“Trees and leaves:  a precious asset”

**Science in first year of secondary school**

**Creator: Maiello Rita**

**Student profile:** 25 students, aged 12-13.

They often work in teams and cooperate efficiently.

They always use the target language in the foreign language lessons. They make use of various digital tools either in the classroom (interactive whiteboards) or in the school's computer room.

**Language level:** B2 (based on the Common European Framework reference for languages)

**Duration:** 2 teaching periods

**Individual occupation time:** 1 hour

**Requirements and Prior Knowledge:** Classroom with interactive whiteboard or projector and internet connection.

Knowledge of internet navigation and use of Web 2.0. tools, main knowledge the plant and animal cell .

**Expected skills**

the structure and functions of the different parts of a plant.

Knowledge of themes and problems of landscape protection as a natural and cultural heritage and design enhancement actions.

“To care for humanity, we must care for nature”.

This is a moment for a deep reflection on nature, on climate change, on how we should behave, on what the our society should be, to protect species and ecosystems.

Schools should teach people about the importance of protecting our nature.

Let's imagine an open school capable of building and stimulating in the minds of children how to take care of nature.

The school is not intended as a classroom or desks but as a place of learning and in the open air and therefore in contact with nature, children are encouraged to learn and investigate nature as well as scientists and artists.

Nature, today, asks to be taken as a value, a resource, an open laboratory to know and to know each other better.

**Suggestions for future development and expansion of the scenario**

This project will involve different disciplines starting from Science to engage Technology, Geography, Art, Civic Education.

Once a week, all teachers will plan lessons about subject.

In other words,every itinerary starts to Science’s planning, so the teacher will be able to do a good mainstreaming of curricular contents with considerable subjects and themes. Besides, it is aimed to join curricula different subjects.

Technology:  wood

Art: leaves’ frottage

geography: parks and reserves

Civic Education: 15 goal of 2030 agenda

**1st teaching period**

***1st Activity: Introduction***

Time: 30’

Type of activity: Discussion about the aim of the project

Class organisation: Discussion begin in the classroom

Actions/Tasks: Teachers inform the students about the topic of the project and the methodology needed to accomplish the tasks.

***2nd Activity:*  *how a plant works***

Time:  30’

Methodology: flipped classroom

Video projection  power point  about the subject and discussion

<https://youtu.be/sdWWvp7AHII>

**VIDEO WITH INTERACTIVE**

<https://ritamaiello.h5p.com/content/1291680062029095917>

**2nd teaching period**

***1th Activity***

Time : 30’

laboratorial’s homework about pigments’ leaves and videos to debate

<https://youtu.be/963waYurXp4>

<https://youtu.be/hc5H3sExEpQ>

<https://youtu.be/0mRS2Dt4ww0>

***2nd Activity***

Time: 30’

Games and activities at pc to test skills expected and final project with realization of leaves’ frottage

<https://learningapps.org/watch?v=pcaxko24k22>

<https://learningapps.org/watch?v=p8z8o1iyk22>

<https://learningapps.org/view8553922>

<https://ritamaiello.h5p.com/content?scope=all#>