The European Standard

The European classes from Albert de Mun present you your favorite English newspaper entirely penned by students.

Spare some time don't miss the International Language Week, you would be glad to catch a glimpse of our contributions. *To Continue on page 02*

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The Brexit
Find out what issues arise from the Brexit, our work on this topic. You will find a podcast on this subject.

Page 07

New Humans
Take part in a court trial regarding the "medical dilemma".

Editors: Mrs Amid , Mrs Peyre

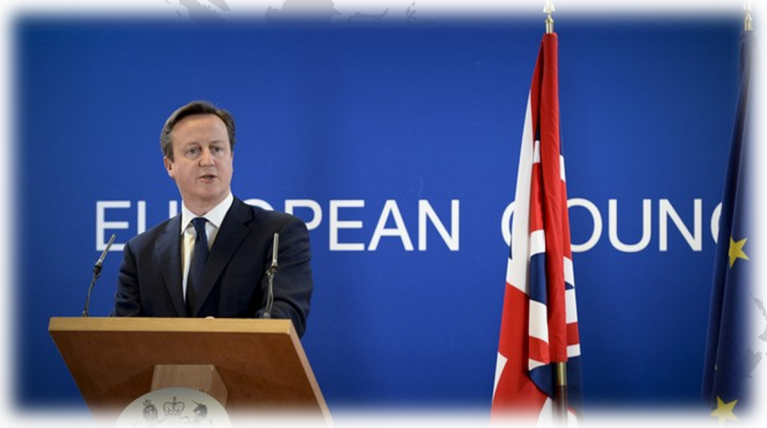
Here’s a reminder message to do your bookings for the « Language Week »

Coming soon

Article: EUROPEAN STANDARD (History and Geography)

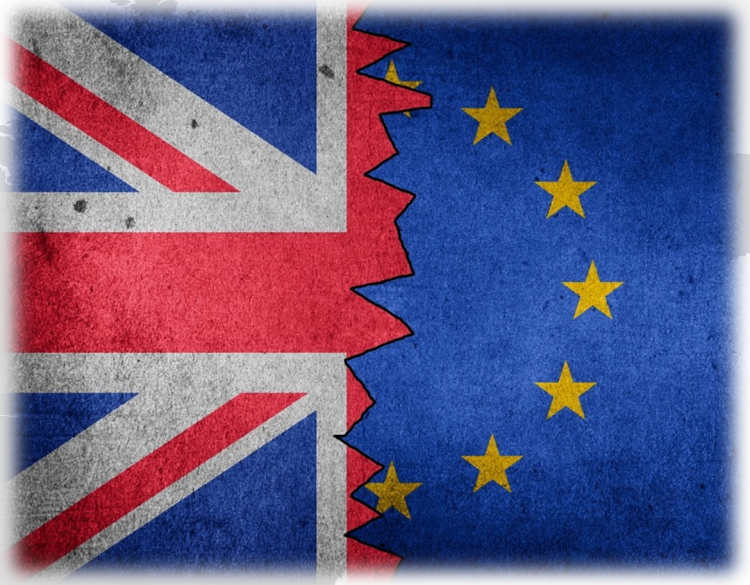
Hi, everybody, here we are again, from the European class. We are writing an article today about a topic that we all know about: the Brexit. As the Brexit has been widely publicized in recent months, the European section has studied it's economic, social and political consequences. But let's first have a brief zoom out.

« Brexit », a word that has been heard again and again for more than 5 years, is a portmanteau between British and exit. But what is the true story behind this word? The 23rd of January 2013, David Cameron, the incumbent Prime Minister, included a referendum in his political program, thanks to which the British citizens could choose to leave or not the European Union (EU). This political promise was very convenient for Cameron; indeed, since the 2008 crisis, Great Britain was going through an Europhobic period. Thus, Cameron used this to get reelected in 2015, and it was a success. But the Prime Minister, despite his skepticism about the UE, didn't intend to leave it for real. He got caught in his own game, because the 23rd of June 2016, the outcome of the referendum is clear; 48.1% of the British voted for remain, and 51.9% to leave. Cameron resigns, and is replaced by Theresa May.



David Cameron

Nevertheless, the process of the Brexit, which we can qualify as a divorce between the United Kingdom and the European Union, wasn't an easy thing. The UK came up against several difficulties, such as the fact that May lost the majority at the Parliament – which obviously split the Government and the Parliament – the question of the cost of the exit of EU, which amounted to 40 billion euros, and last but not least, the issue of the Irish border, knowing that the Northern Ireland belongs to the UK, and the Republic of Ireland was still a part of the EU. The Parliament rejected the agreement three times in 2019: the British were more divided than ever, even Scotland was thinking about getting its independence again. As a consequence, May, who didn't achieve to get the UK out of the EU, resigned in her turn in May 2019, and was replaced by Boris Johnson.



Boris Johnson

This new Prime Minister is really determined to "get Brexit done" as he is used to say. His strategy is called the "no deal"; he wants to get out of the EU without a deal, which would have been a chaos for the UK.
This "no deal" strategy led to a renegotiation of the agreements, and in October 2019, the UE and the UK finally found a common ground. Moreover, in December, Johnson got the majority at the House of Commons again. The UK finally left the EU on the 31st of January 2020, and the whole year was a transition period for both the UK and the 27 states of the EU.

Marie-Alice B.

We also did a project about this huge political event:

The conclusion of the Brexit with the exit of the United Kingdom from Europe has been one of the most striking elements in the English news of early 2021. For this reason, we decided, students of the Euro class, to make a kind of podcast for the schoolmates. They could find the origin of the debt to leave Europe and the notable consequences, that are for some already observable.

We therefore divided into groups, each of which tackled a specific point of this subject: economic or social consequences, causes… All the groups recorded themselves to create a five minutes podcast explaining briefly and clearly this event.

Noé D.

You can listen to our work with the link below:

But this audio which makes a kind of sum up of the Brexit isn't the only project made by the European class and we are also trying to promote the language week thanks to contest, advertisement or trailers for example. But what does "a language week" exactly mean ? It's a week during which many countries stress the importance of learning foreign languages.

First of all, let's talk about the contest. We are organizing an art contest where everyone can participate and apply. Each student and group has to send us a personal creation. It can be a drawing associated with a poem or an extract from a novel with themes proposed : freedom,spring, nature, school,dreams…) or a performance (dancing, singing).

The main goal is to express your personality and to show your motivation to be a part of the European class.

Ayumi, Elise B., Emilie F.

As a conclusion, we will just advise all of you to participate to this event !!

Capucine T.

New Humans

Euro Class 1ère

OUR FUTURE WITH AIS, WHAT ARE THE RISKS?

When an AI causes death, who is to blame?

Over the last few decades, the notion of Artificial Intelligence have evolved a lot. But what is an AI? According to the Oxford dictionary, an AI is the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.

And so, as AIs keep evolving, they have started replacing us in some everyday tasks. We can only imagine that it is a matter of time before they are able to replace us in dangerous tasks such as driving or even performing a surgery.

However, we must talk about the risks of robots replacing us in certain jobs. If an AI was to cause the death of someone, who would take responsibility? To dicuss this, our class acted out 3 court trials in which people were being sued for their robots' actions.

Here is a quick summary of the trials: the first situation was a car accident caused by a driving AI, the second was the theft of a vaccine once again by an AI to save a big city but causing the deaths of two villages and the last one was the death of a person needing surgery with a low chance of success to save 5 others with their organs.

Here are each group's statements:

"I liked to debate and find an agreement in between the different parties." - Duc-Thuy-An
"It was so interesting to work as a team and work on a trial: something we're not used to do obviously!"- Mathilde
"I loved to be in a judge's shoes: I even smashed a foam hammer violently on the table and everyone laughed so hard!"- Julien
Overall, we really appreciated the experience and the opportunity to learn about AI in class and how a trial takes place.
-1G6

We really enjoyed this project. It was very original and interesting. Everyone was involved and happy to work as a team on this project. It was a great way of understanding possible futures, because those kinds of accidents could one day become reality.
-1G1

This final task was very interesting because we had to search some trial vocabulary and learn how to build a realistic trial. Since we were 10, we needed a lot of organization and that's what we managed to do. We also needed a lot of reflexion to find out who would be guilty in this kind of situation. Finally, we had to speak for a long time with new vocabulary with as little notes as possible.
-1G4

Overall, we all really enjoyed this project where we were able to imagine a situation, write a script and act out a scene. Playing out a court trial wasn't something we thought we'd ever do, but we had a lot of fun and learned a lot about AIs and trials.

Written and edited by Chloé Q.T.

COURT TRIAL : « MEDICAL DILEMMA » (1/2)

- During this sequel, we worked on different projects that deals with Artificial Intelligence (AI). In each case a machine was taken to the court in order to determine whether it was guilty or innocent. We had to interpret several roles while respecting the precise rules of a real trial.
- It allowed us to learn lots of things about the intelligent robots and the way justice works. Indeed, we discovered that these new technologies trigger tensions because of people's opposite opinions. Certain persons like Mark Zuckerberg believe that AI is and will be beneficial for Humanity whereas others persons such as Elon Musk are concerned about the potential danger that represent robots. For that matter, this fear is a lot used by the medias and popular fictions in science fiction magazines, newspapers and novels. We also had to search and see how to organize a trial so as to stage it. We learned about jobs such as lawyer or judge and it was really interesting to discover how a lawsuit really works.
- More concretely, the euro class was divided in three groups of nine students, one for each subject. We had roles already determined to interpret, so, we needed to redistribute these roles and create a kind of script following the proceedings of the trial. Then, when all was ready, we passed before the class and played the lawsuit. Has I said, this project was truly interesting but also fun and amusing thanks to the rich and complex subjects proposed that allowed us to develop our roles and our reflexion.

COURT TRIAL : « MEDICAL DILEMMA » (2/2)

- My group had to deal with a subject on a medical robot that decided to sacrifice someone's, dying and unlikely to survive, organs in order to save five other people with 100% saving rate rather than trying to save the poor boy but with a long and with poor success chances operation. Indeed, the family of the victim pressed charges against the hospital and the robot constructor. We had to perform judges and lawyers, of course, but also a victim's family member, the hospital director, the machine constructor and finally, experts on robotics and AI. I believe that we all loved participating to this project: Loris, the hospital lawyer, said "acting in a court trial is really instructing: you learn a new vocabulary and it's pretty interesting to act in front of your classmates"; Oriana, one of the judges: "a gripping project that allowed me to work my improvisation while having fun with my classmates". I personally was an expert and I believe that having to search knowledge about AI so as to answer to the questions that I was asked for during the lawsuit was really enriching and stimulating and, also, being allowed to work in large groups (nine students per group) was a great experience because it forced us to organize ourselves efficiently and to create a kind of team spirit.
- To conclude, this project was at once complex and interesting but also, really pleasant because of the format and the group work we had to provide.

- Editor : Chalton Cléo

COURT TRIAL: « THE PHILANTHROPIC ROBOT » (1/2)

In the scope of the European class, we have been led to work on the subject of artificial intelligence. During this sequel, we have worked on different types of documents, audio-visual or textual, which presented the vision of several artists concerning artificial intelligence. We understood that it was as well a recurrent subject as a controversial one.

If some were hopeful and amazed by those new technologies, most of them were scared and perplexed.

As usual, we had to present a final task. This one was quite interesting because we had to stage a trial in which an AI was involved. The class was divided in three groups which had one subject each. Ours was called the Philanthropic robot; this is the instruction that was given to us :

A lot of institutions started using robots for repetitive and laborious tasks. After a gigantic pandemic, one of these robots “decided” to steal the whole reserve of vaccines to save the city of one million souls is employed in. By doing so, it condemned two small villages -10,000 inhabitants in total- to a certain death.

In order to realize this project, each of us chose the role he wanted to play. We did researches in order to understand the proceeding of a real trial and we discussed about the best way to create this trial.

Besides improving our personal English level we discovered the world of justice.

COURT TRIAL: « THE PHILANTHROPIC ROBOT » (2/2)

- Overall, we thought that it was a very interesting project and also quite fun because we had to prepare a trial and each of us had to embrace a role. This was kind of like acting but we were able to create our own play. Perhaps we would have liked to create our own instructions because we would have been able to completely control the subject.
- Even if this project was closed to be perfect, we thing that one thing could have been improved. As you know, in a real trial, there is a jury composed of jurors chose between random citizens that give the final decision. We think that it would have been more interesting to choose randomly some classmates in order to have our own jury. Furthermore, the final decision would have been a surprise even for us, showing the side which was the most convincing.
- Taravella Brune, Reybard Axel

COURT TRIAL: « THE AUTONOMOUS CAR » (1/2)

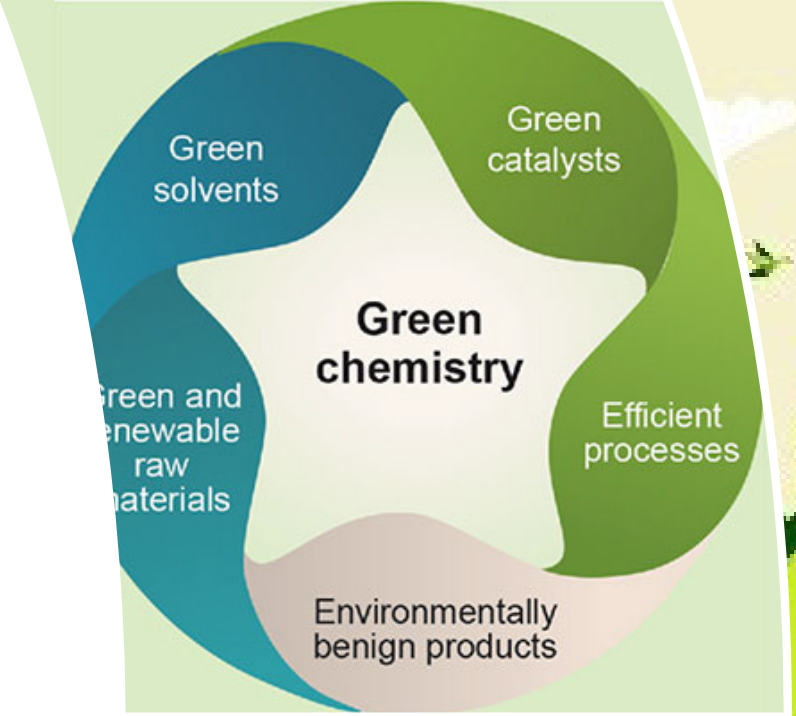
In the European section, we realized a small speech as a final task for the end of our sequel about artificial intelligence (A.I.). Thanks to it, we were firstly able to improve our English level. Indeed, it allows us to speak in English together to build our project, create our texts and present it. We also acquire new knowledge about A.I., and imagine the problems it could involved in the future, through the scenario we chose. What's more, we spend a great time by realizing group works. The speeches introduced a trial in different situations involving A.I. In my group, we worked on a situation in which an autonomous car driven by a sleepy conductor crushed two pedestrians, who didn't pay a lot of attention while they crossed the street.

COURT TRIAL: « THE AUTONOMOUS CAR » (2/2)

In order to attain this project, we started to choose our roles. There were layers, victims, judges… Then, we created our texts. A great point of this project was that we were working in groups, and it made the final task really funny. Indeed, we chose how to organize the trial, who was going to talk and when. We actually had to work together to create a sensible speech. Then, we presented our work to the class. Compared to other presentations, it was really interesting since we enjoyed playing our roles, we developed our arguments in a trial. Moreover, we weren't really stressed because the atmosphere was friendly and amusing. To put it in a nutshell, we enjoyed to organize ourselves in groups so as to create this final task about A.I., and to make our presentation in front of the class, which was lively and interesting.

Musy-Taillefer Naïa

Green chemistry



What is green chemistry?

First of all, we should explain **what is** green chemistry : basically, it's the use of chemical methods to product **non-toxic products** who are better for **people's life** and for the **environment**. But scientists tend to say that it's use to design an *efficient planet*, and it's a field with many innovations ! Green chemistry is also know as sustainable chemistry and tries to be as **ecological** as possible while respecting 12 principles.

A little bit of history :

To be short, it was launched by Paul Anastas and John Warner in 1988. They were member of the United States environmental protection agency.

Where can we use green chemistry ?

Green chemistry is very large and can cover **many fields** : pharmaceuticals, food and drink, packagng, cosmetics, clothing, electronics, house and home…

Like we said earlier, green chemistry is based on **12 principles**, which are :

- Prevention of waste
- Maximisation of Atom Economy
- Less Hazardous Chemical Syntheses
- Designing Safer Chemicals
- Safer Solvents and Auxiliaries
- Design for Energy Efficiency
- Use of Renewable Feedstocks
- Reduce Derivatives
- Catalysis
- Design for Degradation
- Real-time analysis for Pollution Prevention
- Inherently Safer Chemistry for Accident Prevention

What's the difference with « classic » chemistry ?

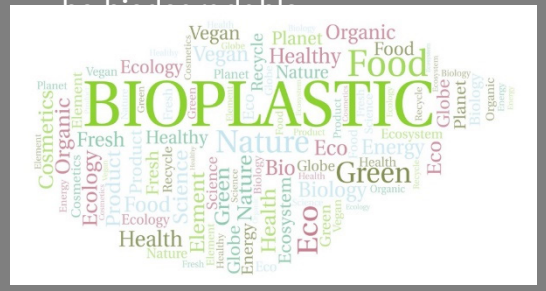
As you know, green chemistry isn't toxics as can be « classic » chemistry. In addition, contrary to what one might think, green chemistry can be **less expensive** than « classical » chemistry. There are only benefits ! Chemistry can be used for the better.

Ilan Arrad and Gabrielle Ménigaux

Why are green chemistry and bioplastics our future?

Green chemistry, also known as sustainable chemistry, is the design of chemical products and processes that are used in order to reduce, even eliminate, the generation of hazardous substances. It is extremely helpful in prevention of pollution at the molecular level and it represents a very efficient way so as to decrease the negative impacts of chemical products on human and the environment health. Green chemistry follows 12 principles, among them: prevent waste, maximize atom economy and use safer solvents. But why in concrete terms is sustainable chemistry required? In fact, it allows to have a cleaner air and healthier water. Moreover, with these progresses, the food is safer, plants and animals suffer less harm from toxic chemicals and there is a lower potential for global warming.

Other elements essential to the great quality of our life are bioplastics. These are plastics derived from renewable biomass sources, such as vegetable fats and oils, cornstarch, straw, woodchips, food waste, milk or even crab shells. Currently, they only represent about one percent of the 320 million tons of plastic produced annually, but, with our technology, we could almost replace all of the plastic products by bioplastic ones. Indeed, they are much better for many reasons; they are the future. At first, they are not made with non-renewable energies (fossil-fuel) such as petroleum, gas, etc. Bioplastic's construction avoids toxic chemicals used in the majority of normal plastic products; consequently, if there is a waste, it will not be polluting. For the same reason, they will improve the health of the people who manufacture them. Finally, the bioplastic's products will be biodegradable.



Oriana Gherardi Boitiere
and Camille Tauran Gaffie

Today, the plastics industry remains heavily dependent on fossil fuels, with more than 99% of plastics coming from petrochemicals. Dependence on this single resource can have disastrous consequences in economic, ecological and political terms, hence the need to find alternatives through the use of renewable resources

The development of new plastic materials, of renewable origin and biodegradable, is therefore a major challenge for the chemical industry. Indeed, 299 million tonnes of plastics were produced globally in 2013, where bioplastics represent only less than 1% of annual plastic production.

Among these plastics that are both biobased and biodegradable, there are two main families:

The first brings together polymers extracted directly from plant biomass (starch, cellulose, etc.). Starch, extracted from potatoes, corn or wheat, can be converted into a thermoplastic material, using conventional plastics processing methods.

The second large family includes polyesters obtained mainly by biological fermentation (PHA) or by polymerization of biomass (PLA), a process of assembling molecules obtained chemically by fermentation of sugars extracted from different plants (corn, beetroot, etc.).

It is a much more ecological resource that would make it possible to fight against global warming. That's why bioplastic is our future. Save our planet.

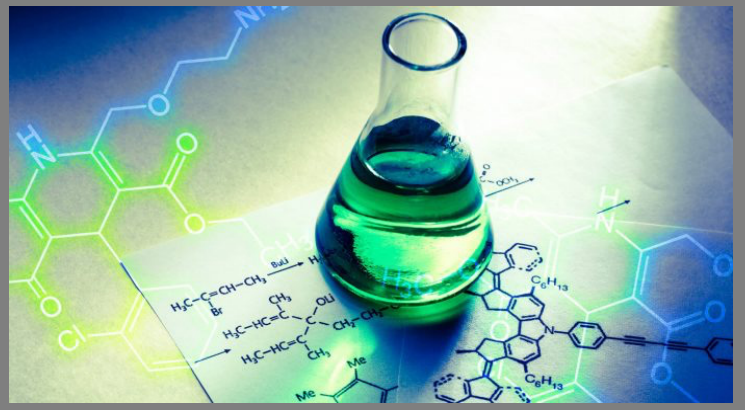
Florent Hinh and Chiara Pesce

Importance of bioplastics

Bioplastics are plastics derived from **renewable biomass sources**, such as vegetable fats and oils or even crab shells and potatoes walls.

Bioplastics are a **durable/sustainable solution** for the future, as they can help protect the environment (less waste), have endless possibilities and are a great source of innovation

Ilan Arrad and Gabrielle Ménigaux



There exist several other alternatives like Bioplastic, whose main purpose is to protect the planet.

Actually, Bioplastics are plastics derived from renewable biomass sources, such as vegetable fats and oils, corn starch, straw, woodchips, food waste, milk, that we recover in packaging, food-services, agriculture and horticulture, consumer electronics and automotive. Thus, it can be said that bioplastics is the future, due to several reasons.

First of all, as everyone is more and more concerned about the environnement crisis nowadays, they are more open-minded to add ecologicle alternatives, such as Bioplactics.
However, it reduce considerably the amount of plastics produce every years. In addition, as demand is rising and with more sophisticated biopolymers, applications, and products emerging: the market is continuously growing.

Angèle Bignaud and Louise Burdin

Euro 2nde

Ladies and gentlemen, welcome to our European class.

Today, we are proud to present our project which consisted in writing a music about one of the elements of the periodic table.

The project is simple : the class was divided into groups and each group had the task to write music about one of the periodic elements. We had to present the element and its properties.

Here is a short summary of the different groups and their projects.

It is up to you to choose your favourite.

Elodie's group : We wrote a song about the helium by ourselves. We have chosen this element after lots of debates because we think that helium is very interesting and special. During this project, we learned that helium is a noble gas. In addition, his atomic number is 2. It is the second most abondant element in the Universe. For this song, we all decided to choose the preexistent song « Come and get your love » by Redbone. It was a bit hard to make the final song right because we wanted to sing together but sang separatly and we had to arrange our voices in order to fit to the soundtr ack.

Alexandra's group : During this chapter, we had to create a song about an atom. We chose oxygen because we thought it could make a funny love song. Then, we had to choose our background music : we first wanted to pick an Ariana Grande song then « *Take me to church* » but we finally decided to reproduce the instrumental of a ukulele song. It was hard to write some lyrics but we ended up doing great. The song originally was a love song but we finally decided to make a love song between two oxygen atoms, both taking each other's breath away.

Romain's group : First of all, our group chose to work on calcium because it seemed interesting and we already had ideas. Then, we I'd some research, for example, it's number of isotopes or its uses. Once we were done, we decided to write the lyrics based on our research, with rhymes, 4 verses and a chorus. After that, we created the music ourselves with piano, instead of picking one on Internet. It was quite hard at the beginning because we had to find the melody. Finally, we recorded our song and showed it to the class.

Geoffroy’s group : We decided to work on uranium, since we believed it had more uses than just a weapon, and we aimed at making it known in our song. We proceeded to make the music ourselves, in the objective of making simple and easy to sing on. We hope you’ll enjoy.

Eden’s group : Creating a song, from the lyrics to the beats, was a really interesting and fun project. Choosing the element was not a problem and every four of us were on the same page. Uranium is really important and we meet it (almost) everyday. To conclude, this work was very interesting but also quite funny to do. It mixed fun and humor in making a song but also made us think about our inspiration and work on our English vocabulary.

Malek’s group : The song that we made is about the iron. Firstable, we did some internet researches to find atomic propreties of the atom. After, we thought about the style of our music and so we decided to choose a music type close to rap/pop music that calloutto youngs but that is also adapted for everyone. Later, we tried to find a joyful music on the internet that matched with the choice of our music. The goal was to mix two worlds : sciences and pop music. After, we created the lyrics with adding rhymes and funny vocabulary sometimes (ex : « with iron i’m strong like thanos, one punch you can have the thetanos »).Concerning the technical part, we mixed all the voices in rhythm with the music. We also added some autotune to give it a bit of a robotic style.

Noe’s group : (The group didn’t send me its summary)

The project was very interesting and fun to do. We were able to learn more about the elements we chose and in a fun way. We all enjoyed doing this project because we were free to do what we wanted, the style of music, the lyrics...

We hope you enjoy reading this article as much as we enjoyed the project.

Thank you and see you soon for new projects.

Thibaud Deneux
Alicia Chouteau
Noémie Leboisne
Arthur Brosseau

THE CREATION OF OUR SONG

Our task was to create a song about one element of the periodic table. First of all, we had to choose an element: we chose to make a song about gold. We started to search information about gold on the Internet, and then we used it to write our lyrics. We had to make them rhyme, so it was pretty hard to make something nice, especially because we had chosen to do a rap song, so the lyrics were a very important part. After this, we picked a melody in a non-copyrighted music bank. Finally, we all recorded ourselves singing the lyrics, and we mixed the recordings with the melody by using a video editing software. We also used the software in order to improve the recordings because they didn't all have the same sound level.

During this task, we learnt a lot of things about gold: for example we learnt that gold had radioactives isotopes and that one of them could even be used in nuclear bombs. Moreover, we also learnt how to mix a song because we couldn't just record us singing the lyrics together because of the sanitary situation.

It was a very interesting work and it was also quite funny to hear what the other groups had done. We think that we might have done a class in order to learn how to create a song because it is far from being obvious.

Hello we are Adam and Emile, European section students. Our task was to make a song about one element of the periodic table and to describe it in the lyrics. We have chosen the gold. So we did a lot of research to find the main information about our element. After this first part, we had to chose the style, the rhythm of our song : we chose to do a soft rap. Next was the main and most complicated part. We did the chorus together and then divided the work in two. I did the lyrics of the verse I was going to sing and Adam did the same for him. Then we recorded our voice. It wasn't a pleasant part because our voices sounded really bad and it was harder than we thought to be in rhythm with the instrumental. Finally we superimposed the records and the instrumental on a musical software. It actually was the first time we used this kind of software.

This section of euro physics and chemistry is very valuable. Indeed, all the activities are fun and well thought out. Take the song as an example, it was a group activity and it sounded pretty awkward at first, but it was actually a lot of fun and we all loved it. This section is therefore the right way to learn a lot of vocabulary while having fun.

Brand Emile and Lamzalah Adam

A Laboratory State of Mind

By Noble guys

Yeah, yeah, it’s the noble guys
Ayo, elements, it's time.
We are going to talk to you about helium.
Straight out the colorless dungeons of rap.
The vertigo drops deep as does my physics.
Beyond the walls of isotopes, life is defined.
I think of helium when I'm in a laboratory state of mind.
In a laboratory state of mind.

It’s time elements its time
It’s time elements its time
Let the light to the helium.

What more could you ask for? The odorless vertigo?
You complain about headaches but you took helium
I'm rappin' to the radioactive,
And I'm gonna move your photorefractive.
Tasteless, non-toxic, stunning, like a suffocation
I have a headache, cause I took the helium

It’s time elements its time
It’s time elements its time
Let the light to the helium.

And the winners were....

Iron

By Atomic Flow

Iron, 26 protons,
It’s a metal in transition,
It has some fonctions,
And it’s used in fiction.

Everywhere, everyday,
Iron is used on alll way,
We’re sure you use it today,
Can you break it, noway !

37% of the Earth mass,
Iron wins the game at the first class,
We break the glass with our hardbass
And make the Iron masterclass.

With Iron, I’m strong like Thanos,
Becareful, one punch you have the thetanos,
It’s as abundant as the fortune of Jeff Bezos,
This is like a veritable chaos.

Iron doesn’t defy the physics laws,
But its fusion is very slow,
More than one thousand to glow,
It can also be cold like snow.

Verse:
Pure I am metal
But I am also lethal
Don't eat yellow cake
That’s not something you’d like to bake

Everywhere in nature
But destroy it it’s my nature.
Symbolize nuclear energy
Shout out Hiroshima and Nagasaki

I don’t like fusion,
I’m more like fission
Get wrecked by chain reactions
1 neutron in and everything goes wrong

Releases energy
That’s a bit strong
Xenon Strontium my heredity
That makes you have electricity

Nuclear bomb in your face
Explodes and then let a trace
Lone, death remains in the place, nature in disgrace in distress ay ay

High levels of radioactivity
I am the mother of calamity
Symbolize nuclear energy
Shout out Hiroshima and Nagasaki

Pre-chorus (x2):
A dark promise,
I create war but I keep it cold,
Colder than ice,
I am something that people can't hold
Cause otherwise
They really wouldn’t have time to get old
Not very wise
You better not be in my way

Chorus:
Bloc f, Z = 92
So many electrons, they end up in 7s
26 isotopes
All radioactive without exceptions
Burn at 4131, freeze at 1135
My specialty? Exterminate populations.

Uranium

By CM Uranium

Perfumes

- Euro 2nde

Making a perfume: between learning and having fun

Monday, march, 29th,2021

ODJO, Cyril, NGUYEN Matthias

In the European section, one of our final tasks was to create a perfume and students pretty much enjoyed it.

Around last November, students of the European section started to study the field or perfumes. First of all, the apprentice perfumers learnt what is a perfume made of, how it is built, how we make it,… that is to say the basics of perfume.

Their knowledge about it has deepened until they became real experts in perfumery

> “Wow, that stinks”

They knew what oils to mix together, which scent was a head, heart, or top note,… By the way, it allowed them to study several topics about chemistry, such as steam distillation or esterification.

With all this knowledge acquired, it was time to practice. The December, 7th, 2020, the perfumers went in the lab and made their perfume. The fear of a disaster was omnipresent, but no one got injured during the process.

Many products were brought: oranges, green citrus, wood, lavender,… so many perfumes were made with a multiplicity of scents, which is why the whole thing was very interesting. The perfumes were made with the steam distillation already mentioned, that allowed the students to boil their products and to harvest their oils. The scents became stronger and stronger, as the drops fell, and an anthology of perfumes was filling the lab.

The smell was so strong that one student exclaimed: “Wow that stinks”

A strong, but marvelous odor. To this day, some students still keep the fragrance they got.

But their work did not stop there. They also had to sell their perfume, and so, they had to make an advertising campaign, in order to convince the investors to give them the rights to produce their perfume. The perfumers became contractors and started making cosmetics and business plans for their perfumes: advertising poster, sales strategies,…

Finally, we had the opportunity to interview some of the perfumers. “Everyone made different perfumes, and actually the best part was to make the perfume itself because practicing is always a good thing after a bunch of theory. It is like the accomplishment of everything you learnt, and it gives a real sense of satisfaction when you have your little flask filled with your fragrance in front of you.” said Cyril ODJO. If there was a way to improve the activity, students would really like to collect the other notes of their perfume, and use even more the steam distillation. More practicing !■

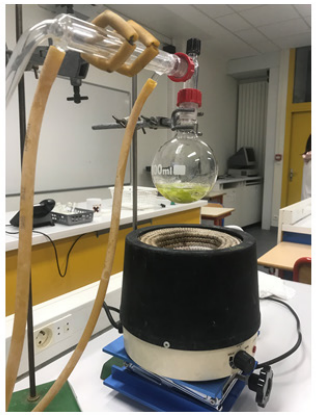
Gwenola Jaouen
Anastazja Gwozdz
Manon Cipcic

Our perfume, how does distillation work?

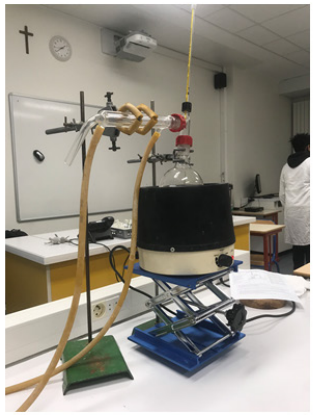
With the European section, we created a perfume. We have chosen to distill a lemon in order to recover its essential oil which will serve us as a perfume.

The step of the distillation :

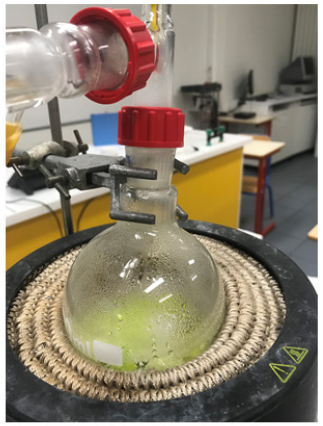
- Grate the peel of the lemon (remove the white part)
- Put the grated peel (small pieces) and 100 mL of water into the round-bottomed flask
- Arrange the flask for steam distillation as in the diagram below
- Heat the mixture, collecting the distillate in a graduated cylinder. The limonene will separate out as an oily layer on the water surface
- Using a pipette, remove portions of the limonene from the water and put it to a clean beaker.



Liebig condenser



Heating mantle



Round-bottomed flask

What we have learned

Through this activity, we learned how to make a perfume and how to divide the work. In addition, the work was very playful because we worked on several.

- THANK YOU , DEAR READERS ！