



COLLABORATIVE

The ability to seek out opportunities to receive responses to your work; to present your own views and ideas clearly and concisely; to listen to the views of others; be willing and able to work in teams; to assume a variety of roles and be able to evaluate your own ideas and contributions.



**KING EDWARD VI
ASTON SCHOOL**

Educational excellence for our City

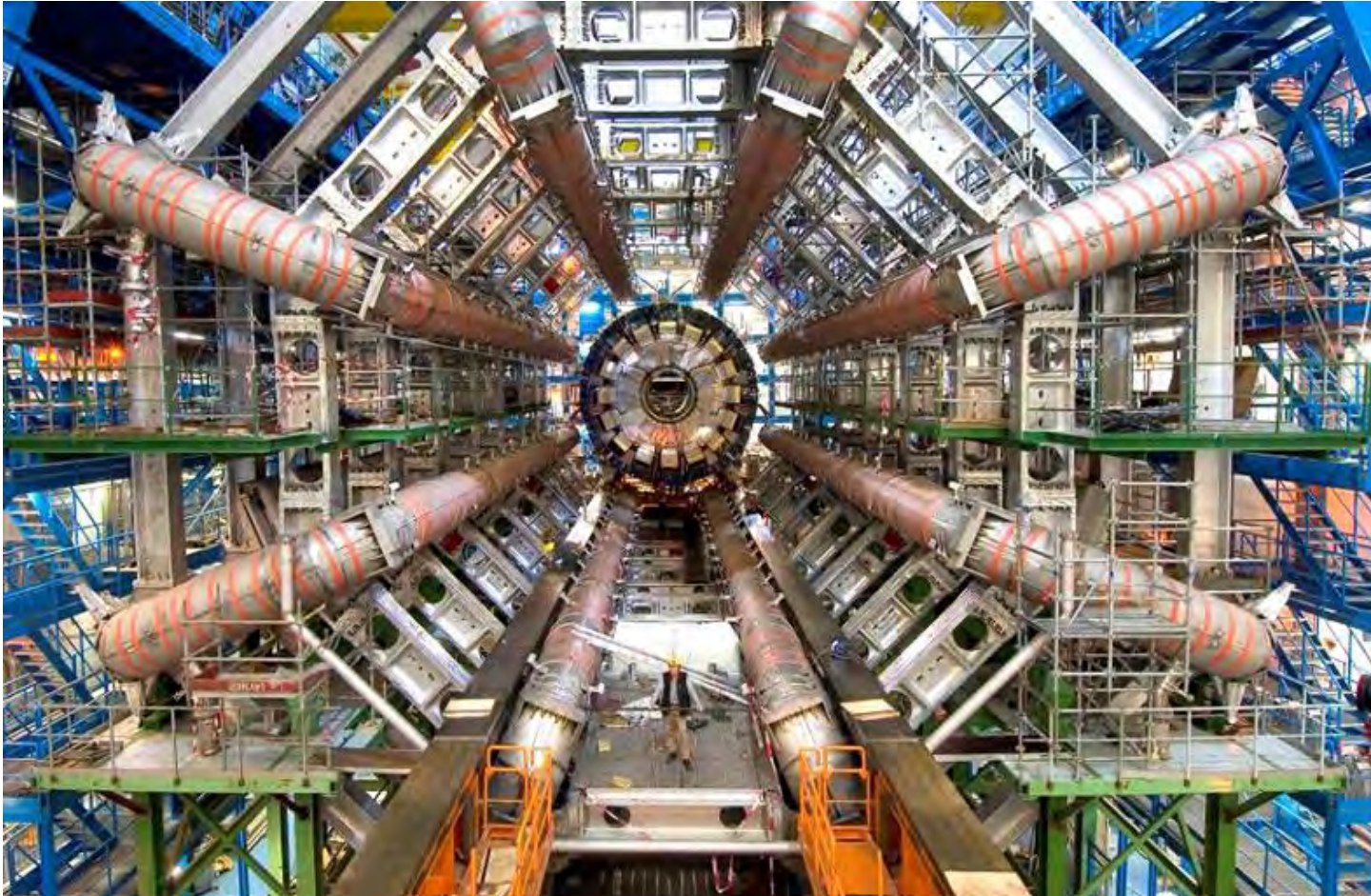


CERN Visit 2022 STEM



**KING EDWARD VI
HANDSWORTH WOOD
GIRLS' ACADEMY**

Educational excellence for our City



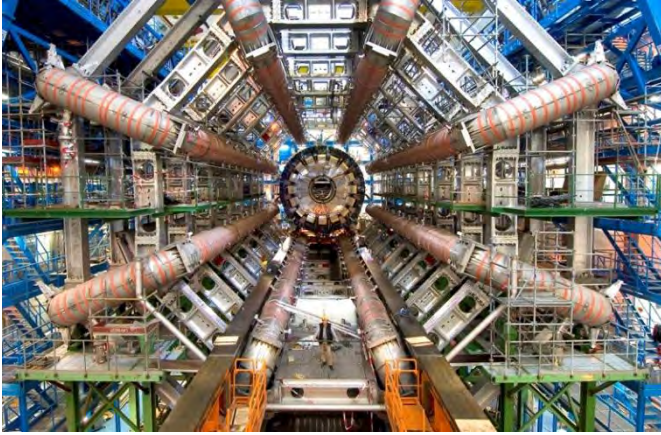
The European Organization for **Nuclear Research** (French: Organisation européenne pour la recherche nucléaire), known as CERN

Visiting the largest particle physics laboratory in the World.

Exploring the issues CERN's scientists are trying to solve:

BIG QUESTIONS: What is the universe made out of? How does it exist?

HWGA Science Faculty delivers a World Class Trip to CERN, Geneva 25th September – 2nd October 2022 with Year 13 STEM students.



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A collaboration between KEVI HWGA and KEVI Aston provided a rare opportunity for our students to experience the most expensive and prestigious nuclear research centre (CERN) in the world. They learned about the world's largest particle collider that has given rise to explanations regarding anti-matter and new particles that existed immediately after the Big Bang. Students were attentive to the lectures on medical physics application which inflamed curiosity and triggered an array of questions. A day of experiments included: cloud chamber experiments and superconducting magnets making levitating magnets were one of the many highlights of this trip. Students worked together and formed new friendships with students from the other King Edward Foundation School. Vast amounts of information were digested including fun facts such as Tim-Berner-Lee, a British scientist at CERN, who invented the World Wide Web. We explored Geneva where they did very well to use their language skills and meet the locals, rode the transport independently, indulged in ice-cream and took pleasure in exploring the city and sight-seeing on a glorious sunny day. The following day was a tour of the United Nations building - listening in and watching a live conference taking place! Students were in awe of the grandeur of the interiors of the conference rooms and the donation exhibits from the countries that contribute towards it.

A trip to the capital city of Switzerland, Bern Einstein Museum was the start of the next itinerary, where students found out about Albert Einstein's life, relationships, and theories as well as a history of inventions by others; displayed in a timeline snaked route. On the same day they travelled to Lauterbrunnen to view the glacial waterfalls and Interlaken where they explored a holiday resort around the tranquil turquoise lakes between the mountains. Here they admired the breath-taking scenery which they recognised in some famous Bollywood movies and visited the honorary statue of the director - Yash Chopra.

The final day was sub-zero temperatures and snow at Mont Blanc - the highest mountain in the Western Alps. Here the students travelled up the peak, via cable car, experienced amazing views and took their memory of a life-time photographs. After their descent they explored Chamonix - a world-class ski resort and warmed up with some delicious hot halal Turkish kebabs before returning to the hotel for a pit-stop to freshen up for an evening of bowling and pizza. The final day: we left early to start the long journey back to the UK which was broken up with half a day in Paris where the sun shone brightly while they cruised the river Seine and took in the sites of the city such as the Notre Dame. After some selfies with the Eiffel Tower, we had our final meal in France and continued our journey back. The student reviews were overwhelmingly positive, many saying it was a once in a lifetime trip. The social skills, cultural experience and independence has opened their eyes up to a wider perspective of the world around them and the opportunities beyond. It was also pleasing to see that they had embraced their embedded HPL skills: collaboration, big picture thinking, originality, seeing alternative perspectives and intellectual confidence in their behaviours and communication during their trip experiences.

Student Reviews:

We would like to thank you for allowing us to take up this once in a lifetime opportunity to visit Cern. During this trip, not only did we learn what real scientists contribute to what we take for granted in everyday life and how particles behave, we learnt how to do things that'll prepare us for the future university life, like exchanging and budgeting food money. The trip was very beneficial as it boosted our confidence in asking questions and communicating with the rest of the team. As well as this, independence in doing things without the help of others. We really wish we could've stayed longer as being together was like being in one big family, cherishing the small moments like taking a Polaroid in front of the Eiffel tower pulling funny faces. This trip was a real eye opener to what the world truly has to offer and we hope in the future there are many more trips to different countries. We really appreciate the teachers efforts in ensuring we were well cared for and kept us entertained throughout. Once again, thank you. Ikrah & Zarina

A few more student reviews:

I am grateful for this opportunity to visit the European Organization for Nuclear Research, where I got to learn about the world's largest and most powerful particle accelerator. I thoroughly enjoyed this trip, and I am fortunate to be able to attend this one. I'm also grateful to all the teachers that planned and dedicated their time to organising this trip. I enjoyed all the beautiful scenery around me. My favourite part was visiting the Seine river. I am grateful for all the opportunities given to me to independently explore France. I have gained many important life skills, from communication skills to working independently. This trip greatly strengthened my confidence. Furthermore, I enjoyed the activities we did in Cern. I enjoyed conducting the physics experiment and learning about physics. The physics lecture gave me a taste of what university lectures would be like; it was a fun experience that provided me with memories to last a lifetime. I am really grateful for this opportunity and this experience.

Kulsuma Begum HWGA

Thank you for giving us this wonderful opportunity to go to CERN and learn about the work they do there. I particularly enjoyed the trip to the United Nations where I got to experience the world leaders live UN conference and saw real Nobel prize medals. I was fascinated by the cloud chambers and the medical physics talk. I enjoyed all the beautiful scenery around me. I am also grateful for the teachers that worked really hard to entertain and look after us during the entire trip. Also thank you so much for looking after me when I felt sick and dizzy. I wish we could have stayed longer. Iman Waseem HWGA

This trip was a great opportunity for me and the rest of the year 13 students. Not only did it give us a small one week break from school curriculum and stress, but it also allowed us to widen our perspective as we learnt about science, applied to the real world and how this had affected us humans throughout time. It provided us with a chance to ask a variety of different questions which could be answered by professionals themselves. Apart from the educational side, this trip also helped improve our social skills, as we were grouped with new faces, and encouraged to interact and work with each other. I only wished that there were more open occasions, which could be used specifically for social free time. For example, there's no doubt that everyone loved and had fun on the bowling night as we got to know each other a lot more but unfortunately, it was the last day of the trip, and we all wished we had more fun time to spend with each other as we just started to get to know each other. Overall, this trip was unforgettable and was a really fun experience. I appreciate all the hard work put into organising this, and I'm really grateful for the school and teachers for giving us this golden opportunity. Iman Bashir HWGA

Student well-being

Food ranging from familiar pizza, ice-cream and halal Turkish kebabs were frequent for lunches and 'family' sit down meals in the evening exploring cuisine ranging from French to Chinese.



SEEING ALTERNATIVE PERSPECTIVES

The ability to take on the views of others and deal with complexity and ambiguity.

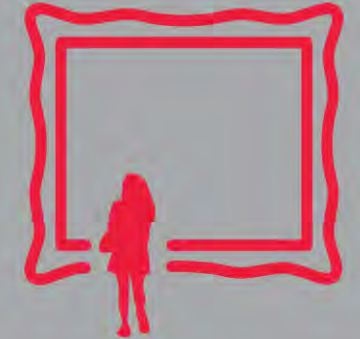


This business class apartment hotel in France was spacious, clean and provided our continental breakfast.





The European Organization for **Nuclear Research** (French: Organisation européenne pour la recherche nucléaire), known as CERN



BIG PICTURE THINKING

The ability to work with big ideas and holistic concepts.

CERN NUCLEAR RESEARCH LABORATORIES
Geneva, Switzerland

Accelerating particles and making new discoveries

CERN, Geneva, Switzerland

Underground, the Large Hadron Collider (LHC) is the world's largest and most powerful particle accelerator.

It first started up on 10 September 2008, and remains the latest addition to CERN's accelerator complex.

The LHC consists of a 27-kilometre ring of superconducting magnets with a number of accelerating structures to boost the energy of the particles along the way.



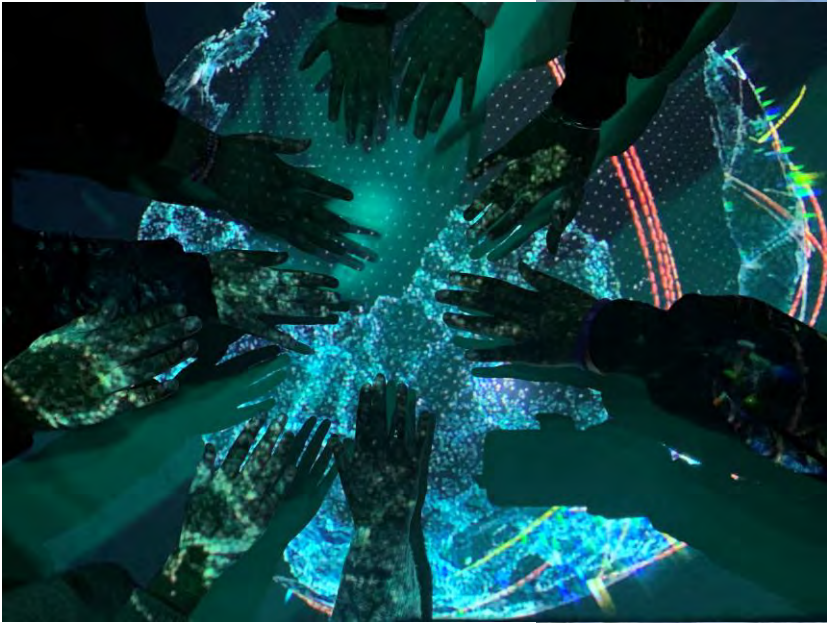


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THE GLOBE OF SCIENCE AND INNOVATION

NUCLEAR RESEARCH Exhibition





CERN SCool Laboratory – Cloud chamber experiment, investigating the formation of particles and how photons behave



ENQUIRING
The ability to be curious; be willing to work alone; be proactive; keen to learn; show enterprise and independent thought; challenge assumptions and require evidence for assertions; actively control your own learning; move on from the absorption of knowledge and procedures to developing your own views and solutions.

Particle Physics

Discussing, evaluating and concluding the results



Medical Physics Lecture

Getting ready for university
How latest technology on x-rays work
Radiotherapy



CONNECTION FINDING

The ability to use connections from past experiences to seek possible generalisations.



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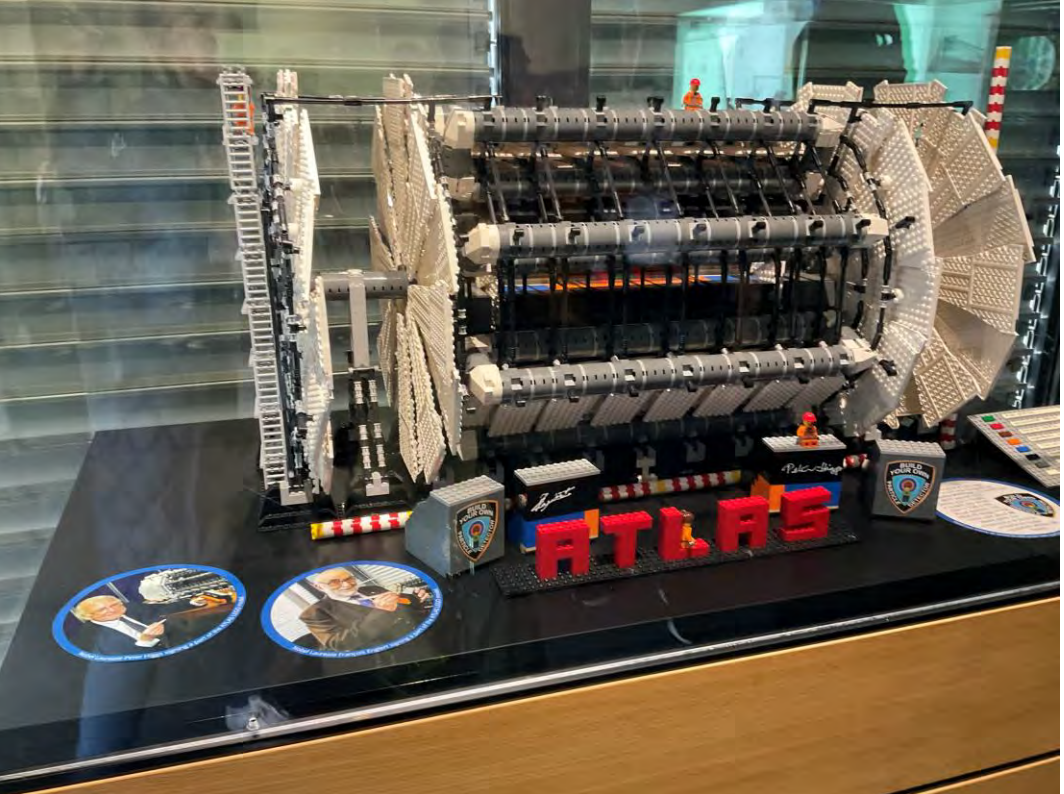


CONNECTION FINDING

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Synchrocyclotron – the first particle accelerator
Chemistry students related this to how the mass spectrometer works

ATLAS – THE particle detector



ABSTRACTION

The ability to move from concrete to abstract thought very quickly.

Visit to the United Nations

The broken chair

Symbolises opposition to landmines and cluster bombs and acts as a reminder to politicians and diplomats.



CONCERNED FOR SOCIETY

The ability to know the contribution you can make to society to the benefit of those less fortunate; to demonstrate citizenship and a sense of community ethos and recognise differences as well as similarities between people and peoples; be aware of your own and others' cultural heritage and be sensitive to the ethical and moral issues raised by your studies.



Enjoying the fountains





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United Nations conference hall

Sitting in world leaders' seats

Debating on current affairs



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United Nations Library – Nobel prize medal exhibits



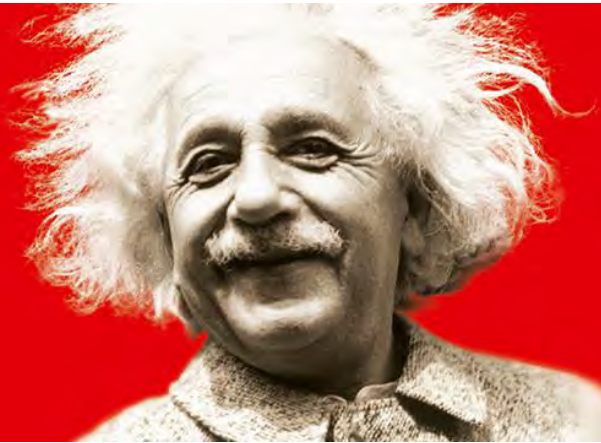
OPEN-MINDED

The ability to take an objective view of different ideas and beliefs; become more receptive to other ideas and beliefs based on the arguments of others; change ideas should there be compelling evidence to do so.



Geneva Town, Switzerland
Students explored the sites

EINSTEIN MUSEUM



Einstein Museum
Bern, Switzerland



INTELLECTUAL CONFIDENCE

The ability to articulate personal views based on evidence, and where necessary defend them to others.



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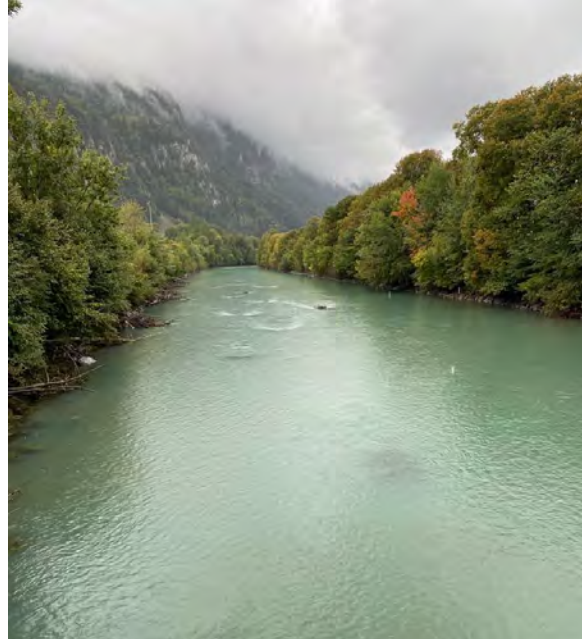
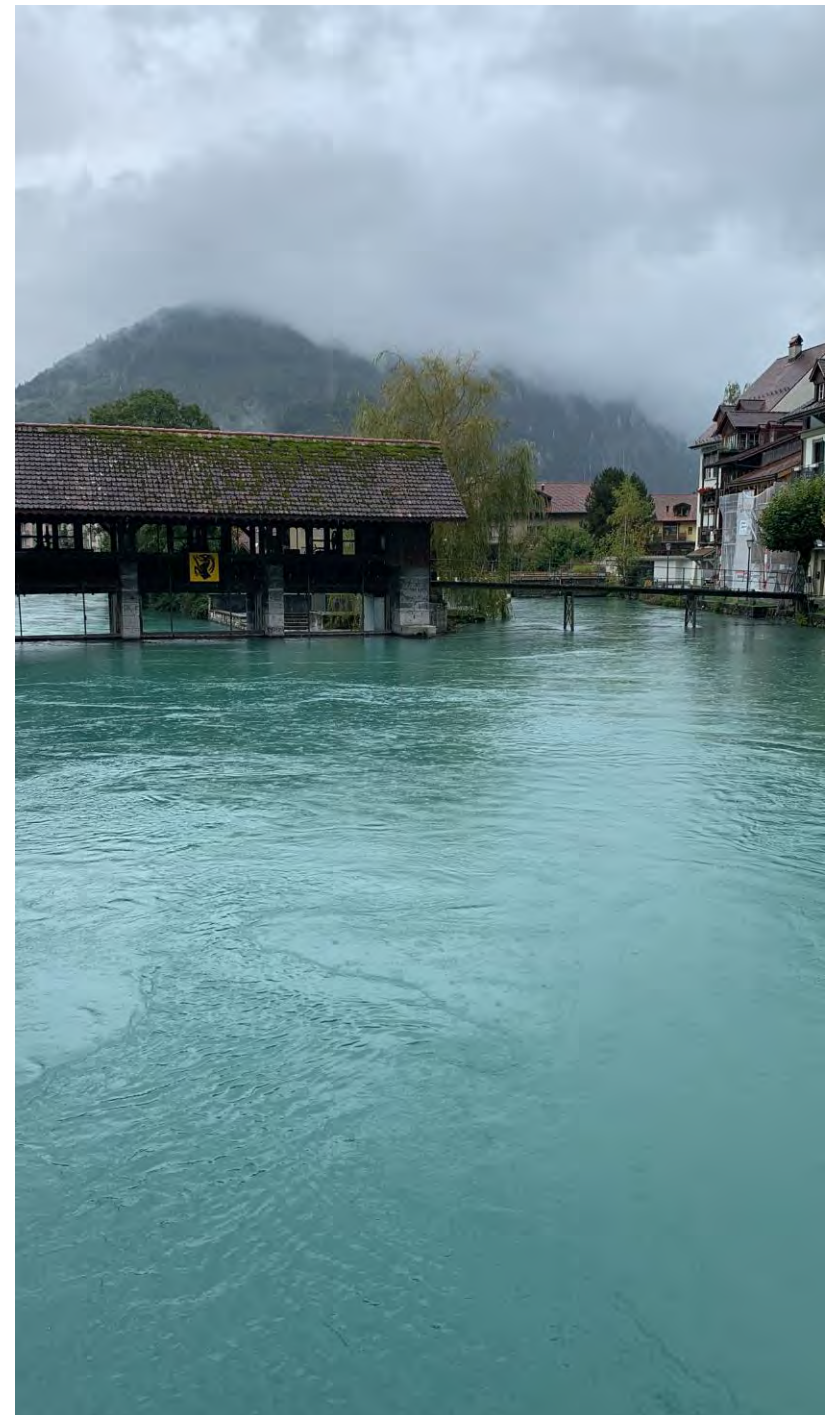
Albert Einstein on his life's journey and learn about the brilliant physicist in all his facets. Albert Einstein (1879–1955) was living in Bern when his **theory of relativity** turned our perceptions of space and time upside down.



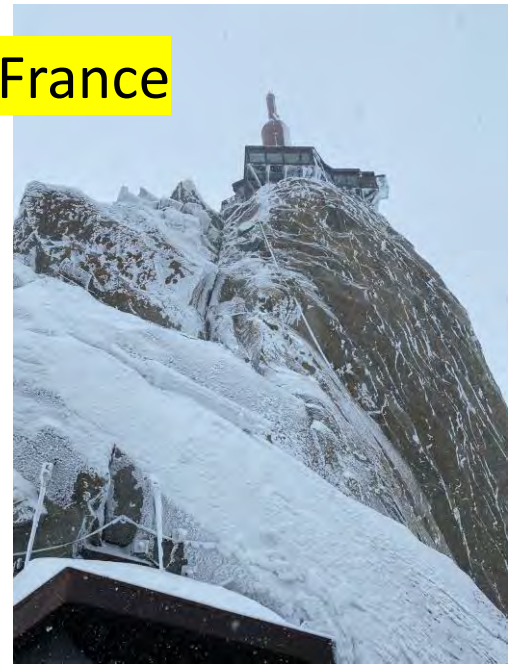
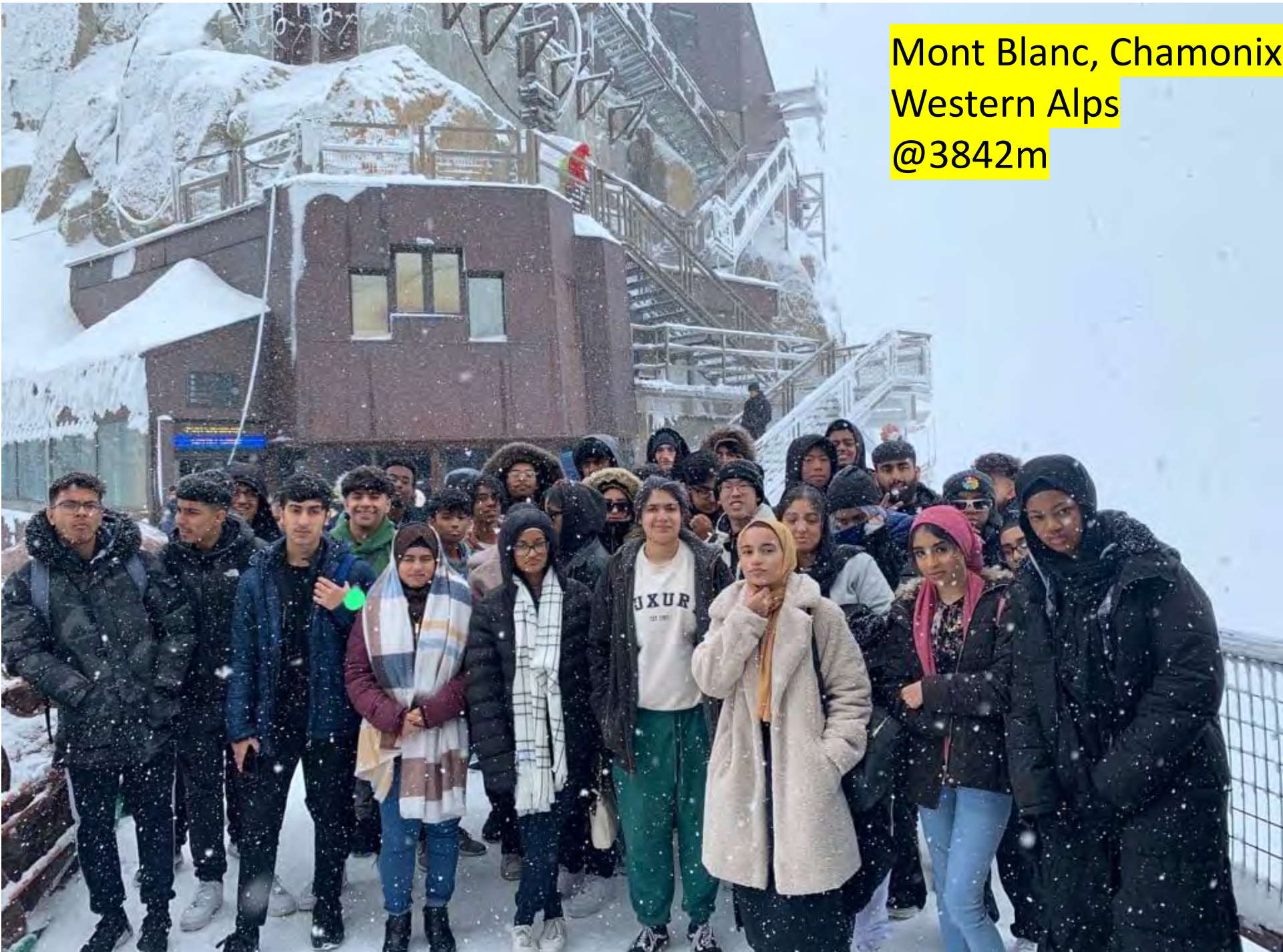
Pit-stop visit to Lauterbrunnen, Swiss Alps – Glacial waterfall



Interlaken, Switzerland



Mont Blanc, Chamonix – France
Western Alps
@3842m

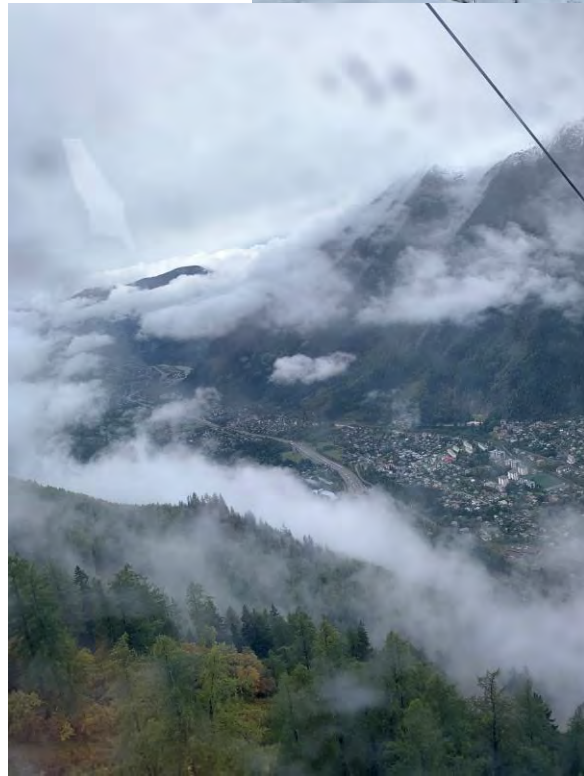


Mont Blanc, 3842m



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Staff, trip
Leader of KEVI
Aston – Mr
Kumar and Dr
Shahid KEVI
HWGA

Science
experiment →



Cruising the River
Seine
Paris, France

On the way home
back to the UK





Our students, some of whom could only dream of such experiences had from visiting CERN, walked through the United Nations, explored Geneva, took in Interlaken's breath-taking scenery, travelled in cable cars up the snowy Mont Blanc, visited world famous landmarks -the Eiffel Tower and cruised on the River Seine.

Some quotes from our students:

'It was a real eye opener to what the world has to offer'

'shows that we can learn everywhere and connect them to what we learn at school'.

'I want to visit more countries that I normally wouldn't consider'

'so much fun and valued this inspiring educational trip',

'memories of a lifetime' 'booster of confidence and independence'

'learning how to exchange and budget food money'

'appreciating what real scientists contribute to what we take for granted in everyday life, like the World Wide Web,

'embracing different cultures and trying new food', 'making new friends',

'thinking deeper about how particles behave' 'experiencing world leaders UN live conference',

'seeing real Nobel prize medals in the UN library'

'boosting confidence in communication skills'

'An insight to how university lectures would feel like'

'first time visiting Europe'

'wish we could have stayed longer', 'we lived every moment', 'the teachers worked really hard to entertain and look after us throughout the trip',

