


# ETNC-BICLAß

2021



# ETNO-BIOLAB

Peru is a country with a high cultural and biological diversity; however, many of the students of Peru do not know this. According to the Education Ministry, less than 10% of high school students achieve the expected learning outcomes for science classes. That is why we want to strength Peru's educational system on natural sciences, while recovering and revaluing the traditional knowledge of our ancestors.

Ficus Peru and Latinka e.V, in collaboration with ComunaCiencia, thanks to the support of the German Cooperation (through the Center for International Migration and Development, CIM), works hand in hand with teachers from three national high schools in Peru to organize different learning projects about the plants of our country with a scientific and intercultural approach. The students, through the guidance of their teacher and with the support of electronic material and an experiment kit, learn about nature and traditional knowledge of our country.

## Our partner schools:

I.E. Alfredo Rebaza Acosta  
(Los Olivos, Lima)



I.E. 5138  
(Ventanilla, Lima)



Fe y Alegría n°65  
(San Juan de Miraflores, Lima)





# SEEDS AND GERMINATION

## (FOR STUDENTS' 11-13 YEARS OLD)

Seeds are magical, we all know that a new plant is born from a seed, but how is this possible? Did you know that a seed can also be germinated for food consumption? The germination project has two main objectives: that the students understand the necessary conditions for germination, and identify the different stages of germination. This project begins with the puzzle game about plants from Peru. The student will investigate--through family consultation, books, Internet research--to solve the puzzle and find out what plant it is.

The second part of this project tries to explore the process of seed germination under a controlled environment. The students will have a blog where they will make botanical drawings of the germination process, and finally they will build a cartoon about this plant that has germinated. Through this project, students learn to understand: what is germination, the phases of germination, favorable conditions for germination according to the seed, the germination classes, and benefits of sprouts for consumption.



# MINIATURE ECOSYSTEMS

(FOR STUDENTS' 13-14 YEARS OLD)

Although we all know green areas are critical for a healthy environment and life, some areas of Peru have an average of 3 square meters of green areas per inhabitant. To change this, it is fundamental to understand the importance and function that plants fulfill for the maintenance of life on the planet. This project seeks to replicate a miniature ecosystem through a terrarium. With it, students will observe, record and analyze the production of oxygen through plants, the carbon cycle and the water cycle. They will further rely on various sources of research and experimentation, seeking to understand the photosynthetic machinery through the scientific method and identify local flora.







# AFTER THE TRACE OF COLOR

(FOR STUDENTS' 14-15 YEARS OLD)

Textile production and its dyes are in second place as the largest polluter in the world. In addition, these modern practices have also displaced ancestral and more sustainable dyeing techniques. This project seeks to raise awareness about this reality and rescue ancestral dyeing techniques, which are currently preserved but are about to disappear. "After the trace of color" takes a journey through history on the origins of biological pigments used in ancestral dyeing techniques to current industrial techniques and at the same time discovering and understanding the biology of pigments in nature. Students will themselves discover how to extract natural pigments and reflect on the implications of the textile industry and dyeing for nature.





# THE VALUE OF OUR LOCAL ECOSYSTEMS

(FOR STUDENTS' 15+ YEARS OLD)

More than 30 different ecosystems are found in Peru. In Lima, the capital city, we find two unique and fragile ecosystems under high pressure from human activities, especially uncontrolled urban growth: Coastal Lomas and Coastal Wetlands.

The Coastal Lomas (Lomas costeras), are a unique ecosystem only found in Peru and Chile. One of its most outstanding characteristics is that they change throughout the year, with winter being the time when their greatest splendor is appreciated. The Lomas stabilize the soil, are a source of water, and is the habitat for plenty endemic flora and fauna. In the other hand, wetlands are ecosystems that purify the groundwater that comes from rivers. Likewise, wetland plants purify the air by trapping carbon dioxide and processing oxygen. This ecosystem is also used as a resting place for migratory birds. Wetlands are under pressure all over the world, including those located in Lima.

During a two-month period, students will investigate the importance of the Lomas and Wetlands, what socio-environmental conflicts are occurring in their locality related to this natural area, and what people think about it. They will use scientific information, maps, qualitative research methods and citizen science applications (such as iNaturalist) to develop their research and become agents of change.





## FICUS PERU

Ficus is an NGO dedicated to the research, design and implementation of socio-environmental projects and initiatives in cities and territories linked to them to increase the sustainability and well-being of vulnerable groups. Our work is characterized for always implementing a participatory approach, since the design to the evaluation phase. Ficus was founded on 2015 and since we have developed a variety of projects focused on urban forests, water, waste management (compost), urban mobility and environmental education.

Website: [www.ficus.org.pe](http://www.ficus.org.pe)

Facebook: [ficusperu](https://www.facebook.com/ficusperu)

Instagram: [@ficusperudsa](https://www.instagram.com/ficusperudsa)



## COMUNA CIENCIA

We are a non-profit collective of professionals from various disciplines and sciences who share a great passion for nature conservation, education and scientific research. We add our experiences to develop opportunities for the creation and exchange of scientific knowledge among high school students in Peru, teachers and experts in science at the national and international level through educational research projects.

Website: [www.comunaciencia.org](http://www.comunaciencia.org)

Facebook: [comunaciencia](https://www.facebook.com/comunaciencia)

Instagram: [@comunaciencia](https://www.instagram.com/comunaciencia)



## LATINKA e.V

Latinka is a non-profit civil association of Latin American immigrants in Germany, and has been in existence since 2011. Latinka e.V. places special emphasis on the promotion and support of educational programs in Latin America for children, young people and their parents, as well as the meeting and enrichment of the exchange thanks to cultural events in the city of Karlsruhe, Germany. Keeping the promise to invest each euro donated directly, quickly and without administrative costs, Latinka e.V. is proud to be able to be part of tenders to promote projects related to development.

Website: [www.latinka.org](http://www.latinka.org)

Facebook: [Latinkaev](https://www.facebook.com/Latinkaev)

Instagram: [@evlatinka](https://www.instagram.com/evlatinka)

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