The European Standard

Students from the 10th, 11th 12th grades in *the European section are honored to* share their riveting *articles which move their argument forward on various topics :* Enjoy the immersion!

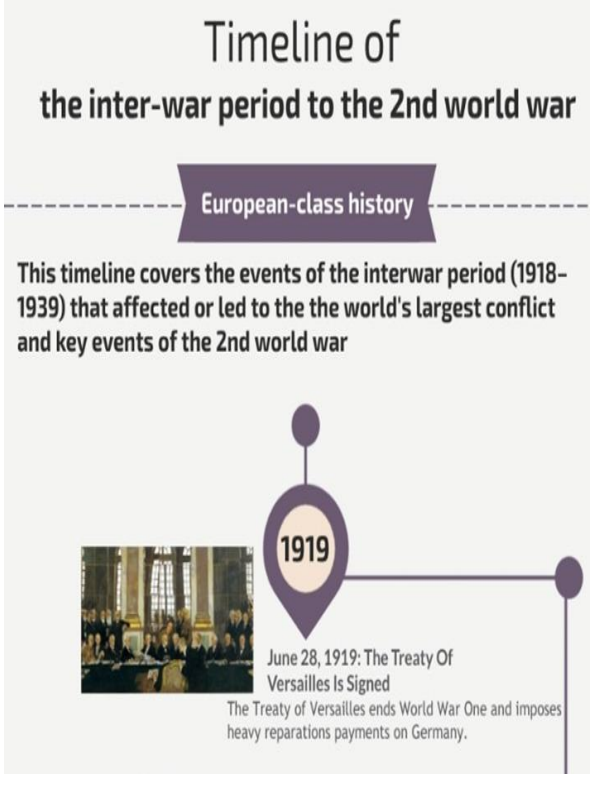
Editors :Mrs Jessie Peyre and Mrs Rizwana Amid

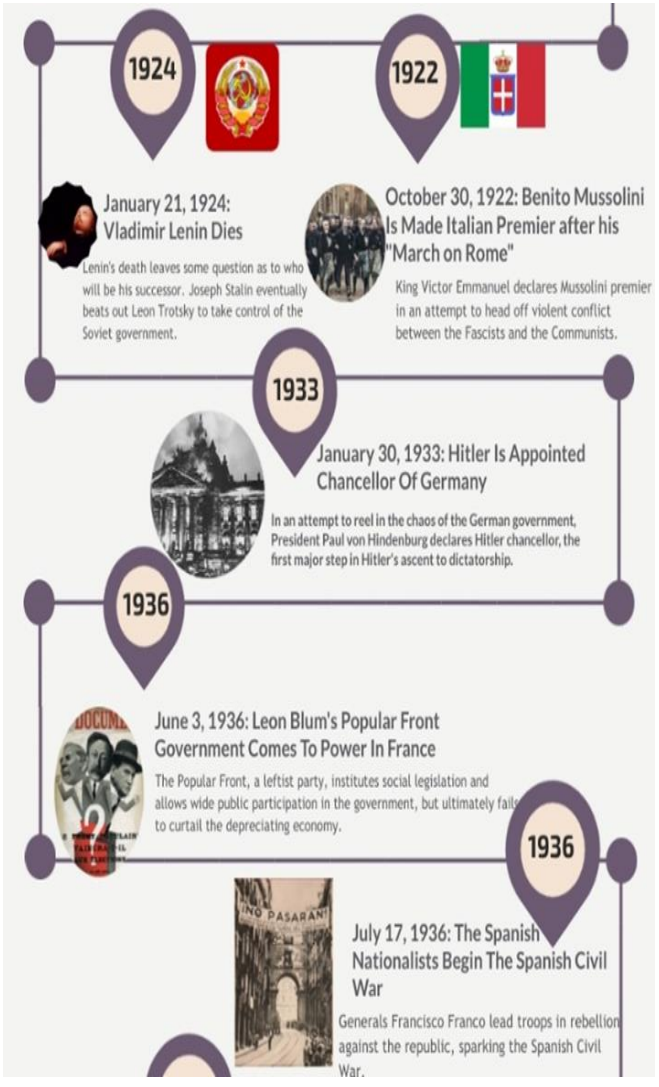
ARTICLE : European standard (History/Geography)

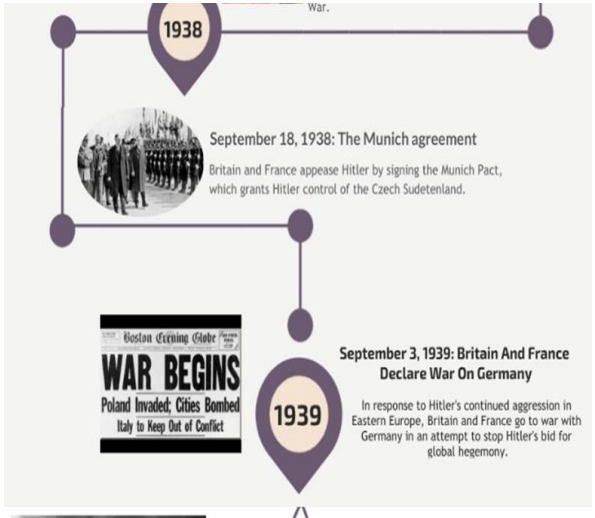
Hi everyone !

Hope you're all fine! Do you remember us ? We wrote an article last year about our main projects. We are now back from this lockdown to present you what we're doing in this year as part of the European section in History and Geography!

Since the beginning of the year, we mostly focused on the interwar years, and then more specifically on the English cities through the bombings of World War 2. Here is the period we studied:







With this in mind, we made group presentations in order to investigate on English cities during the war. We had to find two documents and present one of the following aspects; the battle of England, the Blitz, Propaganda, Civilian moral, political leaders, the RAF, the Coventry bombings, London bombings, women involvement, and the Secret services.

Here are some student feedbacks on this topic:

" With our group, we studied the Royal Air Force, the world's oldest independent Air Force. We tried to underline the fact that the RAF played a major role during World war II, especially during the Battle of Britain. For our presentation, we used historical docs and propaganda with the words 'back them up', to support the ones who were fighting for their countries, to illustrate. "

Marie-Alice, Tidjan, Capucine

"Together with our group we worked on the Blitz as a whole. Our aim was to find out what drove the Germans to attack English cities. At the same time, we were able to ask ourselves about the consequences of these attacks: what was the human toll? How did England react?
All these researches and reflections allowed us to better apprehend the reality of the Blitz."

Noé, Hugo. S and Alexander.

"We had to do an oral presentation about the bombardment in the city of Coventry. We fist had to find two documents to have information and to illustrate our subject. We choose a picture of the city after the bombardments to show the impact off the bombs and also an article of an English newspaper. We divided our presentation two parts where we joined the two documents we choose. Antoine introduced the context and our documents, Hugo and Victor explained both documents in details and gave numbers and important information to the class, and I gave the link between both documents and our subject. We used the power point to make our presentation more visual. It taught us to work in groups as we usually do in the European section and to pool our ideas."

Salomé, Victor, Hugo

Drawing of Churchill (on the left) and Hitler (on the right)

"Secret services have played a major role in the Battle of Britain. Many organizations have participated in it such as MI5 or the London cage. Many mathematicians, scientists, and codebreakers worked on it such as Alan Turing. Moreover, the Double Cross system was established which consists in turning every agents in British spies. One of the most famous double agents was agent GABBRO who lead Hitler to a loss during the D-Day. He actually received a medal of honour from both German and British. To conclude, we can say that the secret services' methods based on manipulation, sabotage, and the double cross system, have lead to the success of Britain. In fact, some studies state that the war was shortened by two years thanks to the secret services."

Julia, Iris, Cléa

" As a group, we emphasized on the Battle of Britain: a defensive victory for Britain against air raids conducted by the Germans. During our presentation, we asked ourselves who were the actors in this conflict and how it impacted the british society. In the end, it was very enriching and made us understand how ominous was the atmosphere during this time."

Priscille, Kaylen, Chloé

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Priscile, Chloé, Kaylen

To conclude, these works were very interesting, both in terms of language and historical content.

The European section
Drawings made by Ayumi, and Océane

Conquering space

- the Physics Section

Colonizing Mars

Discovering new horizons, new planets is part of our DNA. Consequently, after all the territories that have been discovered through the centuries, going to another planet is the next step! First of all, why colonizing another planet, and would it be even possible using the current technologies ?

On the one hand, it could be a necessity in a close future, because the earth will become uninhabitable due to the global warming and the increase of natural disasters such as earthquakes and huge forest fires. We would have to find the perfect planet in order to build a sustainable and safe life without destroy it. Nevertheless it would be very long and we have not all the time we want : the countdown has started !

On the other hand, we could choose to colonize an other planet in the name of the technological progress. Indeed, this is a real challenge and a lot of things are at stake so the failure is not really an option. The atmosphere on other planets like Mars is very different from the Earth's so there will be a lot of constraints and it will be very expensive (the journey, the spacecraft, all the equipment). Besides, we have to think deeply of the consequences : if there is no life on the planet we will have to recreate the good conditions for us to live there, and if we find life on this planet, we will have to think about how we will deal with it.

Finally, we are not prepared nowadays for such a huge project, both ethically and technologically but maybe it will be possible in 200 years.

Maelle Guille des Buttes and Erin Lamandé

Earth is 4.5 billions years old and over the centuries mankind has damaged it. Life on the blue planet is threatened today, which is why the idea of colonizing a new planet was born.

In fact, for many years scientists have been thinking about living on another planet and more specifically on Mars. Indeed, the sun is not eternal and we are exhausting our resources more and more every day. Global warming is becoming more and more important and we are struggling to slow it down, and it also worries scientists. Even if the disappearance of our planet doesn't seem close to us, scientists consider that there is no time to lose if man ever wants to colonize another planet. This is because human life requires special living conditions that are not found in the planets discovered and accessible today.

The main problems in the establishment of the humankind on other planets are first of all to be able to have enough breathable air, oxygen. It must be directly available on the spot or find a way to bring it back from the earth. Furthermore, the questions of water and food are also major issues. Our current technologies are limited and could only respond very badly to these problems. If sending a few astronauts for symbolic or scientific purposes seems to be possible, the establishment of a settlement to replace the Earth in the long term seems technically completely impossible.

Despite this, some brilliant people like Elon Musk are already considering colonizing another planet with our current technologies. One of his most famous wacky propositions is to send an atomic bomb on the magnetic poles of Mars in order to warm its atmosphere and make the planet liveable for human beings.

To put in a nutshell, the human dream of colonizing another planet could become a nightmare if we are content with our current technologies. The need for innovations seems to be vital for the accomplishment of this project.

Adriana Collet, Matthieu Hulmbert, Mathilde Rolland and Paul Tanet

Colonizing Mars

A long time ago, Mars could have been an adapted planet for living organisms thanks to the presence of water and of an atmosphere.

But today the living conditions on mars are way too rough for any living organisms. Indeed, the atmosphere isn't thick enough to enable the solar radiations from penetrating the atmosphere, the temperatures are too cold (or too hot), the air doesn't contain enough oxygen and the weather is very unwelcoming (huge sandstorms).

Therefore, living on Mars requires special installations to allow the presence of humans on the red planet. Some imagined the installation of underground bases and outside pods where the space settlers could live and breathe some artificial air. The astronauts would be able to go out on the planet in space suits or in special vehicles to exploit the local resources. However, due this type of installation the astronauts would require important huge quantity of building materials and machinery to Mars.

Furthermore, the settlers would spend their whole life in indoor installation. Some other people like Elon musk think that nuking Mars would allow the frozen water on the planet to melt and to free carbon dioxide thus warming up the planet. However, this idea hasn't been approved by Nasa who thinks that the planet must remain to its natural stage.

To conclude, settling down on mars is a costly challenge which arouses theories from all around the world.

Pierre Berthold, Mathis Charbonneau and Victor Tizon

From the Cold War to the present day, space has always been a place of conquest and this is becoming more and more true now.

The idea of colonizing a planet has thus become the next challenge for space agencies around the world or for ambitious entrepreneurs. Yet, as it stands, it still seems like a sweet dream. Indeed, the obstacles are numerous because the habitable planets are located too far outside our solar system and the only reachable planets are hostile.

The name Mars comes up often when it comes to finding a colonisable planet. But this colonization is difficult to do because, in addition to the absence to the absence of water, the extreme cold or the loneliness, exposure to solar radiation would cause cancer after several years of settling on the planet. However, scientists are not giving up and are working on a self-sufficient city system to build on Mars.

To summarize, the colonization of a planet seems unlikely in the short term but figures such as Elon Musk believe that it will be possible around 2050. Space agencies or private companies must nevertheless find the astronomical sum necessary for the establishment of a colony on a planet.

Théo Deschler, Malo Fouquet, Alexandre Gouraud and Paul Guilmin

Are you ready to live the best journey of your entire life ?

Who has not ever dreamt of leaving Earth to live at a different time and rhythm, in a completely astounding place that no one has known until today (or almost)? Dozens of fictions have shown us how hard and far-fetched it seemed to go to space. What will you do if we tell you that it is now possible? What if after reading this article you'd be ready to set up your stuff and follow us into this unknown ?

A worrying earthly situation

Our planet is burning. No one would deny it : every winter gets a warming record, and every summer gets hotter ; the sea ice of the Arctic is about to completely disappear in less than 20 years (2036, scientists of NASA have predicted), and this gets along with massive species loss and big climate changes.

Some of our young citizens have heroically tried (and still do!) to warn powerful political and economical leaders, by reducing human activities rejecting CO_2 that damage, for two centuries, the fragile and vital balance of our atmosphere. The situation is inescapable, though.

A breach towards universe, thanks to science

From now on and on the other side, our technological advances have allowed significant scientific breakthroughs. The actual trend is the colonization of the planet Mars by using those technologies...pretty ambitious, isn't it? It would eventually show that humans can go forward over what they were meant to be. Going beyond nature by choosing to move with ease in a habitat that they have created themselves in very artificial living conditions, but with their own knowledge, is a proof of their capacities to overtake their own difficulties and use intelligence to do better than they did.

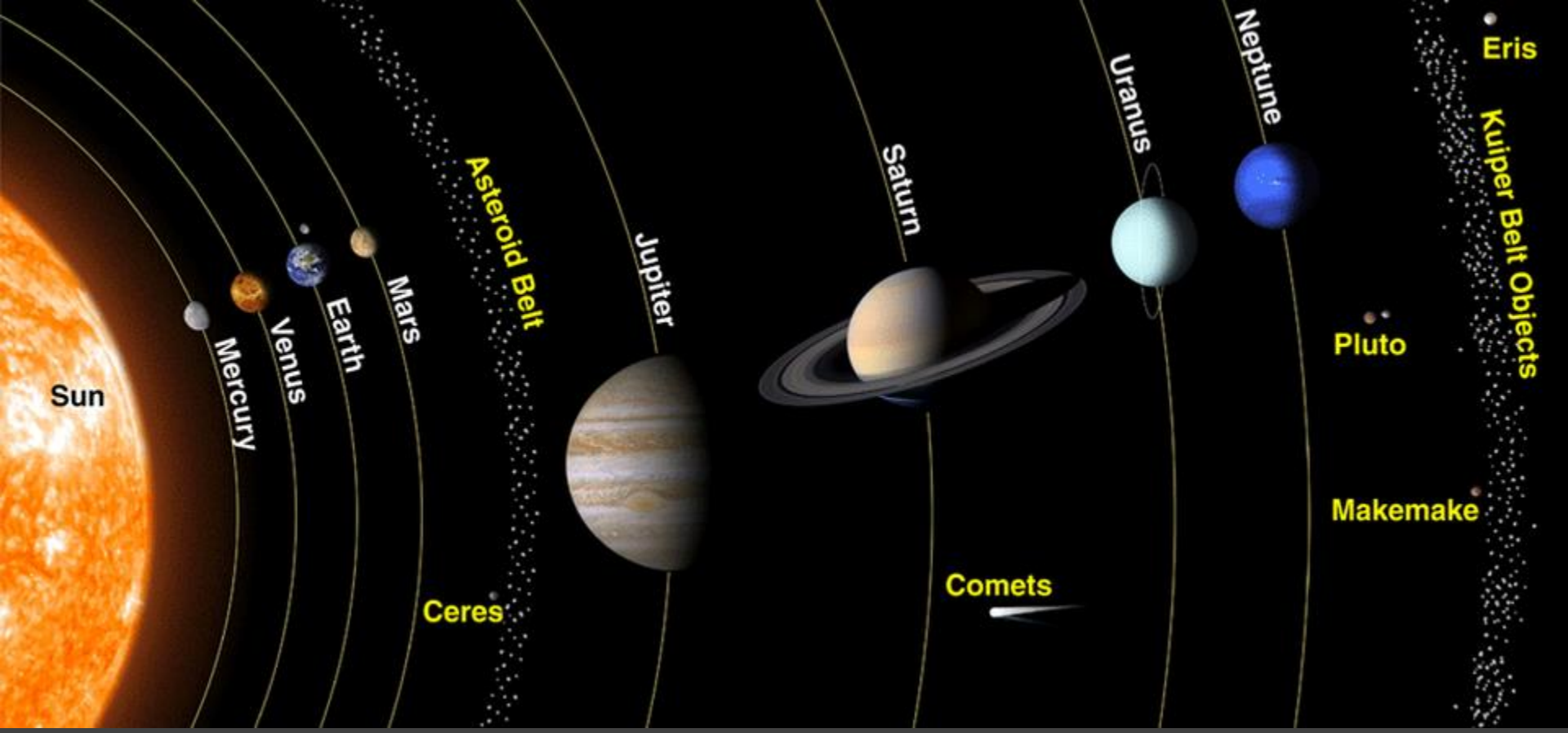
Therefore, very precise procedures have been pointed out. The goal of the firm Humans Inaction, after having collected enough of the essential information about Mars, would be to not reproduce what their activities have engendered on Earth. We will create a sufficient place, somewhere where people will go on vacation, or even live. A giant bubble will be settled, with plants creating oxygen and consuming a part of the CO2 emissions, and warmed by the heat from the industry carried out in there. Vegetal waste will be used to engender biofuel which will be part of the fuel used in the spaceship to come from Earth and come back. Food will be grown inside the bubble, following biological culture, and vegetables will be used to bring the enough number of proteins (like beans) instead of meat. Electricity will be created with the energy of the giant storms that usually happen on Mars. The employees of the center will be rotative: some will stay for the first part of the year and others will stay for the second part. They will be equally selected, formed, treated…

Thus, a conquest of new boundaries, and a united planetary society

Thanks to the solution we bring, Humankind will finally live in harmony with Nature. It will not be war anymore, with humans using their intelligence to enslave other species, but cooperation. We have learned from our mistakes and progressed. We could even hope that one day it will be the same on earth. We sincerely hope that our brand will inspire others because each person

can help us by highlighting some other aspects of this project like the social, psychological and legal aspects. Join us and together we'll be revolutionizing Humankind!

Célia Moreau, Thuc Anh Ha Minh,
Juliette Valot and Palmyre Lartigaut.



Pluto the dwarf planet

Pluto: a full-fledged planet or a dwarf planet?

Since its discovery in 1930 by Clyde Tombaugh, Pluto was considered as a full-fledged planet of the solar system. However, nowadays most of the scientists identify it as a dwarf planet. But why is there controversy about the « true » nature of this celestial body?

On one hand, people believe think that Pluto should have the same importance as before because it orbits around the Sun just like the eight other planets of the solar system. In addition, the object shares many characteristics with Mercury, Jupiter or Mars, for instance. Indeed, it is spherical, it has an atmosphere, and it goes through seasons, just like a full-fledged planet. Without taking into account the fact that five moons belong to Pluto! An information that is considered as too much important by certain scientists not to include the star into the same category of the others.

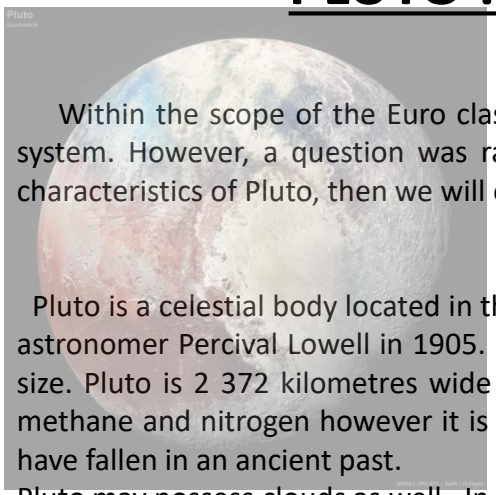
Thus, why is Pluto excluded from the solar system now?

Actually, on the other hand, scientists such as Neil deGrasse Tyson, have strong arguments against the believes said above. First of all, Pluto's rotation axis is slightly different from the normal. Then, its moons are bigger than the planet itself and it does a revolution around the Sun each 247 years, which is way too long. Moreover, we can't forget that it fits the description of a Kuiper belt's comet more than a "true planet", because it is a small ice body. To finish, its location is too far away from the Sun to be included in its system.

To put it in a nutshell, even though diverse points of view confront each other about the nature of Pluto, the majority proclaim that it is a dwarf planet. Nevertheless, is this right? Do we always have to trust the most widespread idea?

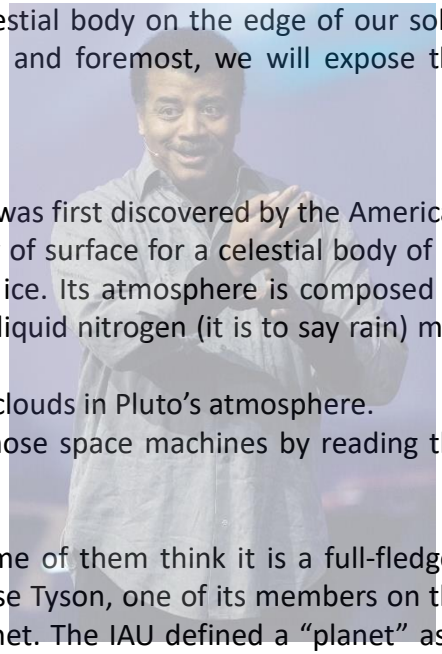
Loris, Naïa, Daniel, Nicola-Henri and Oriana

PLUTO : FULL-FLEDGED OR DWARF PLANET ?



Within the scope of the Euro class, we were brought to study the case of Pluto, which is a celestial body on the edge of our solar system. However, a question was raised : is Pluto a full-fledged planet or a dwarf planet ? First and foremost, we will expose the characteristics of Pluto, then we will explain if Pluto is a full-fledged or a dwarf planet.

Pluto is a celestial body located in the Kuiper Belt, a shadowy zone beyond the orbit of Neptune. It was first discovered by the American astronomer Percival Lowell in 1905. Pluto is a scientific paradise. Indeed, it has an incredible variety of surface for a celestial body of its size. Pluto is 2 372 kilometres wide and possesses a rocky core surrounded by a mantle of water ice. Its atmosphere is composed of methane and nitrogen however it is too thin to allow liquids to flow today but scientists think that liquid nitrogen (it is to say rain) may have fallen in an ancient past.
Pluto may possess clouds as well . In fact in 2016 scientists announced that they might have spotted clouds in Pluto's atmosphere.
All of those observations were made by the satellite New Horizons (you can learn more about those space machines by reading the article about the telescopes « put the link of the article about the telescopes here »).



However, those particularities raise questions. In fact, a debate is raging within the scientists. Some of them think it is a full-fledged planet and others think it is a dwarf planet. The International Astronomical Union (and Neil deGrasse Tyson, one of its members on the picture on the left) decided to define the term "planet" in 2006, reclassifying Pluto as a dwarf planet. The IAU defined a "planet" as a celestial body in orbit around a star that has sufficient mass to assume hydrostatic equilibrium (a nearly round shape) and "has cleared the neighbourhood" around its orbit (become gravitationally dominant). However, Pluto's orbit around the Sun is kind of strange because it is very far from the Sun and the orbit is tilted (17° different from the other planets) and it even goes through Neptune's orbit. Moreover, Pluto hasn't "cleared the neighbourhood" around its orbit because it has a "double orbit" with its larger moon, Charon. Consequently, Pluto is seen as a double planet as it is a binary system with components of roughly equal mass.
Even though the IAU put an end to this question, the debate is not over and Pluto's still has fervent defenders. We were able to attend several debates around this subject in the scope of the Euro class. We can wonder if Pluto will stay a dwarf planet or if the IAU will change its mind. And you, which side are you on? Full-fledged or dwarf planet?

Editors : Axel Reybard and Cléo Chalton
With the help of : Ilan Arrad and Louise Corbel

DISCOVER PLUTO WITH US

Pluto is a dwarf planet located in the Kuiper Belt. Although it was once considered a full fledge planet, it is considered a dwarf planet since 2006.

What is Pluto?

Pluto was discovered in 1930 by the American astronomer Clyde Tombaugh. It is located beyond the orbit of Neptune.

Pluto is a complex world of ice mountains and frozen plains. This fascinating world has blue skies, spinning moons, mountains as high as the Rockies, and it snows – but the snow is red. Pluto's surface is covered in an abundance of methane ice. It also possesses an ice ridge terrain that appears to look like a snakeskin... Another distinct feature on Pluto's surface is a large heart-shaped region, unofficially called the Tombaugh Regio (after Clyde Tombaugh; regio is Latin for region). The left side of the region is covered in carbon monoxide ice. Other variations in the composition of surface materials have been identified within the "heart" of Pluto.

Pluto

Fun facts about Pluto:

- The dwarf planet is named after the Roman god of the Underworld, more commonly known as Hades in Greek mythology.
- Pluto has five known moons, all named after dieties or creatures from the Underworld in Greek mythology

Why is Pluto considered a dwarf planet?

Pluto was considered the ninth planet of our solar system until 2006, when the International Astronomical Union officially defined the term “planet”. The discussions in Prague during August 2006 were intense, but a new version of a planetary definition gradually took shape. On 24 August, the last day of the assembly, members voted to adopt a new resolution outlining criteria for naming a planet: it needs to meet 3 criterias to be considered as such: they need to orbit around the sun, to have more or less of a round shape and to have cleared it’s orbit of other bodies.

Pluto fails to meet that last criteria and for that it is called a dwarf planet. This new classification of Pluto was met with many objections and the IAU was asked to review their definition of “planet” which they refused.

Written by Chloé Q.T. 1G6, with the help of Julien B.G., Aurélien L., Duc Thuy An P. 1G6, Daphné J.B. and Jeanne B. 1G1

Telescopes

Telescopes: Why are they used for?

The telescopes in general:

These last years, several telescopes were launched to space in order to discover our galaxy, our universe ...

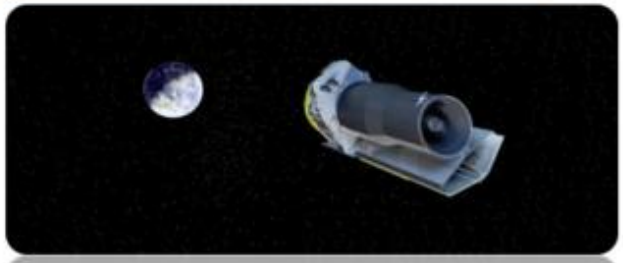
Hundreds of years ago, Galileo had the idea that if he could make some sort of instrument to look up in the night sky, he could see the stars and planets better. That's how the telescope was born.

Nowadays, as an optical instrument, the telescope allows us to view objects that are distant, difficult to perceive or invisible to the naked eye. In particular, it allows us to observe the depth of the sky and to contemplate the different stars, planets, comets and nebulae.

Hubble (launched by Nasa in 1990)

Spitzer Space Telescope:

We can pick up SSP for instance. It has played an important role on the study of astrophysics owing to its discoveries (exoplanet, biggest ring of Saturn ...). This mission helped scientist to approve their theories or not.



Spitzer telescope (launched by Nasa in 2003)

Future project:

ARIEL is a space telescope planned for launch in 2029. The mission is aimed at observing one thousand exoplanets (yeah 1k!), and more precisely their atmosphere and their composition. Don't hesitate to check the video, if you are curious ...

https://www.bbc.com/news/av/science-environment-54918027

Ghiles Aissou (1G2)

The Hubble and Hitomi telescope : a revelation !

You must have already known the *Hubble* or the *Hitomi space* telescope ! And if you don't, it's not too late to discover something that **will change your life** ! In this article, you will read all you need to know about *telescopes*, and *their mission* in space !

The hitomi telescope : a crazy telescope !

The Hitomi Space Telescope, "Hitomi'' meaning "Eye pupil" in Japanese, was a telescope located in the Universe and it used to be called *ASTRO-H* before its launching. In fact, the spacecraft was launched on 17 February 2016 in *Tanegashima Space Center in Japan*; but the scientists lost contact on 26 March 2016. The mission had to last 3 years but unfortunately the final mission lasted 37 days and 16 hours, due to some problems. The observatory was set to explore the **nature of supermassive black holes** and even the origin of the **mysterious dark matter**

BREAKING NEWS : THE JAPAN'S HITOMI X-RAY SATELLITE WAS KILLED

Just two months after its launch, the *$273 million* satellite was declared **lost.** Indeed," it wasn't because of a meteorite or a piece of space junk" said a major report, it was because of a "human error on multiple levels".

A very touching and sad story, but the Hitomi telescope will never be forgotten !

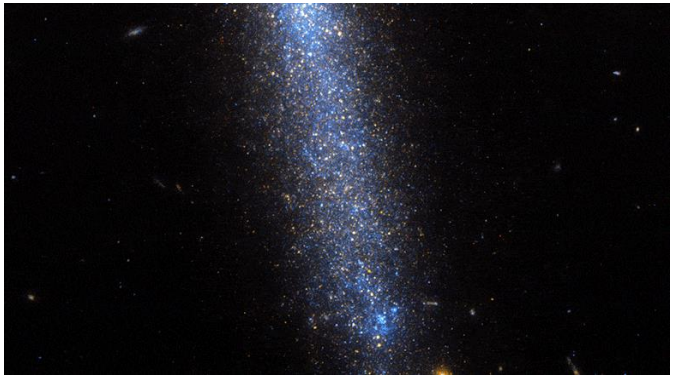
The Hubble telescope : the NASA's favorite !

It's the work of *liman Spitzer* in 1946, soon after World War II, who proposed launching a space telescope which could overcome the limitations of grounded-based observatories. **It will solve the problem** of irregularities in the atmosphere which changes the representation of the stars on Earth.

Here **HUBBLE** ! His mission : find *How* and *When* did our universe begin and the expansion of it. The telescope is **as big as a bus** and it's orbit 570 km from the earth. To avoid any fuzzy image's problems, iot has 6 gyroscopes in it to **stabilize** the images. Since it was launched it had many flaws and one of the most important was in 1993 to mend Hubble's infamous *mirror flaw* that was causing blurry images and its blind period.

Nowadays it's still in function but soon it will be replaced by **James Webb SQpace** telescope.

Fun fact : Hubble discovers **a new galaxy** in a form of waterfall with blue stars : it was called *Sextans.*



Now, you know everything about these telescopes!

Written by Gabrielle Ménigaux, Lou-anne Morreau, Eva Remondini and Brune Taravella

The project :

During this project we had to do research about some telescopes. We are in a group of 3 or 4 students. The goal was to do a video which lasts 3min to inform the other students and give them information about it.

I like this project for many reasons :

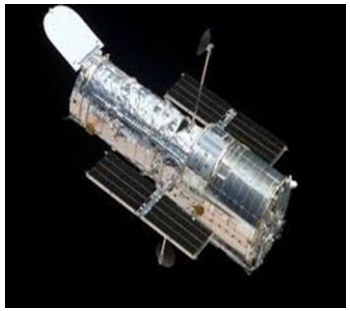
I discovered that satellites are specialized in certain wavelengths, that every major country has satellites but most of them are shared between several countries.

I was able to work in a group with people I didn't know very well which allowed me to discover them. We have learned to divide the tasks according to our knowledge. Now I can quote you several satellites such as the Hubble Space telescope, the Spitzer Space telescope, the Nobeyama's observatory… We have learned the differences between the different radio waves.

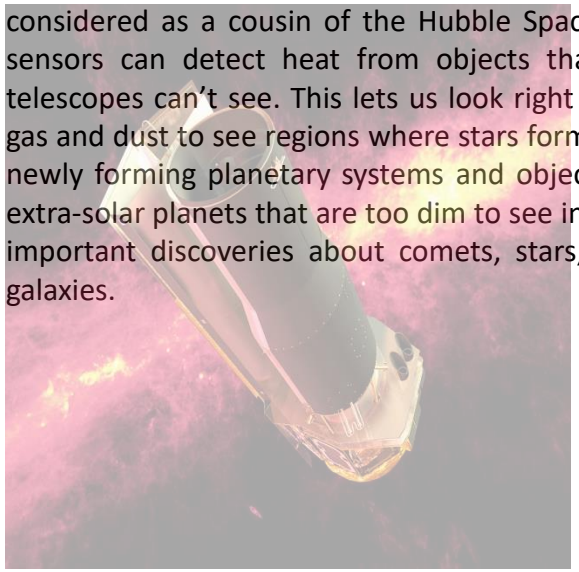
Exemples of telescopes :

- Hubble Space Telescope (HST) : Scientists have used it to observe some of the most distant stars and galaxies yet seen, as well as the planets in our solar system. Its domain extends from the ultraviolet through the visible (which our eyes see) and into the near-infrared. This range has allowed Hubble to deliver stunning images of stars, galaxies, and other astronomical objects that have inspired people around the world and changed our understanding of the universe.

Some observations / discoveries made by the HST : it has tracked interstellar objects as they soared through our solar system, watched a comet collide with Jupiter, and discovered moons around Pluto. It has also found dusty disks and stellar nurseries throughout the Milky Way that may one day become fully fledged planetary systems and studied the atmospheres of planets that orbit other stars.



- Spitzer Space Telescope (SST) : it is an infrared space telescope considered as a cousin of the Hubble Space Telescope. Its infrared sensors can detect heat from objects that our eyes and optical telescopes can't see. This lets us look right through dense clouds of gas and dust to see regions where stars form, the centers of galaxies, newly forming planetary systems and objects like smaller stars and extra-solar planets that are too dim to see in visible light. It has made important discoveries about comets, stars, exoplanets and distant galaxies.



Gabin Alvarez- Silva and Olivia Leroy

Our first term in the European section

Hi everyone ! This article is talking about the European section in English for students in 2nd . We are only sixty students to follow this option. It is an opportunity for us.

This year, we study Physics-chemistry in English.

At the begining of the term, we discovered Marie Curie's life and a few women scientists. We worked in groups and only orally. We don't often write. This activity allowed us to also learn about chemical elements. Most of students liked this activity and thought that it was interesting to learn more about scientists and the story of the chemical elements.

The upcoming domain is in tune with the festive occasion : we are studying about perfumes . We talked about different extraction methods, how to make a perfume and … we have created our own perfume in groups ! That was really great and we worked in labs.We are yet to present our perfumes to our classmates!

Ylann who joined our class two weeks ago said that he enjoys doing those sort of tasks and he feels elated in our class.

We'll come back with more articles next time and hope our juniors will meet us soon during the language week.

-Elodie ARNOUX