activities where we needed to make poster about our contry most known scientist. Everywhere where we went was really interesting and historical. I can say that Lubsko is really beautiful city. It's sad that this project has ended, because I really enjoyed my visits and learned a lot in them. I hope that I will ever have a chance to take a part in some other Ersamus+ projects. Thanks for everything! Aleksa O

I really enyoed all activities that were made for us in Poland school. They taught something new and they were fun and interesting. When we had to go to activities I could communicate with other students from project. I enyoed every second in my stay in Poland. We had to play bowling and I did that for first time in my life. It was interesting to learn about history in Lubsko. Lubsko is beautifull city! I hope that in not so far future I could be able to visit it again. Aleksa P

I really liked my stay in Poland! We went for hiking around well know places in Lubsko. Churches in Lubsko are beautifull and they are little diffrent then churches in Latvia in those where I have been. The city Lubsko is small, but lovely. I had to participate in activities where I had to learn and use my English skills. I really enyoed to make some art from egg shells. In science center I could hold snake in my hands and I did it first time in my life. There where some insects I have never seen before. But the most I liked parties where we could dance and learn some new folk dances. In those I could meet some new students for me and I could talk with them. Thanks to Poland school for great visit and evrything they had to do to make it happen! Sigita

Weekend in Poland was just amazing! When we arrived at Berlin airport Maria was waiting for us and it was really nice. I really liked bowling, math, dance and experiments at school. I made in experiments a souvenir from this trip that will stay at my home. In all project I could improve my English skills and could meet new friends. Last night at Poland was hard, it was hard to say goodbye, because You don't know if You will ever see all of them again. Those funny events and expierence I got in this project will stay in my memory for ever! Evelina

I really liked Lubsko city, the church from inside and outside and the view from tower where just amazing! I enjoyed our visit in science center. In that kind of center I had never been before. I liked to participate in chemestry activities, to do those experiments myself and just watch them was really interesting. Kristiana

## By the Polish team

The meeting in our country was an amazing experience, during which I took part in many activities, improved my English and also met new people to whom I showed our country. It was an great adventure that will stay in my memory for a long time. Agata

Meeting in Poland was amazing time. We visited interesting Places in Lubsko and learnt about history of him. I really Improved my english and met amazing people. Im happy that i could show our country. I hope you liked the tasks and activities. Kamila

I believe that the Erasmus project in Poland was successful. We were visited by students from Bulgaria, Greece and Latvia. We visited the Lubski Dom Kultury, the Urząd Miasta and the Zalew Karaś. We took part in interesting activities at school. The project allowed me to meet new friends and enable me to develop and learn English. Amelia

The meeting in Poland was an amazing time. I met amazing people there again. I think I improved my English again, I enjoyed the felting classes and I really enjoyed the farewell dinner and I just want to thank everyone who participated in the project because this week was amazing and I will never forget it. Dominika

The time spent in Erasmus was amazing. I am glad that I could meet you and talk to you. Hope to see you again in the future. Thank you for having the best time with you! Maria

