

ELABORATO CONCLUSIVO

“LA SCUOLA VA IN MONTAGNA”

Classe IV C Liceo Scientifico “G.B. Grassi” - Lecco

A day in the life: Rifugio Ghiacciaio dei Forni by Matteo Giudici

Are you more of a mountain person or a sea one? Whichever you pick, I bet you wouldn't regret spending your holidays like our class did at the “Rifugio ghiacciaio dei Forni”, in Valfurva. Here is the typical day I experienced there.

The day would start with breakfast at 7 o'clock, followed by lessons given by experts. The themes covered were for example glaciers, the flora and the fauna of the area, astrology, art, philosophy and many others.

Right after that, we would start walking through the mountain paths for a few hours. At the end of the tiring walk, we would have lunch all together, enjoying the beautiful landscape. Back to the lodge, quick shower and then ready for other interesting lessons.

Dinner was at 7 o'clock pm, and then at around 9 o'clock pm there was a different activity every day, be it watching stars or enjoying a movie and then having the opportunity to interview the main actor and the director of the movie itself.

In simple terms, every single one of us can grant you that spending four days in the mountains, as we did, is an amazing experience that you can't regret having.



TEMA 1: Potenza dell'adattamento nel regno vegetale ed animale, importanza della salvaguardia

Orto botanico e Ente Parco: dovere e necessità, a beneficio di tutti, di salvaguardare le specie ed i relativi habitat mediante conservazione, divulgazione, vigilanza, protezione e tutela del territorio e delle sue genti (Ente Parco, Orto Botanico, Museo Etnografico).

ARALDUS SCRIPTORIBUS: a new type of plant by Gemma Fricano

Have you ever invented a plant? This was just one of the multiple activities that were proposed to us at Giardino Botanico Alpino "Rezia".

As soon as we arrived at the botanical garden, we were welcomed by a young expert: Marta. She immediately asked us: "_How many plants do you use in a day?". Imagine answering this question. Initially you would be displaced, but after a few seconds of intensive thinking you would probably start saying trivial things like paper. Actually it isn't that easy, because plants are at the basis of our life, from our clothes to our breakfast.

Afterwards, she showed us around and explained to us the several difficult situations for plants such as unstable ground, lack of organic matter, low temperature and very strong solar radiation. She proposed to us a very entertaining activity: one difficulty, one plant. It was so fun and stimulating. Try to invent a plant that has to resist a strong wind... the ARALDUS SCRIPTORIBUS! A plant that has deep roots that stick to the rocks and allow it to resist everything.

In conclusion I think that the method Marta used with us allowed us to appreciate this marvellous experience to the fullest. I'll never forget it!



Turning back time by Giulia Pirovano

Entering the Museo Vallivo in Sant'Antonio, Valfurva, felt like entering another age. During the years, the museum has collected many artifacts belonging to the people who have lived in Santa Caterina through the last few centuries, so it'll feel like you're time travelling.

The guide has let us experience how it must have been to be a farmer at the time, by explaining to us the functioning of a mill and showing us an old house. Many rooms were arranged for a specific theme, for example we saw an old bedroom or a shoemaker shop, and everything looked extremely realistic. In fact, what struck me were the excellent conditions of many objects and finds, all the things would work even today.

"Time gallops, life slips through your hands. But it can escape like sand or like a seed." It's a quote by Thomas Merton we found near a big old clock. It felt nice to read this sentence at the end of our time trip and made me think that spending my life in the right way, could actually leave something to the people who will come later. Maybe my grand-grand-grand-child will see my shoes in a museum, who knows!



Stelvio's biodiversity by Virginia Losa

If you have ever been to the Stelvio National Park, you will surely have noticed the extraordinary fauna and flora belonging to the place. During the trip, it was fundamental for us to hear Massimo Favaron precisely about the biodiversity of the park.

First of all, as regards the fauna, he said that there are several species that populate the park such as the black woodpecker, the white partridge, the deer and the Alpine finch. Many of these are difficult to observe, but if you are careful you can often see marmots even a few metres away from you.

What about the flora? Here too there are different types of plants such as larch, mountain pine, juniper and fir. Thanks to his explanation, now we are all able to recognize each individual species and distinguish it from others with less difficulty. The presence of many paths, testimony of the Great War, is also important.

All this is still visible only thanks to the conservation of species over the centuries and for this reason the director invites you to visit the park, but always respecting the environment around you and their inhabitants!

TEMA 2: Osservazione notturna del cielo e Orientamento

Da Laniakea alla nostra posizione sulla Terra: per una consapevolezza ragionata della nostra posizione e quindi delle rotte future da percorrere in sicurezza. Sicurezza e soccorso, ma anche aiuto per le popolazioni che vivono in quota: dall'idea di L. Bombardieri alla fattiva testimonianza di M. Folini, raccontate nel film documentario del regista L. Maspes.

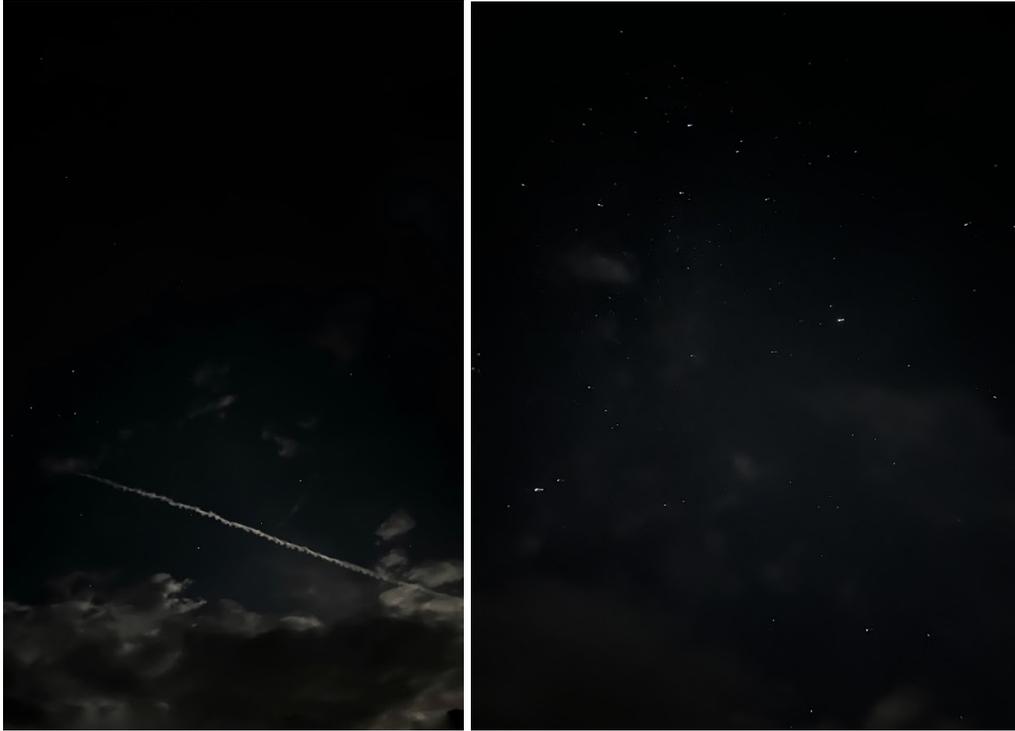
A magical way to escape by Beatrice Arrigoni

Haven't you ever wondered what it feels like to feel your mind thoughtless? Finding peace and serenity seems to have become impossible, like a goal that moves away, despite you continuing to run. What if I told you the solution is to look up more often?

When we went out on the first night during the trip to Valfurva, I rediscovered the beauty of looking at the stars, the planets, everything that the sky allows us to see only at night. I was enchanted by the words of the expert Bongini: he showed us every visible constellation from the Ursa Major, to Cassiopeia, from that of the Swan to how to find the brightest star of all, the North Star.

But the best happened when we observed planets with the telescope, like Jupiter and Saturn: so close, but so far; so small, but in reality so unimaginable in their size.

Finally I felt at peace with myself. Alone, while being surrounded by all my classmates. Or rather, me and that starry night, which immediately made me think of Van Gogh's painting: a sky so infinite and mysterious that, despite the fear and anxiety it can arouse, we immediately associate it with the image of freedom.



Laniakea by Marta Guerici

If you were to look at a picture of the Solar System, zoom out of the Milky Way galaxy, and then out again: there's nothing more amazing and at the same time scary than having an entire universe to explore.

Mr. Claudio Bolgini held a lesson describing the inner Solar System with its solid and rocky planets and their peculiar characteristics. Among the different topics he talked about, he explained the retrograde motion of Mercury and illustrated the toxic atmosphere of Venus filled with carbon dioxide with its yellowish clouds of sulfuric acid that trap heat. Can you believe that it's considered an example of where the greenhouse effect could lead our planet?

Farther out there are the much bigger gas giants: Jupiter and its 82 moons, Saturn and its large ring systems made of ice and rock, Uranus, Neptune and Pluto which is now officially classified as a dwarf planet. Beyond the Kuiper Belt and the Milky Way galaxy there are billions of galaxies such as Andromeda. Although it is unimaginable, scientists believe the universe is still expanding outwards.

With ever-advancing technology and knowledge, humans have made a lot of progress so far, but "how fascinating is it to know that the cosmos continues to have secrets which are waiting to be laid bare?"

Take the compass with you by Domenico Cuofano

When planning mountain excursions or any other activity in any type of terrain or season, it's essential to have in mind the basic concepts of topography and orientation, to be able to read a topographic map; in short, know how to orient yourself and if necessary call the Alpine Rescue.

The mountaineer and expert climber Massimo Gualzetti was very clear on this matter, during his lessons, continuing to emphasise how much the correct use of tools such as altimeters, maps, and compasses can save our lives.

He also explained to us how to get the attention of an alpine rescue helicopter simply with arms and body positioning.

As a frequenter of the CAI, Massimo was worried that in addition to theory, the teachings could also be applied on a practical level, first showing us how to hold the compass and then how to find our current position, to understand the direction to follow and reach a refuge, rather than the top of mountains.

We have seen how complex and challenging this can be, but in specific cases, it's vital to get us out of dangerous situations.

An Hero between us by Anna Mauri

Exciting, fascinating and incredible. This is how I would describe the meeting with Maurizio Folini. This brave man is a rescue helicopter pilot who has been saving many lives in the Himalaya area.

His most famous achievement is that he successfully concluded the highest rescue of the world on Mount Everest. It was a real challenge in which he had to put all his energy, physically and mentally. Not only did he take the risk to overcome the helicopter's altitude limits, but he also decided to remove irrelevant parts of it to make it the lightest possible in order to consume the least amount of fuel. Then, the oxygen tank that he was using froze and he had to remove it for some time.

Personally, I consider him a hero, because he put other's lives before his own. In fact, he also helped poor villages by supplying them with all the necessary.

In conclusion, he said that he decided to become a rescue pilot and not a tourist one, because he met people that changed him and made him take certain decisions. So, I hope everybody finds someone that changes their life like Folini because I think that behind this simple man there is a hero.

HOVERING ON THE RIDGE by Francesca Combi

Have you ever thought about the feeling of flying at an unbelievable height in the sky? When I look at the mountains sometimes I think about it and I luckily had the opportunity to know how it feels.

Last night at Refuge Forni we watched “ Solo in volo”, a documentary about the helicopter rescue of Maurizio Folini at 7000 metres above the sea, on mount Everest and his experience with helicopters. Then we had the opportunity to meet Folini and the director of this film and to ask them our questions.

During this meeting Mario described to us some other experiences, for example I was very interested in the one in Nepal. In 2018 a big earthquake hit the poor villages on the mountains and he had to set off immediately. There he rescued many people with his helicopter and he carried the goods they needed from the city to the destroyed villages.

To sum up , it was a very interesting meeting and I liked it a lot. I really admired the courage of this man who decided overnight to leave for another country without hesitation, just to help other people.

TEMA 3: Fusione dei ghiacciai: indicatori dei mutamenti meteo climatici e conseguenze
Osservazioni storiche, stato attuale e loro importanza come riserva di acqua dolce a rilascio soprattutto nei periodi siccitosi.

AN ICY LESSON by Nicolò Vergottini

During our second day, we had the honour of being able to attend a lesson on Geology and Glaciology by Claudio Smiraglia, researcher and university professor, as well as one of the greatest exponents of glaciology in Italy; but not only this: he also accompanied us during the excursion to “Rifugio Branca”, in a fantastic route, along which the professor explained other things, always related to geology and glaciology.

Going more into details: at the refuge, the professor gave a theoretical lesson, dealing with various topics, like: sources of water of our planet, the retreat of glaciers, the difference between weather and climate, the increase in the level of the oceans, the equilibrium line, and lithology. During the excursion, the professor made various speeches referring to elements that surrounded us: so he talked about the genesis of “Filladi di Bormio”, of hydroelectric energy, etc.

In conclusion, the great professionalism and intelligence of the professor Claudio Smiraglia has allowed us to better understand the themes of Glaciology and Geology, and to carry out the excursion with more awareness.



On the trail of the glaciers by Greta Millin

One of the three nights we spent at rifugio “I forni” we watched the documentary “on the trail of glaciers”. This film is about a scientific and photographic project that has the aim to sensitize people on climate change thanks to the comparison of photos taken from the same position in the last 150 years. It shows the hard work of Fabiano Ventura who hiked some of the highest mountains in Alaska and searched for the perfect point where the previous picture to compare was taken.

This film shows the incredible and negative impact that humans have on the earth nowadays because you can see the immense reduction of ice that is affecting the glaciers. Comparing photos from the past with what we are seeing now opens your eyes and it makes you want to take action.

So, after this film I personally felt a sense of admiration for Fabiano, who decided to spend so much time after this project, but most of all I felt sorry for the glaciers because for the first time I considered them like something alive and that we are slowly killing. So, if you are interested in the life of our planet (as you should), it's necessary that you watch this documentary, because, if you are just a little like me, it will open your eyes.



TEMA 4: Una storia elettrizzante: dall'acqua l'energia per lo sviluppo della città (Milano in particolare)

Fondazione AEM gruppo a2a: un percorso storico che racconta, grazie ad un vasto archivio multimediale, le fatiche di uomini per la costruzione di centrali idroelettriche, guidati dalla cultura Politecnica.

Energy for the development of the city by Cesare Rossi

On 09/14/2022 we witnessed the projection and explanation of the birth and development of the municipal electricity company by some experts and employees of the company, who introduced us to the past and present history of the AEM.

At the end of the nineteenth century, a thermoelectric power plant was built in Milan: it was the first one in Europe and the second one in the world. Its management was committed in 1884 to Edison. In 1893 Edison also had the agreement for the management of hydroelectric plants, but the tariffs applied were considered too high, so in 1910 the

Azienda Elettrica Municipale (AEM) of Milan was born.

Set up in 1910 after a referendum on the municipalization of public services, the AEM accompanied the economic and industrial growth of Milan through the twentieth century, gaining from the very beginning of innovative hydroelectric plants in a fragile and symbiotic balance between the city and the mountain area.

The AEM company further contributed to the production of renewable energy in Lombardy. It also indirectly provided for the creation of incredible industrial engineering works such as the Grosotto plant or the Stazzona plant nicknamed "In the cavern", thus creating an incredible archaeological-industrial heritage.



TEMA 5: La montagna nella letteratura, storia ed arte

La montagna come dimora degli dei per i Greci, dall'Olimpo al Parnaso, o come luogo di conquista per i Romani; le metafore centrate sulle montagne del Vecchio e Nuovo testamento, la montagna del Purgatorio dantesco e quella dell'ascensione al Monte Ventoso di Petrarca. Il paesaggio montano è reso mirabilmente dallo sfumato leonardesco, il natio Cadore nella pittura di Tiziano, e ancora la montagna dei Romantici, dall'inglese Turner al nostro Manzoni (Adelchi). La montagna nell'arte contemporanea, dalle 'montagne' di sale di Mimmo Paladino alla Land Art di Richard Long.

A journey to mountains in art by Elisa Sormani

Did you know that mountains weren't a main focus in art for ages? Some of the earliest illustrations of mountains are from the 13th century and they were related to literature, representing the Purgatory and the Parnassus.

But over the course of time, artists began to represent mountains and nature, even if just as backgrounds. Leonardo da Vinci, for example, represented the mountains from Lecco in his representation of "The Virgin and Child with Saint Anne" and he was used to illustrating them even in his sketches. Even Titian used to portray Cadore mountains in his works of art, like in "The Presentation of the Virgin at the Temple".

But in the mid-18th century the concept of sublime started to develop and nature became an important part of art. William Turner, one of the most famous exponents of Romanticism in painting, concentrated his paintings around the beauty of nature, and mountains, in their dangerousness.

After that a lot of artists started to represent mountains and nature and to travel to see these beauties. But art is always in development, so who knows how the view of mountains could change once more.



Leonardo da Vinci, *The Virgin and Child with Saint Anne*,
1501-1519, oil on wood, Louvre, Paris



Titian, *The Presentation of the Virgin at the Temple*, 1534–1538, Gallery of the Academy of Florence

Mountains in literature by Sofia Baruffaldi

The Alps were always known to men, however the interest in them was initially exclusive to their role as borders. There were no works of art picturing them and the only changes men made to this environment were architectural structures. This is particularly true for the Romans.

This changed in the 13th century when authors such as Dante and Petrarca, for example, mentioned them in their poetic works, mainly as symbols of temptation or as the places where Gods lived. For instance in Dante's *Divine Comedy*, the Purgatory is a mountain, which represents the fatigue the souls have to face in their path towards salvation.

In the 15th -16th centuries, when Flemish artists started to visit the Alps and some detailed descriptions of them were written, for example by Leonardo da Vinci, from a scientific point of view, the cultural appreciation of mountains changed again.

With the Romantic Age, writers started to center their reflection on mountains because of their astonishing beauty, the so-called sublime, a great example would be Antonia Pozzi, who I am particularly fascinated by.

Tema 6: Le escursioni

Dall'escursione al Rifugio Branca, alla visita guidata al centro storico di Bormio, passando dalla gita al Rifugio Pizzini e all'escursione di rientro per Santa Caterina. Il tutto corredato da una serie di immagini che ci permettono di rivivere la montagna autunnale.

An excursion at the discovery of Nature by Martina Denti

It was 10 a.m. on the second day of our school trip in Valfurva, when we started the excursion to Branca refuge, at about 2,500m of altitude. The weather wasn't optimum, but the energy and curiosity to reach the refuge were sky-high.

At the beginning, the path was “gentle”, as our guide Benedetto said, but afterwards the effort rose, so we sorted out this problem by talking. One thing this trip taught me is this: when you are weary, talk. It seems like a paradox, but it works!

We were walking, when we suddenly spotted three marmots, running from rock to rock. I was excited, since I had never seen one before. Meanwhile, we listened to the lessons of the glaciologist Claudio Smiraglia. For instance, he talked about the different colours of rocks and he emphasised the astonishing glacier’s reduction.

We reached the refuge and tasted our delicious packed lunch, gazing at the breathtaking landscape. Eventually, we went back along the glaciological path and came across some cows. We were at our refuge at about 2.15 p.m.

To be honest, this wasn’t my favourite excursion of the trip. However, it’s worth it! We directly interacted with nature, an experience to repeat.



A path that crosses history by Lorenzo Meroni

Would you like to hike in the beautiful mountains of Valtellina? Do you like history and would you like to experience the sites of the Great War up close? Well, if the answers are yes, the path leading to the Pizzini refuge is the one for you!

On Thursday, 15th September, accompanied by expert mountaineers, we went to the Pizzini Refuge, which is located at 2,706 meters, at the bottom of the Val Cedec, in the splendid scenery dominated by the elegant cones of Gran Zebrù and Mount Cevedale.

The path starts immediately from the Rifugio Forni and it's possible to complete a ring-route: on the way, along the ridge, you can find ruins of military fortifications. They are located just below the line of the crest, so they were not visible from the valley, and thus from the Austrian troops who were barricaded there during the First World War.

When you arrive at the Pizzini refuge, you can have lunch, as we had. From there you can admire the splendid scenery of the Alta Valle, and in particular the Forni glacier. The glacier is one of the most beautiful in the Alps and its view alone is worth all the effort!



A final greeting to the mountain by Sofia Corti

Did you think the excursions were over? Well, if so you were wrong; a last walk was awaiting us for the return to Santa Caterina Valfurva, and not a trivial trip, but a scenic route that connects the unspoiled nature of the mountain with the country and the human environment.

On Friday, 16th September, accompanied by our expert mountaineers, we went back to Santa Caterina, a renowned ski resort in Valtellina, to catch the coach directed to Bormio, going from the altitude of 2,178 to 1,738 meters.

The track, as usual, started from our "baita", Rifugio Forni, and, following a path entirely immersed in nature, among farm animals, local flora and fauna, we finally returned to the alleys of the inhabited center. Along the path, surrounded by nature, we came across an element made by man, a confluence barrier that brings the water of a small river to the bottom collection dam.

When we arrived at the town, we caught the couch which was directed to Bormio, where we were going to have lunch and a visit to the place. This last walk was definitely the icing on the cake to end our trip and give a final greeting to the mountain!!



An immersion in the history of Bormio by Federico Airoidi

After spending three days at the Rifugio Forni in Santa Caterina, we went to visit the historic center of Bormio, led by some guides from the Luigi Bombardieri Foundation. Instead of doing a long tour we planned another, because of the lack of time, so, we went to visit the Church of Sant' Ignatius, the Parish Church of the Saints Gervasio and Protaso, the Church of Holy Spirit, the Church of Saint Vital, the Church of the Holy Crucifix.

First we saw the civic tower with its large clock which marks the life of the Bormini, then the Kuerc, the place where justice was once administered. In the square there is the Church of Saints Gervasio and Protasio built in 1641.

Also the ancient alleys are fascinating with characteristic bolted doors, the towers and the frescoes that are on the walls of the houses considered important at the time. Walking through medieval alleys and the famous donkey-backed Combo bridge that crosses the Frodolfo River you can explore the Combo department with its centre of peasant life.

To sum up, we did a very beautiful trip with famous and important people that made us fall in love with the historical centre of Bormio as well as with its mountains.



CONCLUSIONI:

Osservare il paesaggio per dare un senso al paesaggio significa essere disposti a studiare e ad ascoltare coloro che vivono quel determinato ambiente, quindi disposti a vedere un intreccio di elementi naturali ed antropici. La storia degli uomini inevitabilmente agisce sugli aspetti fisici, che a loro volta condizionano le generazioni successive.

L'osservazione del paesaggio può acquistare un senso ancora più profondo, quando diventa esperienza: camminare in montagna educa alla pazienza, all'umiltà, alla collaborazione e al rispetto. L'osservazione e l'esperienza del paesaggio montano evocano emozioni che si trasformano in arte, promuovono creatività, suscitano desiderio di comprensione e di studio:

‘La montagna è scuola di carattere, onestà, solidarietà umana e amore per la natura’

(L. Bombardieri)



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