



LA SECTION EUROPEENNE PHYSIQUE-CHIMIE ANGLAIS

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- Option au lycée de la 2^{nde} à la Tale

(à partir de la 1^{ère} => programme d'enseignement scientifique).

- durée hebdomadaire : 1h de Physique-Chimie en anglais par semaine

+ renfort en anglais de 1 h

quinzaine.

- Mention européenne sur le diplôme du bac (épreuve au baccalauréat sous forme d'un oral de 20 min).

UN PROJET POUR L'AVENIR

L'anglais -> langue d'échange par excellence

- domaine scientifique
- Travail
- Publications
- Conférences
- études supérieures en France ... à l'étranger

EN PRATIQUE

Activités variées dans lesquelles l'accent est mis sur la **participation orale** :

- ⇒ Travaux en groupes sur des « science projects »
- ⇒ Nombreux documents vidéo.
- ⇒ Etude de textes de vulgarisation scientifique.
- ⇒ **Thèmes étudiés** : ouvertures en lien avec le programme de physique-chimie de la classe ou les projets en cours (ex. : le LHC de Genève avec la fabrication d'un détecteur de neutrinos , le radiotélescope de Manchester, conception d'un établissement éco-responsable avec les correspondants norvégiens, ...)
- ⇒ Voyage ? Lorsque la situation sanitaire le permettra.

CONDITIONS D'ACCES

Tout élève de 3^{ème} peut être candidat.

POUR POSTULER

- Dossier de candidature à demander au collège d'origine.
- Retour impératif au lycée pour le ...
- Limité à une classe (environ 34 élèves).

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PROFIL

Qualité des résultats en anglais

+ Qualité des résultats dans les disciplines scientifiques

+ Motivation.

Projets réalisés

Voyages

- Londres 2012 et 2016
- Norvège (échange scolaire) : Asker 2013 à 2015
- Manchester : 2017
- Norvège (échange scolaire) : Lörenskog 2018 et 2019
- CERN à Genève : 2018 et 2019



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Manchester



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Our Place in *the* Universe

In the centre of this room is an orrery, a mechanical model of our solar system showing how the planets

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Manchester : the Lovell radiotelescope



Space and Time

When we look out into space we also look back in time.

Light travels at 300,000 kilometres per second and takes about eight minutes to reach us from the Sun. The farther out into space we look, the longer the light has taken to reach us and the farther back in time we see. Astronomers call this 'look-back time'.

Look
time

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Genève : l'ONU



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Genève : le CERN



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S'Cool LAB Cloud Chambers

S'Cool LAB Cloud Chamber workshops are extremely popular for high school students visiting CERN, allowing them to get hands-on, build a particle detector, observe particle tracks, and learn about particle physics.

Format

After a brief introductory talk on the history of cloud chambers, students are instructed in how to build a **cloud chamber** by a **S'Cool LAB Tutor** - a specially-trained volunteer from CERN's scientific community. Working in **small groups** of 2-4 participants each, students then proceed to **build their own cloud chambers**. The main part of the workshop time is then dedicated to watching the tracks of particles made visible by the chamber, as the tutor goes from group to group to discuss the students' **observations**. Next comes the **clean-up phase** (students are taught to be responsible users of a lab environment), before a **group discussion** facilitated by the tutor. The sessions in S'Cool LAB last **75-90 minutes** in total.



Applications

If you are a teacher *with a booking for a CERN guided tour confirmed by CERN's visits service* and you are interested in having a cloud chamber workshop in S'Cool LAB added to your visit itinerary for your students, please read the [important practical information about S'Cool LAB Cloud Chamber Workshops](#), which includes instructions for applying.

If you do not yet have a confirmed CERN visit, you can apply for one via the [dedicated form on CERN visits service application for school groups](#).

Preparing your visit

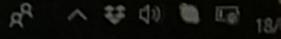
Please help your students to make the most of their CERN guided tour and S'Cool LAB Cloud Chamber Workshop by preparing them.



Cette HISTOIRE va changer T

Recommandation : Jean Laval (C
TV |

www.youtube.com



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Genève : le CERN -> building a cloud chamber



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Genève : le CERN



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Oslo avec les correspondants norvégiens



LA SECTION EUROPEENNE PHYSIQUE-CHIMIE ANGLAIS
Oslo avec les correspondants norvégiens (eco friendly school)



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ENVIRONMENTALLY FRIENDLY SCHOOL

SOLAR PANEL

Solar energy is a clean and green source of energy. It reduces the carbon footprint because it does not release any greenhouse gases.

The solar panels convert electricity 15% due to the short distance.

Solar energy can generate both electricity and heat.

Buying solar panels is expensive however in the long-term, it will be cheaper than using energy from other resources.

The solar panels don't need much maintenance. It can last for many decades without much maintenance.



VEGETAL ROOF

The roof is completely covered with vegetation. The purpose of this is to improve and reduce energy consumption, reduce noise (from 0.1 to 0.2), to absorb carbon dioxide, to reduce the urban heat island effect, to provide a habitat for birds and insects, to provide a green landscape and help to lower the urban temperature and improve the air quality (warmer in winter and cooler in summer).

We put a water system which supports a wider variety of plants. The plants are to be able to develop into a diverse ecosystem, like grass, wildflowers and ornamental plants.





GLASS

There are a lot of advantages in using big windows: there is a lot of natural light in the building and big windows make passive solar energy.

The big windows will have a triple glazing. In the space between the glass tiles there will be two different types of gases, these are called argon and krypton. This will make the windows more efficient.

But the window frame is also very important, it is composed of 3 layers to seal the window.

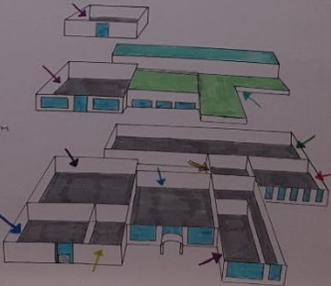


GEO THERMAL

Geothermal is thermal energy generated and stored in the earth, so it is an infinite, reliable, sustainable and eco-friendly energy source. Geothermal energy exploits this naturally occurring heat in the earth using a system of pipes in which a coolant circulates in a closed circuit. The heat that is then transferred to the room is heated by means of a heat pump. If there is a water reservoir nearby, the heated water by the stone is directly caught through to electricity and then used on the surface.



GROUND PLAN



- CLASSROOM
- OFFICE
- CAFETERIA
- CRAFTING ROOM
- POOL
- GYM
- SPA/EX
- LIBRARY
- ELECTRICAL ROOM

Intro

The environmentally friendly school will be located in the south of France, in the plain. There is going to be 1000 students in this school. The environmentally friendly solution for this building are big windows, solar panels, a vegetal roof and geothermal heat. The materials used are plastered bricks and glass walls. These materials are used because they are good isolators. The plastered bricks also gives the building a modern and clean appearance.



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