Life Terra Guide
For School Plantings

Contents of this guide

What is Life Terra?

Life Terra is a foundation with the **mission to restore our connection with the Earth** and to enable people to take impactful climate action now. We facilitate tree planting, educate future generations, and develop tree monitoring technology.

We seek to bring people together to plant 500 million trees in Europe, harnessing and monitoring nature's own carbon capture mechanism and enabling citizens to take urgent action against the climate crisis.

Life Terra is one of the largest climate action initiatives in Europe, approved and supported by the European Commission through their LIFE programme (LIFE19 CCM/NL/001200). Read more about Life Terra here.

Education: Terra Mission

Education is Life Terra's most valuable long-term investment.

We want a brighter future for our children. We work to educate the next generation so that they can be equipped with the tools and knowledge they need to make decisions as future leaders, tree caretakers, and stewards of our Planet.

This is why Life Terra has developed in collaboration with education experts an interactive environmental education programme for students ages 8 to 14, called the **Terra Mission**.

Terra Mission is Life Terra's sustainability educational package that challenges teachers and students to investigate and learn about the environment, both inside and outside of school. It consists of 8 themes - Climate change, Energy, Waste, Circular economy, Water, Agriculture, Air and Trees - and it is fully customizable to adapt to the school curriculum. It contains interactive lessons, with worksheets, video materials, games, and ideas for outdoor activities.

To further accompany teachers in implementing Terra Mission at schools Life Terra, thanks to the European Schoolnet, has developed *Terra Mission MOOC: Teaching Sustainability for Action*, a Massive Open Online Course (MOOC) which gives primary and secondary school teachers the opportunity to raise environmental awareness in their schools and beyond. This MOOC, structured in 4 modules, provides participants with knowledge of contemporary sustainability issues and tools to help students take action on climate change.

To support teachers to plant trees with their pupils, Life Terra has also developed the **Life Terra Guide for School Plantings**. This guide includes all the steps you need to follow to organise a planting activity and inspire your students to take climate action.

How to organise a School Planting

To start planning your **Life Terra School Planting** you need to make sure you consider all key aspects of tree planting. This guide will help you get all the knowledge needed to make the planting activity with your pupils a meaningful and fantastic experience!
These are the main aspects to consider *Before*, *During*, and *After* your tree planting activity:

Before the School Planting

1. Find a place

It is important that trees are planted in the right place, but we know finding land suitable for planting trees can be challenging. Read our tips to find land on page 2. Remember that trees should only be planted during the specific planting season of your region. Usually, it lasts from autumn to spring, after the first post-summer rains and avoiding the coldest months with frost. Check with local experts when it is the best time to plant.

2. Select the species

The right tree in the right place - this is key for a successful tree planting. Follow our tips to select tree species suitable for your area on page 3.

3. Get ideas for the planting day

Before you take your pupils to the field to plant trees, make sure you plan well the activity, its learning objectives and expected outcomes. Read on page 4 our tips for the planting day to get inspired. Explore with them our Educational Pack Terra Mission, especially the theme dedicated to trees to learn more about them and the importance of tree planting.

During the School Planting

4. Plant trees correctly

Planting trees in the right way is key for their survival. Check out our step-by-step guide on pages 5-6 and watch our short video to learn in 60 seconds how to plant trees correctly.

5. Tag the planted trees

Registering (or "tagging") the planted trees using the Life Terra tagging tool is very easy and it helps us to keep track and monitor every tree planted. Check on pages 7-8 how to do it.

After the School Planting

6. Register on the Life Terra platform

To be able to register your trees in the Life Terra platform and join our community of climate action you need a link provided by the Life Terra team. Explore how to get it on page 9.

1. Find a place

How to find suitable land for your School Planting

The first thing you need to consider, either if you wish to plant at the schoolyard, on public land or on a private property, is that you will need the explicit consent of the landowner.

- **Planting at the schoolyard**

This might be the easiest place for you to plant trees. As a first step, you will need to talk to the school director or board, sharing your idea with them and ask for permission to use school facilities for this activity. Easy, right? If there is available space at the school garden or orchard, this is the perfect place to plant trees with pupils. You can also plant along the school walls to make a green barrier, create shade, and attract pollinators. See this example.

- **Planting on public land**

As a school, you can contact your city hall to ask for permission to plant trees on public land. Talk to the mayor or the responsible person at the Department of Environment presenting your willingness to take climate action and your need to find suitable land (e.g. city gardens, urban parks, peri-urban non-forested areas, etc.). You can send a letter to the mayor:

> *Dear Mayor of (Name of your town),*
>
> *On behalf of the local school (Name of your school), we would like to ask for your support in taking climate action in our hometown. As climate change is the biggest challenge we are and will be facing in our future, we as a school see the urgent need to do something!*
>
> *Planting trees is an effective way to halt climate change. Trees absorb carbon from the atmosphere, providing shade, cooling the temperatures, and improving the quality of the air we breathe. They also provide food and shelter to animals living in our town. Most importantly, planting trees has an enormous pedagogical value to inspire our pupils to be future stewards of our city and our Planet.*
>
> *This is why we want to organise our own School Planting activity joining the Life Terra initiative. But for this purpose we need your support in finding a suitable space to plant trees. We would be very happy if you could support us in making our city a greener place.*
>
> *Thank you on behalf of the whole school community.*

- **Planting on private land**

The easiest way to get in touch with private landowners is through personal connections. For this, activate your personal social network, ask your colleagues and the parents of your pupils to get to know local farmers, foresters, and landowners who might be interested in having some extra trees in their land.

They can benefit from the several **Ecosystem Services** that trees provide. For example: food, green fences, windbreaks, soil regeneration, shade, presence of pollinators, etc.

2. Select the species

How to find the right tree for the right place

It all starts with exploring the land where you want to plant!

A. Try to find 5 different trees around the planting area. Remember to take pictures!
- ○ To identify the trees, you can use apps like plantnet, !Naturalist or PlantSnap to have a first assessment.

B. Use our **ARCGIS tool** to check if the trees you observed are native to your region and suitable for the local climate. It's very easy, click on the area of the map where you want to plant and this tool will show you a list of suggested species.
- ○ Compare this list with the trees that you can see around.
- ○ Keep in mind that this list is not exhaustive. There are other species that might also be suitable for your area and are not listed here.

C. Study the species listed in ARCGIS and their environmental requirements or needs - this is a good opportunity to make a class project with your pupils! Ask yourself:
- ■ Are they compatible with the local climate and given conditions? *Nice!*
- ■ Are they invasive? *Avoid them!*
- ■ Any rare or endangered species? *Let's plant them!*
- ○ Some possible extreme conditions to consider when selecting species:
  - ■ Slopes southwards - select species which are tolerant to direct sunlight
  - ■ Slopes northwards - select species which tolerate less direct sunlight
  - ■ Riverbed: select species which are river or riparian species

D. Double check - Ask the expert!
- ○ Try to ask the local council or City Hall, local foresters and forest managers, nurseries, biologists, etc. for their opinion on the selected species.
- ○ Biodiversity is key! Make sure to select a variety of species of trees and shrubs to promote healthy and resilient ecosystems.

E. Check with your local nursery if the selected species are available.
- ○ Nurseries are experts in terms of tree planting. Take the opportunity to ask for their advice to select the right species for your planting area. They can also give you some tips on how to plant them correctly!
- ○ Ideally, 1-2 years old seedlings are used for the planting activity. If needed (e.g. predators, frost, etc.), use tree protectors to increase tree survival.
- ○ Plan beforehand how many trees you want to plant. To give you an idea, for a 2-hour activity with 25 pupils we plant around 50 trees of 20-50 cm height approx.

3. Get ideas for the planting day

How to make your School Planting a successful and meaningful experience

- **Preparation**

Make sure the planting area is prepared before the actual planting takes place. Gather all the materials needed for the activity (i.e., trees, shovels/hoes, gloves, smartphones for tree tagging). Depending on the soil conditions and the age of your pupils, it might be useful to have the planting holes prepared prior. You can talk to the landowner about this beforehand.

- **Warm up & Demonstration**

We recommend starting the planting activity with a warm-up game, activating and engaging the pupils from the very beginning. You can stand up in a circle and pass each other a ball, answering and brainstorming about the following questions:
  - What do you know about climate change? Do you know any possible impact that climate change causes globally? And in your local environment?
  - How do you feel about climate change? Is it a problem for the future or the present?
  - Can you mention an action we could take to fight climate change together?
  - Why are trees important? Have you ever planted a tree before?
  - Do you know which trees we are planting today? Why did we select these species?

Before pupils start planting by themselves, explain well and give a practical demonstration on how to do it correctly (trees planted correctly) and safely (being careful with the tools). Ideally, you plant the first tree yourself and pupils observe the process step by step.

- **Teamwork**

During the activity, we recommend planting in small groups of 2-3 pupils. Each team gets one small hoe/shovel and gloves. The responsible person (teacher) goes around the planting area supporting them when needed and tags the trees after they are planted. If pupils are motivated, they can do a small clean up in the planting area, always using their gloves.

- **Evaluation**

To finalise the activity, gather again in a circle and reflect about these questions together:
  - How many trees have we planted in total?
  - Have we learned something about the trees planted (name of species, fruits, etc.)?
  - How have we felt while planting?
  - How does this action contribute to our Planet? And to our local community?
  - Is planting the end of the activity or the beginning?

At the end of the activity, make sure all the trees planted are also tagged (and uploaded) on the Life Terra tagging tool. Also, make sure you leave the area tidy and clean, leaving no trash behind. If possible, come back with your pupils to water the trees and see them grow!
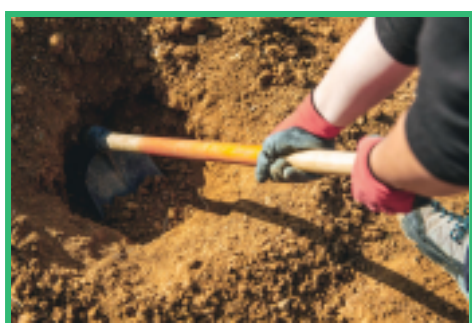
4. Plant trees correctly

How to plant trees: step-by-step guide

This guide is focused on tree planting in <u>Mediterranean climate conditions</u> with relatively dry, compacted soils. The main strategy for tree survival is based on water retention.

For <u>northern conditions</u>, with usually less compacted soils and more soil moisture, the planting process shall be much easier and faster. Water retention is usually not needed, and trees are planted a little above ground level to prevent waterlogging.

1. Dig a hole of around 40cm deep and 30cm wide.
○ This is essential as the roots of the tree will grow easier if the soil underneath is uncompacted.

2. Take most of the soil removed from the hole and put it back. Make sure there are no big stones in the hole. Its presence will hinder root growth and leave air spaces that can damage the roots.

3. Put the plant in the middle of the hole and cover it with soil, making sure that all the roots (darker soil) are completely covered and that the tree stands straight.
○ Make sure you place the tree at the same height of the surrounding soil or slightly lower, not too deep nor too high.

4. Press the soil around the plant to make sure that no air is in contact with the roots.

During the Planting

5. <u>Checkpoint</u>: pull the tree by holding it by

the lower part of the stem, not too strong, upwards.
  ○ If the tree moves, un-plant and plant it again, making sure you put enough soil and you press it stronger.
  ○ If it does not move the tree is correctly planted!

6. Once the tree is planted, place a protector around

it while making sure, with the help of suitable support, it stays straight.
  ○ Place the holey part upwards. This will help the correct tree ventilation.
  ○ Make sure that the tree does not remain inside the cable tie when you pull it to secure the stick. That can damage the tree and wouldn't let it grow up correctly.
  ○ <u>Alternative</u>: place some rocks around the tree to favour water retention and provide shade.
  ○ Also, if there is some extra soil, you can build a small 'wall' to help water/rain retention.

7. Put the remaining soil back and add a

layer of mulch around your tree.
  ○ You can use leaves and/or grasses and place them around your tree as mulch.
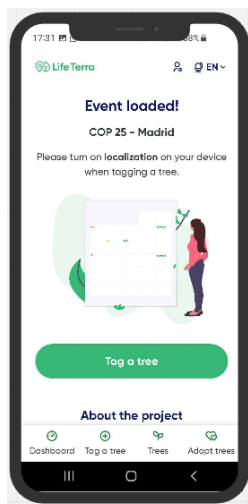
8. Congrats! You planted and protected your tree!

  ○ Your tree is now ready to be tagged with the Life Terra App.
  ○ Also, if using a protector, remember to remove it once the tree is big enough.
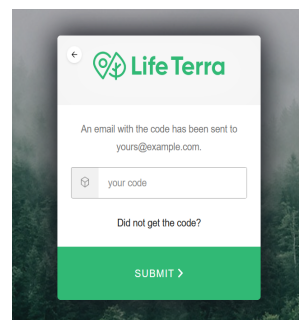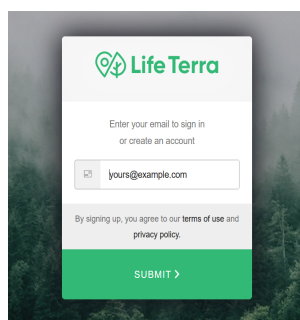
5. Tag the planted trees

How to tag trees using the Life Terra tagging tool with a Smartphone

1. Let's start! Scan the QR code or open the tagging link to download the event information*

this link will be sent to you by the Life Terra team once you provide us with some details about your School Planting (see page 9)
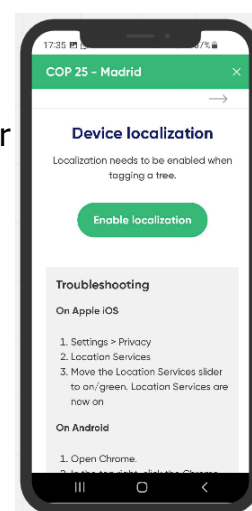
2. Log in by using your email address and verify with the code that will be sent to you
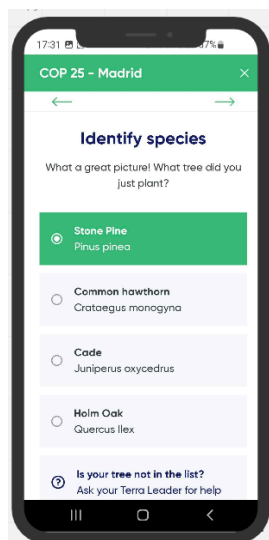
3. Allow the platform to localise your device and to get access to your camera

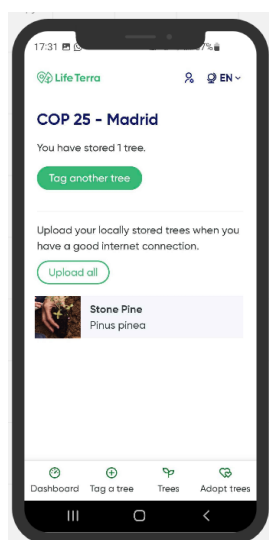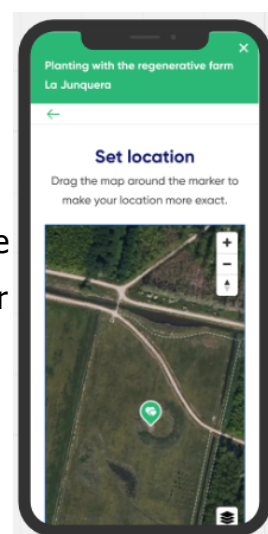**4.** Take a photo from your tree directly from above

During the Planting

5. Identify on the list the species of your tree

6. If your location is not accurate enough adjust the location of your tree by moving the map with your fingers

7. On this overview page you see all your trees. Once you have a few trees in the list, **don't forget to upload them** before you continue tagging!

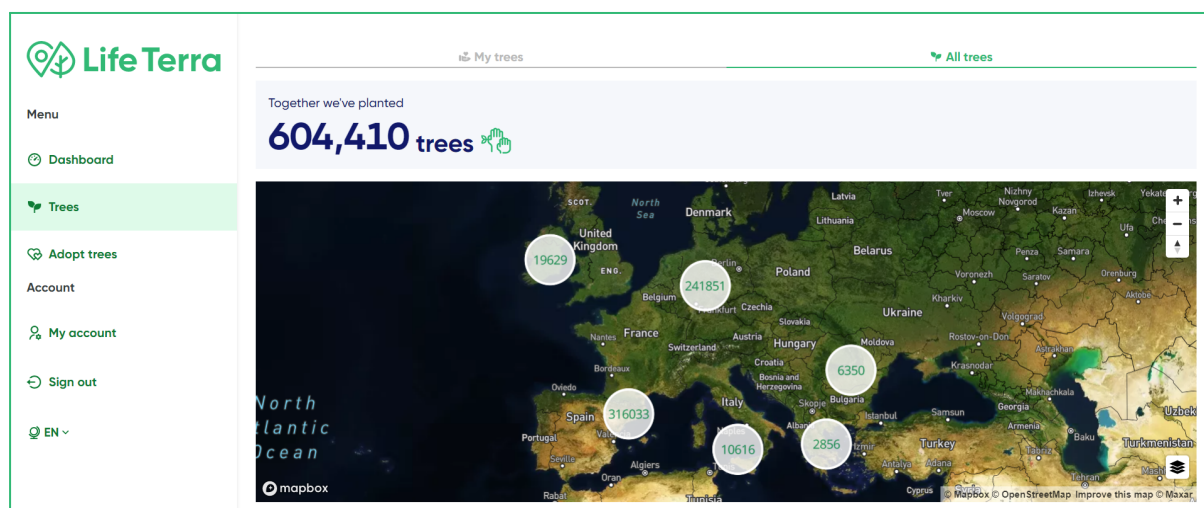# Well done, you tagged and uploaded your Life Terra trees!

6. Join the Life Terra community!

How to map your School Planting in the Life Terra platform

By tagging your trees they will automatically -after the Life Terra team verifies it- be included in the Life Terra platform.

Our interactive platform gathers all the trees planted by individuals and organisations with support from Life Terra across Europe and beyond. In this online tool, users can always see how many trees they have planted and/or adopted, where they are located, when they were planted, and the type of species, together with a real picture of each planted tree. Each user, moreover, can see all the trees planted by the whole Life Terra community.

Sign up to visit the Life Terra platform. Our interactive map keeps growing as we plant!

The Life Terra platform. General view of "All trees" planted.

To be able to tag the trees you plant with your pupils and see them in the Life Terra platform, first you need to share some basic information with the Life Terra team before the actual activity takes place (e.g., location, date, tree species, etc.).

Once you contact Life Terra and provide us with this information, we will prepare and send you a unique link that you (and other teachers or students) can use on the planting day to tag all your trees.

If you have got inspired by this guide and have completed: Step 1. (*Find a place*) and Step 2. (*Select the species*) to plant trees with your pupils, contact us at education@lifeterra.eu. We will further support you and welcome you and your pupils to our Life Terra community.

LET'S PLANT TOGETHER!