Blooming Schools

NATURE-BASED STEAM LESSONS FOR SECONDARY SCHOOLS: EXPLORING SUSTAINABLE DEVELOPMENT GOALS

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Eco Debates Club

Age: 14+ y/o

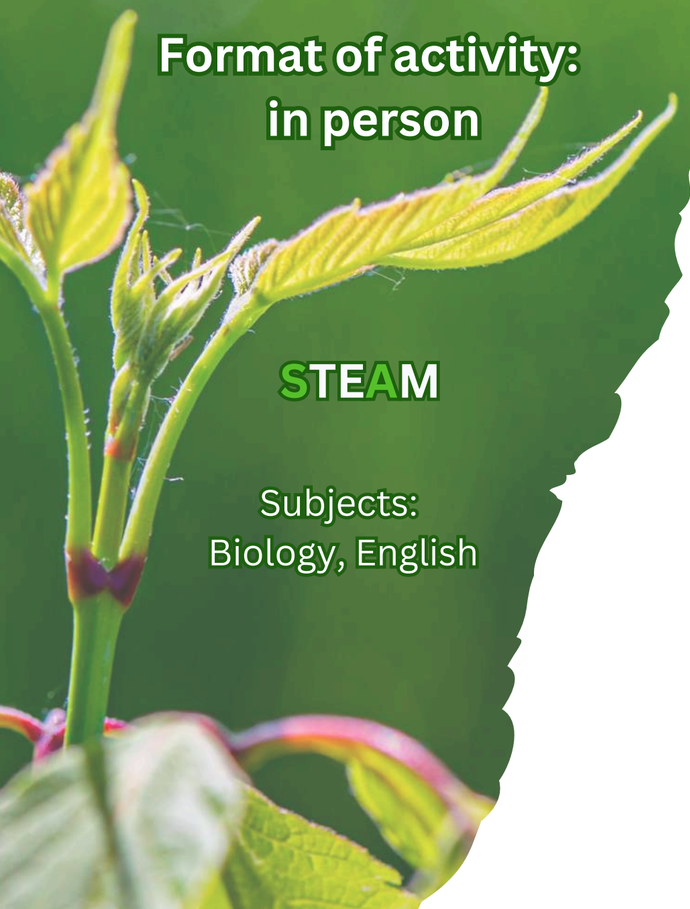
Group size (max): 20

Duration: 2h

Format of activity:
in person

STEAM

Subjects:
Biology, English



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Description:

(Pre-meeting. Explain the debate if it's the first time for your class.)

1. Divide students into 5 equal groups. 4 of them represent different types of stakeholders, related to the topic. 5th group will be independent juries.
- Stakeholders: Environmental NGO; Large real estate company; Government officials; Group of active civilians.
- Topic - "Rapid urbanization destroys and fragments habitats and causes deforestation and fragmentation of forest lands".

2. Self-presentation - 5 min
- each of 5 teams has 1min to present themselves. Juries team announce also the topic of debate and criteria of the speech.

3. Preparation of the arguments- 20 min

4. Presentation - 40 min
- each team has 10 min (5min to present their point of view, 5min to answer the question),
- juries take notes of the key points and arguments.

5. Evaluation - 5 min
- Juries evaluate all teams according to the criteria and give points.

6. Results announcement - 5 min
(role of juries)

7. Conclusion - 20 min

Eco Debates Club

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STEAM

Subjects:
Biology, English

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Learning outcomes:

- communication skills
- debating skills
- conflict resolution skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team

SDGs:

Resources:

- Debate club guide:

Debating skills
Debate style

- More environmental debates topic

#LetsGoGreenChallenge

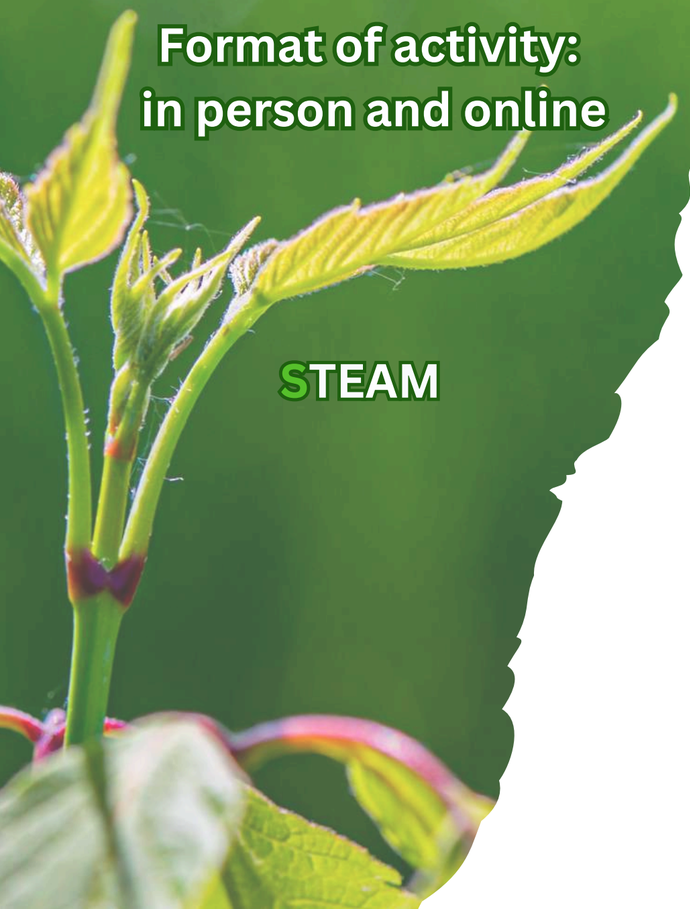
Age: 12-15 y/o

Group size (max): 20

Duration: several days

Format of activity: in person and online

STEAM



Description:

The group should create a hashtag, e.g. #SchoolNameGoGreen. For 7 days, students are working on tasks, and showcase everything in Instagram/TikTok/etc using the hashtag to encourage each other.

Day 1: Plant a seed for your classroom. Put down the name of the plant, and the date when it was planted. Don't forget to water it.

Day 2: On the way to school try to spot 6 different plants, and find out their names, using iNaturalist.com.

Day 3: Go out for soundmapping to your school garden. Which sounds do you hear the most? Compare your results with your classmates and create a chart of most common answers.

Day 4: Estimate different areas of your school and think about the percentage of green space around.

Day 5: Gather up in small groups far a cleaning session around your school.

Day 6: Take a minute to take a minute to listen to birds in your school area. Recognize as much as you can, use eBird.

Day 7: Get back to the seed you planted on Day 1. If it grew measure it and start tracking it in the calendar. Don't forget to water. Find 1 fun fact about your plant, that you didn't know before, and share with other.

Day 8: The challenge is over. Arrange a session to draw conclusion how it went.

Day 9: Together create a 5x5 Green Bingo, consisting of sustainable ideas for other students to follow.

Day 10: Celebrating the successful realization of the project, students present their Bingo to the school and encourage others to join the challenge by taking part in a Bingo, using the same hashtag.

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#LetsGoGreenChallenge

Age: 12-15 y/o

Group size (max): 20

Duration: several days

Format of activity: in person and online

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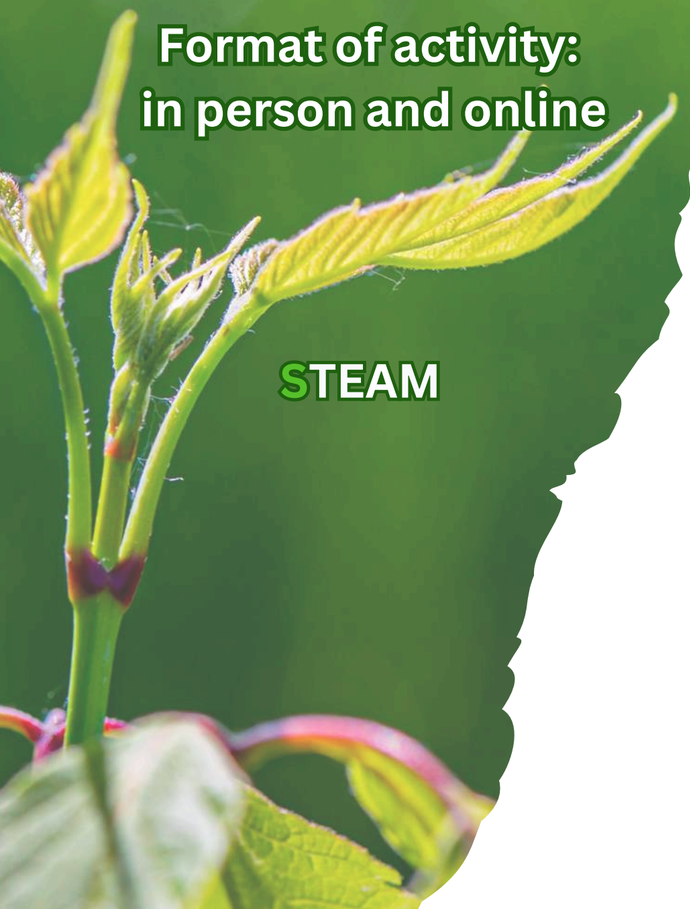

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Learning outcomes:

- communication skills
- presentation skills
- knowledge about nature and the environment
- ability to work in a team
- taking action for nature

SDGs:

Resources:

- iNaturalist app
- eBird app
- Instagram/TikTok/ any other preffered social media

Literacy in Nature

Age: 12-16 y/o

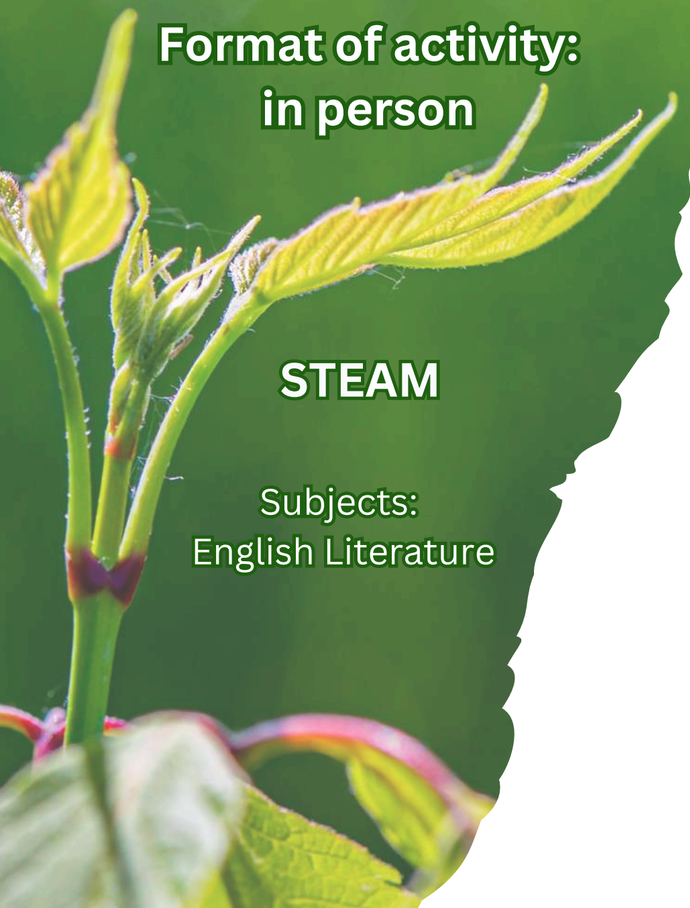
Group size (max): 30

Duration: 3h

Format of activity: in person

STEAM

Subjects:
English Literature



Description:

Location: A quiet space in nature or school ground where students will be able to use their senses to explore their surroundings.

- Warmer - Sensory Walk

Teacher elicits the five senses and focuses on olfactory, visual, tactile, auditory and gives an overview of them

Sensory walk- Students walk around the outdoors area and fill in the worksheet. They can either write what they are observing, or if their level is a bit better they can try to describe what they observe using things like alliteration, onomatopoeia, similes metaphors. Students can work in pairs/individually or in a group. Teacher monitors.

- Connecting with nature

Students regroup and discuss their experiences, focusing on how they feel when they connect with nature through different senses. Sharing of ideas, favourite thing they noticed etc.

- Poetry focus

Teacher hands out the poem worksheet and recites the poem and discusses the main idea of the poem. Students work on the different exercises. Students can work in pairs, groups or individually. Teacher corrects the work as a group.

- Discussion

Students discuss the message of the poem and what they think about their local environment and how it can be improved.

- Creative work

Teacher asks students how they can get their message across to other students in the school and decides what project the students will create. Eg: chart with drawings, poster, slogan, digital presentation etc. This project can either be done there and then, or later as a follow-up activity or homework.

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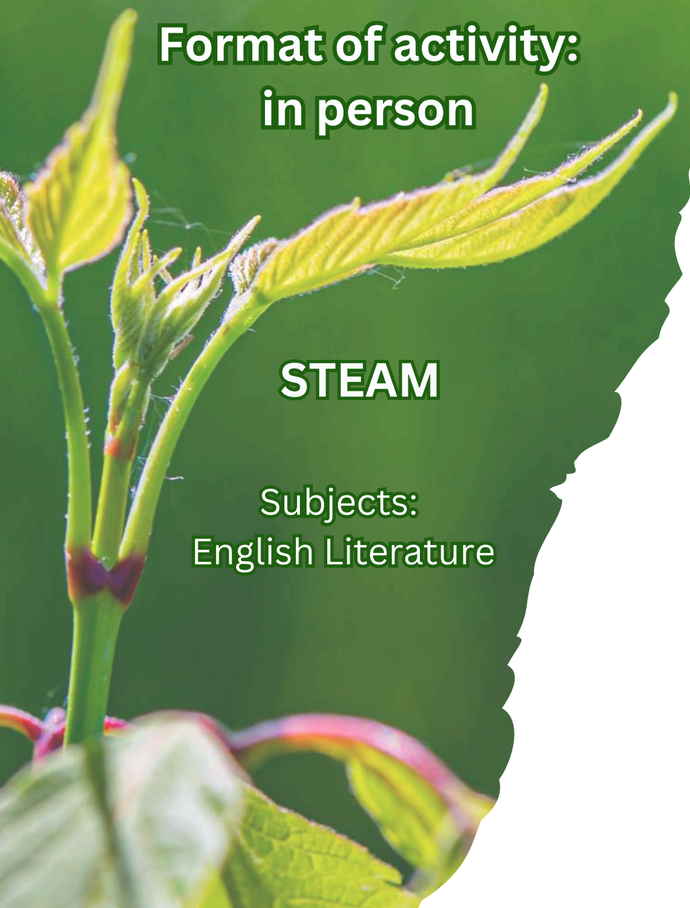

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Learning outcomes:

- communication skills
- presentation skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team
- taking action for nature

Resources:

- Sensory Walk Sheet
- Turmoil in the Countryside Poem Worksheet
- Turmoil in the Countryside MS

SDGs:

Let's talk about soil

Age: 13-14 y/o

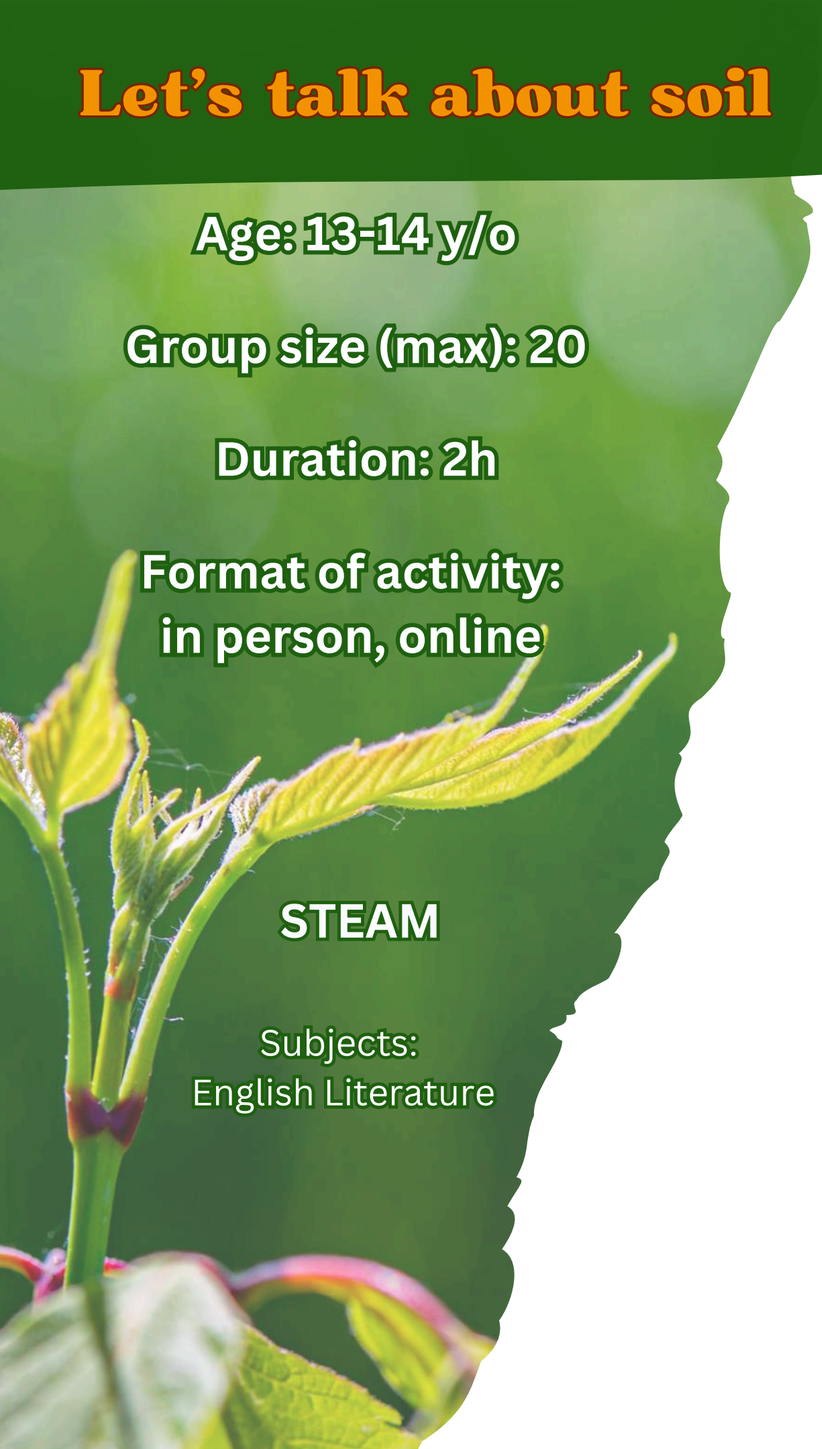
Group size (max): 20

Duration: 2h

Format of activity: in person, online

STEAM

Subjects:
English Literature



Description:

This lesson is divided into different parts of about 40 minutes each. The main idea is to make students aware of the role of the soil and learning English. Use PowerPoint presentation to understand different parts.

Part 1 - Speaking
Slides 1-9
Students will be working in groups/pairs. They need to come up with a list of natural resources Second task will be about what they know about the soil and participate in the discussion about it.

Part 2 - Listening
Slides 10-13
Students will be watching a video (1)about soil and filling the gaps with missing words from the video. They will be watching the video twice after each watch they have 3 min to finalise their answers.
Play video from the start till 2:13. To correct listening skills use subtitles.

Part 3 - Writing
Slides 14-19
Students will be watching video no. 2. This time they have to listen attentively as they might use the information provided by the video.
Divide their into groups/pairs. They need to come up with list of reasons why protect the soil and share their views with rest of the class. Last task for them will be to create a formative poster about soil (with details about soil and why and how we should protect it).

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Let’s talk about soil

Age: 13-14 y/o

Group size (max): 20

Duration: 2h

Format of activity:
in person, online

STEAM

Subjects:
English Language

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Learning outcomes:

- communication skills
- listening skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team

SDGs:

Resources:

- Videos

1. Let’s talk about soil!
2. Nature Speaking: The soil

- PowerPoint presentation
- Let’s talk about soil - worksheet
- Let’s talk about soil - answers
- Links to create free posters:
  Canva
  PosterMyWall

The Great Outdoors - Roleplay discussion

Age: 14-18 y/o

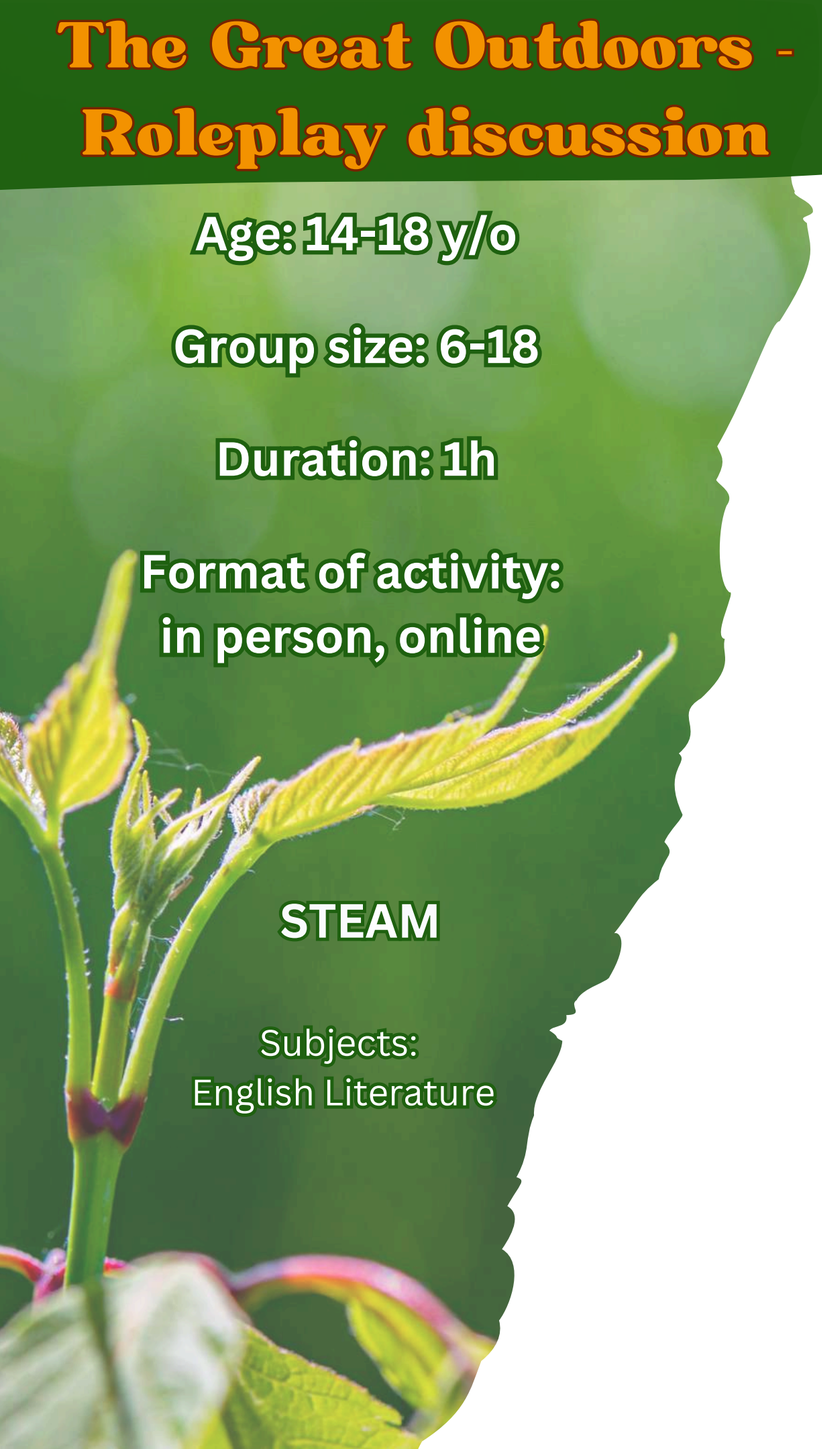
Group size: 6-18

Duration: 1h

Format of activity: in person, online

STEAM

Subjects:
English Literature



Description:

·There are two sets of roleplay cards – one set is about a residential development in the countryside, and one set is about a commercial development on a nature reserve found on an island. You can choose to do both sets, or just one of them.
·The aim of the activity is for students to play the role of the person on the card, express their arguments and then take it in turns to discuss and find a solution or compromise.

Procedure:

- Divide the group. You can allocate one role card per person, or pair.
- ·Allow students time to read their cards and come up with their main argument in favour or against the development.
- ·Students walk around and speak to the other people to find out if they are on their side or not. They can group up to form an alliance against/ in favour of the development.
- ·Groups prepare their ideas, arguments and where they might compromise.
- ·The structure of the discussion:

Group in favour explains their arguments
Group against explains their main arguments.
Group in favour responds and explains in more detail.
Group against responds and explains in more detail.
Pause & reflect – groups discuss their plan to find a compromise with their team.
Group in favour offers their compromise
Group against offers their compromise.
Final discussion

- Students vote in favour or against the compromise. If the majority is against the compromise, then the students need to continue the discussion to reach a final agreement.

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The Great Outdoors - Roleplay discussion

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Age: 14-18 y/o

Group size: 6-18

Duration: 1h

Format of activity: in person, online

STEAM

Subjects:
English Language

Learning outcomes:

- communication skills
- presentation skills
- debating skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team

Resources:

- Roleplay cards
- How to express your opinion in English

SDGs:

Climate Changes - Impactcitizens

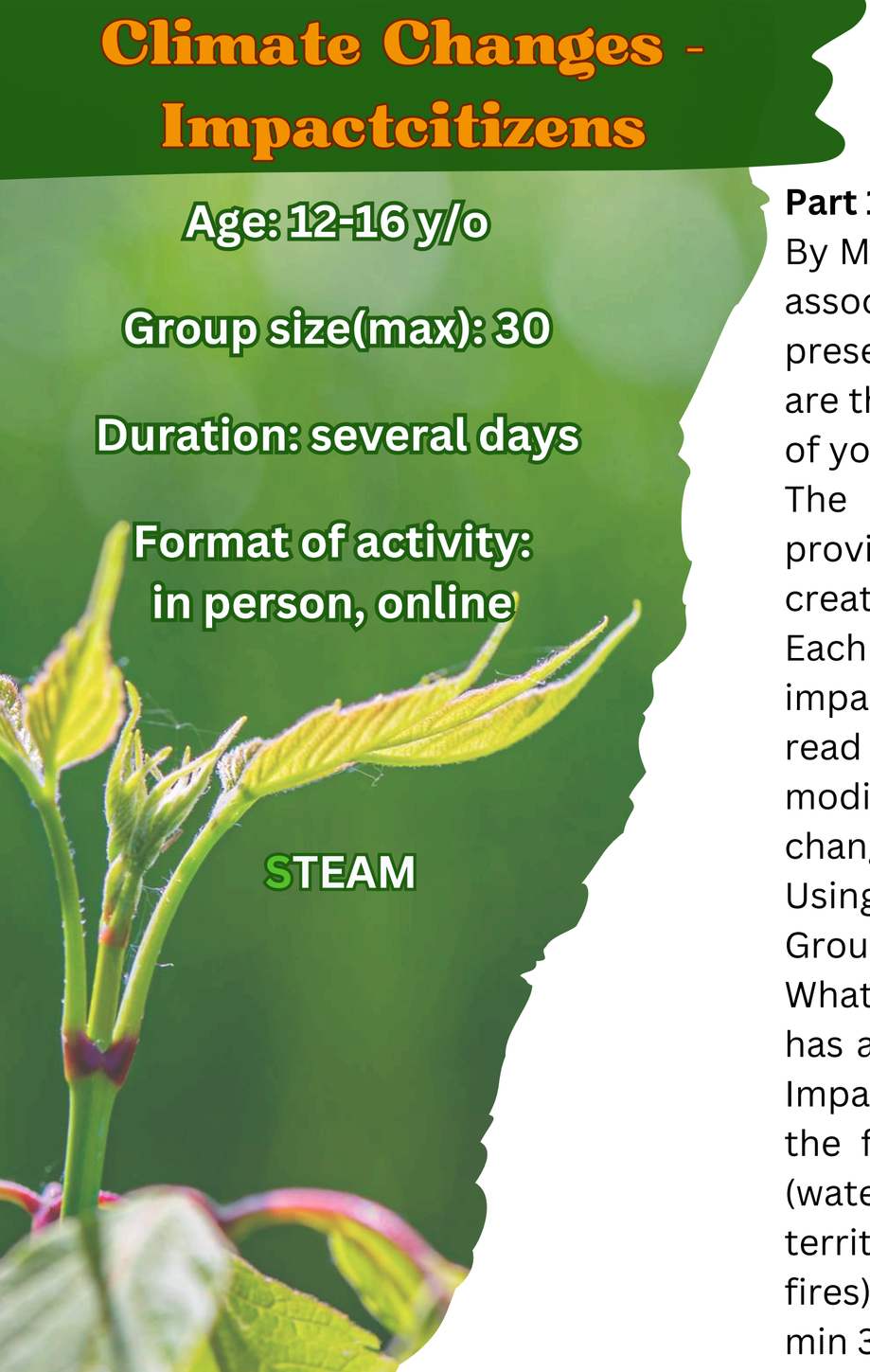
Age: 12-16 y/o

Group size(max): 30

Duration: several days

Format of activity: in person, online

STEAM



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Description:

Part 1: Look around me

By Mentimeter app students rite a word that most associate with climate change. The teacher presents with the activity to be developed - What are the environmental impacts on the Municipality of your area?

The teacher forms groups of 4 student and provides them with a link to the Padlet he has created.

Each group is part of a committee that studies the impacts of climate change in their region, has to read and analyze 3 articles related to the modification of the country linked to climate change (infographic, newspaper article).

Using Google Earth locate your region.

Groups edit on the Padlet the following items: What sense to give to the sentence: “A future that has already begun”?; The most important Climate Impacts change in your country. Next step, one of the following categories is given to each group (water quality and its availability; biodiversity; territory; health; tourism; mobility’ fires and forest fires) they must indicate the impacts and present min 3 actions to minimize these categories.

Part 2: Green Mobility - Do you accept the Challenge?

The teacher conducts a debate guiding students to the following question: How can I help mitigate climate change in my region?

Students present several hypotheses and options for sustainable mobility.

5 days challenge to have sustainable mobility.

Part 3: Results - divulgation to the community

Students and teachers present the works developed (PowerPoint, Canva, video etc.) to show the community, on the school day and/or in the school's social networks.

Prepare a proposal to the municipality that a cycle path in your area, be extended through several schools in the area or a new one be built.

Climate Changes - Impactcitizens

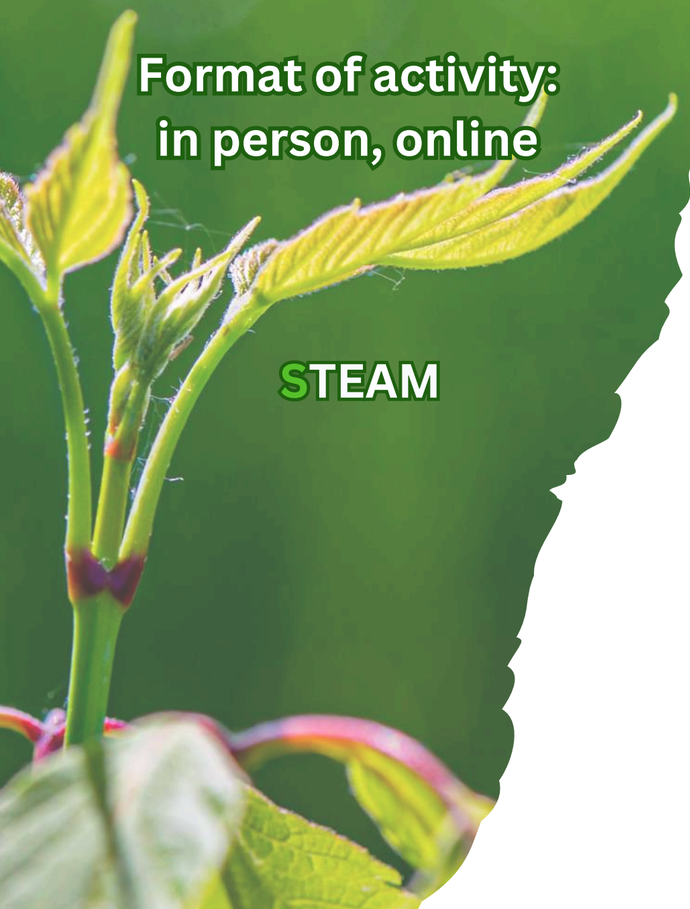
Age: 12-16 y/o

Group size(max): 30

Duration: several days

Format of activity:
in person, online

STEAM



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Learning outcomes:

- communication skills
- presentation skills
- debating skills
- listening skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team
- taking action for nature

Resources:

- Mentimeter
- Padlet
- Canva
- Genially
- 5 days challenge

SDGs:

Waste is not garbage - Give them another life!

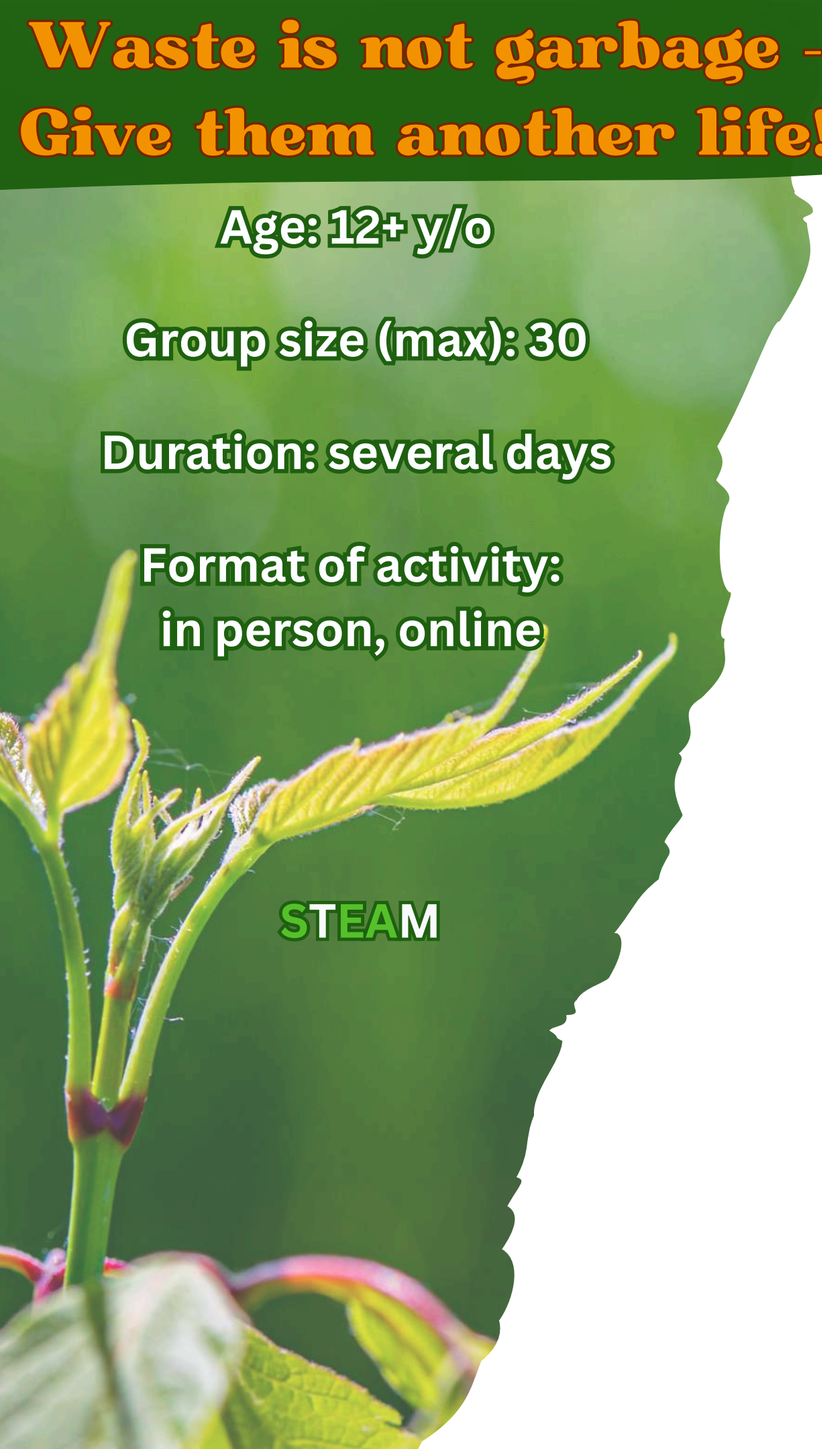
Age: 12+ y/o

Group size (max): 30

Duration: several days

Format of activity: in person, online

STEAM



Description:

All classes are invited to perform different challenges on waste collection.

Part 1: Challenges

Challenge 1: Building Ecopoints (yellow and blue) in classrooms.

Students in the arts classes will build containers to deposit waste paper (blue) and packaging (yellow) in classroom.

Challenge 2: Creating educational games

created games should involve content related to climate change, to be used in the week of the environment and/or given to the preschool rooms of the school.

Challenge 3: In search of lost trash

The students clean the exterior spaces of the school and make the separation in the correct ecopoints.

Challenge 4: Collection of batteries and electronic waste and household appliances.

Students with special educational needs will create sculptures from the waste collected, which will then be recycled.

Challenge 5: Collect cork stoppers

The cork stoppers will be sent for recycling.

Part 2: Workshop

Students or teacher organize a workshop to teach how to separate waste in respective container through gaming. Participants are asked to put the waste in the proper container/ecopoint.

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Waste is not garbage - Give them another life!

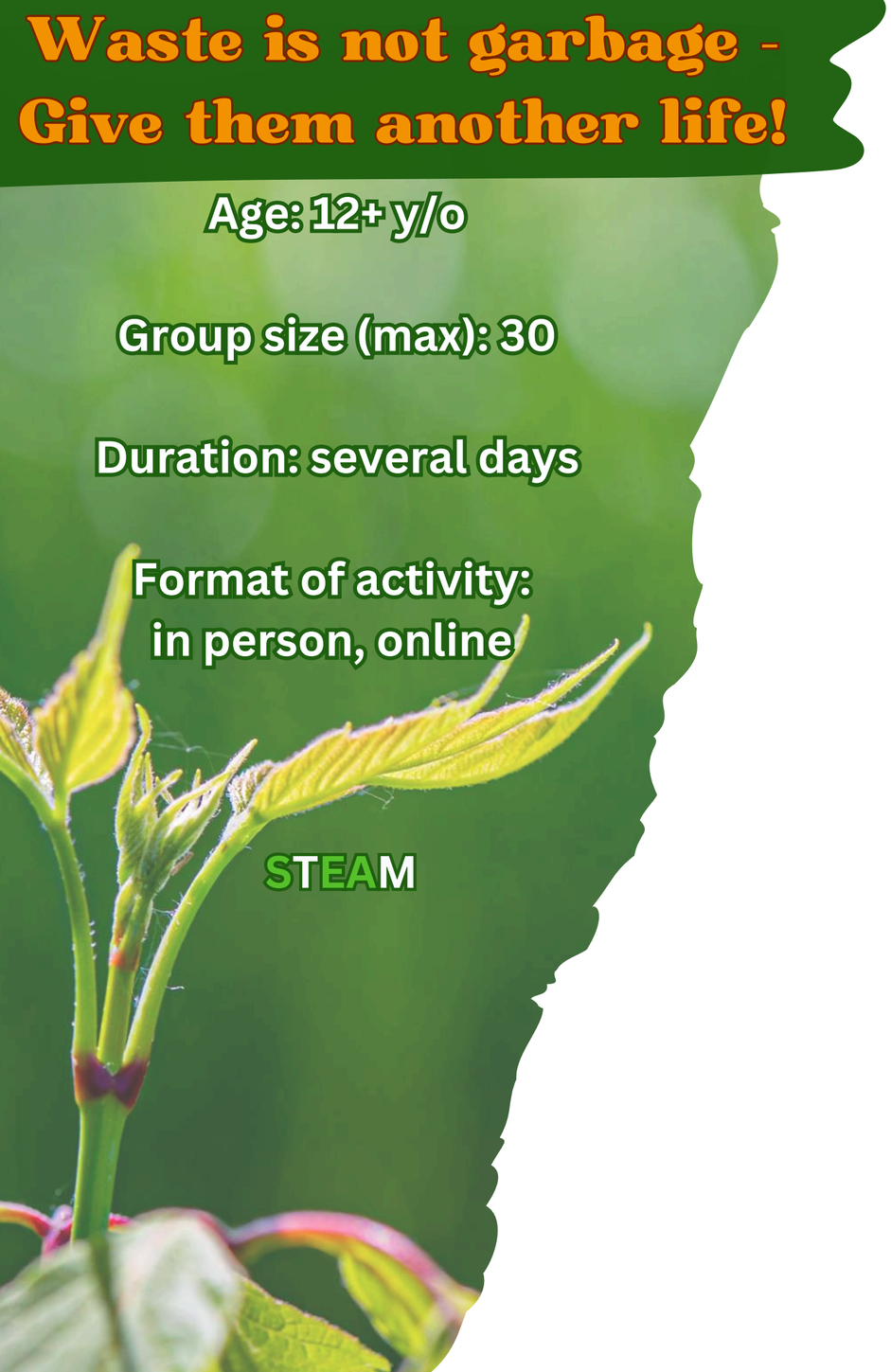
Age: 12+ y/o

Group size (max): 30

Duration: several days

Format of activity: in person, online

STEAM



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Learning outcomes:

- communication skills
- presentation skills
- debating skills
- critical thinking and creativity
- ability to work in a team
- taking action for nature

SDGs:

Resources:

- Containers for different waste
- Materials for dissemination of challenges (social networks, website, school newspaper)

Get to know your trees and shrubs

Age: 12-17 y/o

Group size (max): 30

Duration: several days

Format of activity: in person

STEAM

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Description:

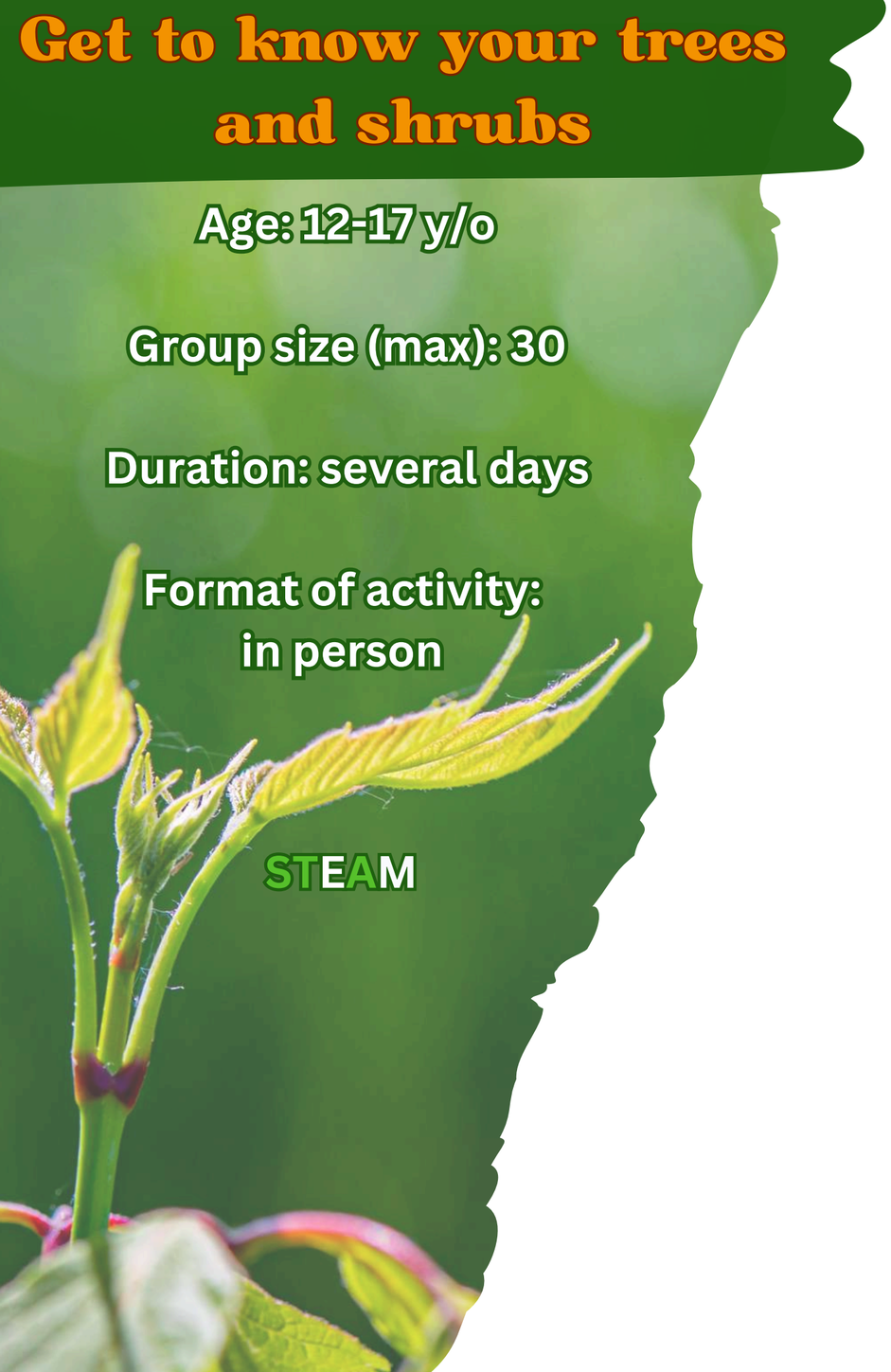
Part 1: Study and identify the school plants

- Introduction to plant identification. Explanation of which parts of the plant are important to identify the species.
- Students can install on their phones the Pl@ntNet app. They should choose adequate for your region's flora database. They should take a photo of the leaf, fruit, or flower when trying to identify it.
- Divide students into small groups and give them a file. They should complete the document using the application.
- After working in the field, students search for information about the species they identified (e.g. indigenous, exotic, used by human, good for pollinators, etc.)
- The teacher discuss with them about their results and the advantages of having autochthonous species in the school garden.

Part 2: Create tree identification labels and promotional materials

- In the art classes students create the labels of identified trees (on paper, torching on a piece of wood, etc.)
- As a final project students can prepare a flyer or a poster about each tree, with pictures they took and information they researched. Then teacher can organize an exhibition of the school trees and biodiversity for the school community.

Get to know your trees and shrubs



Age: 12-17 y/o

Group size (max): 30

Duration: several days

Format of activity: in person

STEAM

Learning outcomes:

- knowledge about nature and the environment
- ability to work in a team
- art and crafts skills development

SDGs:

Resources:

- Pla@ntNet

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Learn, Get to know, Take Action!

Age: 13-17 y/o

Group size (max): 30

Duration: several days

Format of activity: in person

STEAM

Description:

The aim is to get young people to look at climate change and environmental problems from a local perspective.

1. LEARN: What environmental problems are in your town/neighbourhood?

The teacher and students should do some preliminary research and prepare a list of the environmental problems affecting their village and the conservation of biodiversity in their region.

In this class, the aim is to discuss each problem. To raise awareness of how people affect the environment they can calculate their footprint. In the end, they should choose an issue they want to learn more about and take action against.

2. GET TO KNOW: What can I do to help?

The teacher introduces environmental citizenship and gives some good practices.

Divide students into groups of 3-5. Debate the environmental problem they chose, and think of ideas on how to solve it. The ideas collected will be consulted with teachers and implemented as a final outcome of this project.

3. TAKE ACTION: Intervention in the community

During a few classes, students should prepare their actions. The teacher's role is to help them when it's necessary (contact with government, and institutions, asking for permissions, helping them with information, etc., depending on what they decide to do.

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Learn, Get to know, Take Action!

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Group size (max): 30

Duration: several days

Format of activity: in person

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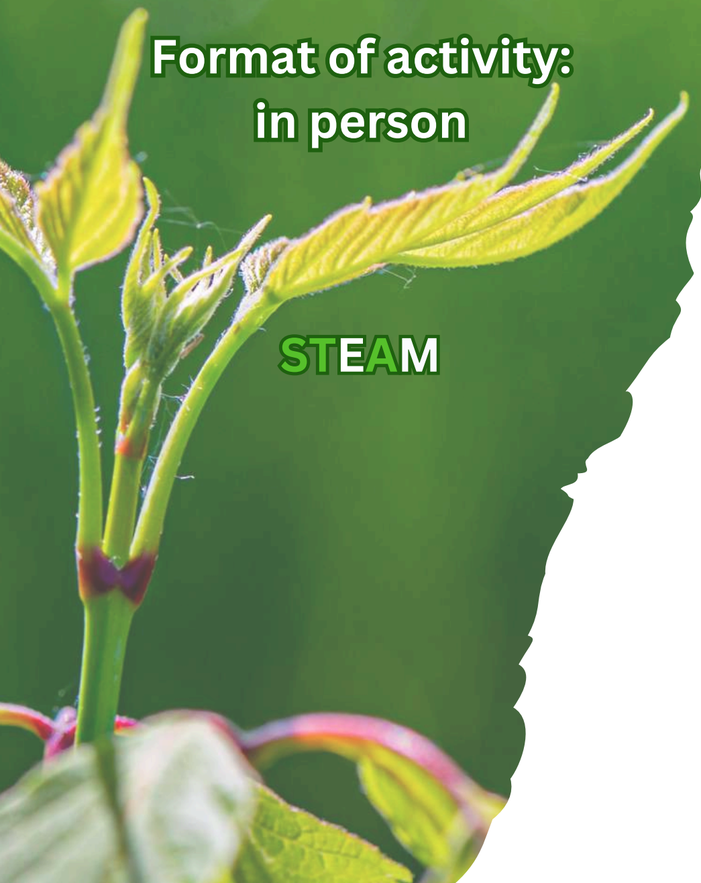

Learning outcomes:

- communication skills
- debating skills
- listening skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team
- taking action for nature

SDGs:

Resources:

- Footprint calculator

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Promoting biodiversity in your schoolyard!

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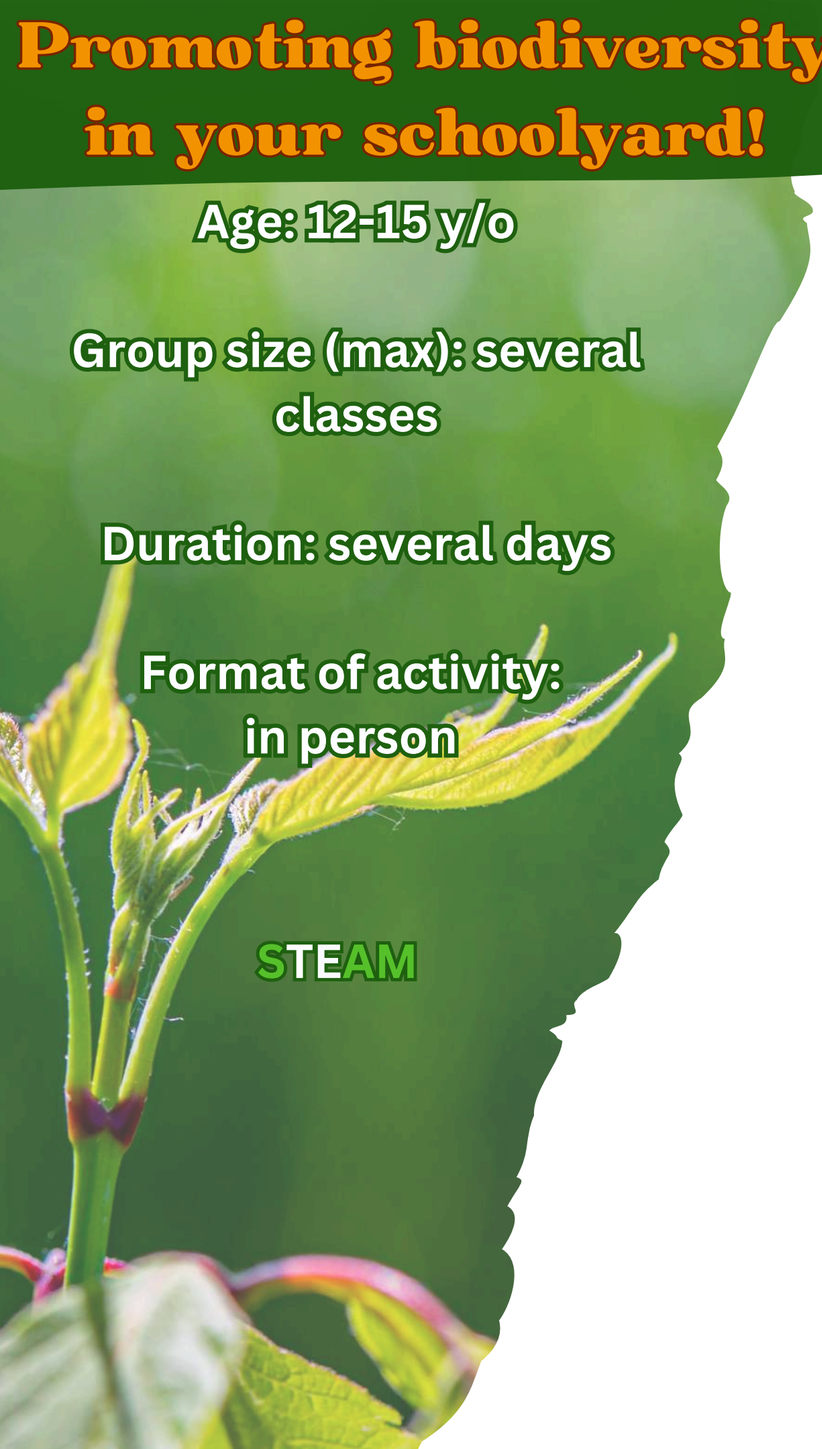


Age: 12-15 y/o

Group size (max): several classes

Duration: several days

Format of activity: in person

STEAM

Description:

1. Organize the process, and discuss ideas with students and teachers.
- This is a multidisciplinary project, so it's important to involve several teachers with several skills.
- Introduce the subject of school green space and its importance to biodiversity and human wellbeing.
- Divide students into groups. Their task is firstly to think about what they like and dislike in their schoolyard. Secondly should come up with ideas on how to make it better.
- Collect students' ideas, and see which ones are feasible. Discuss with students, which one they want to implement.
- Decide with the school management and teachers which ideas will be run.

2. Implement ideas in the schoolyard

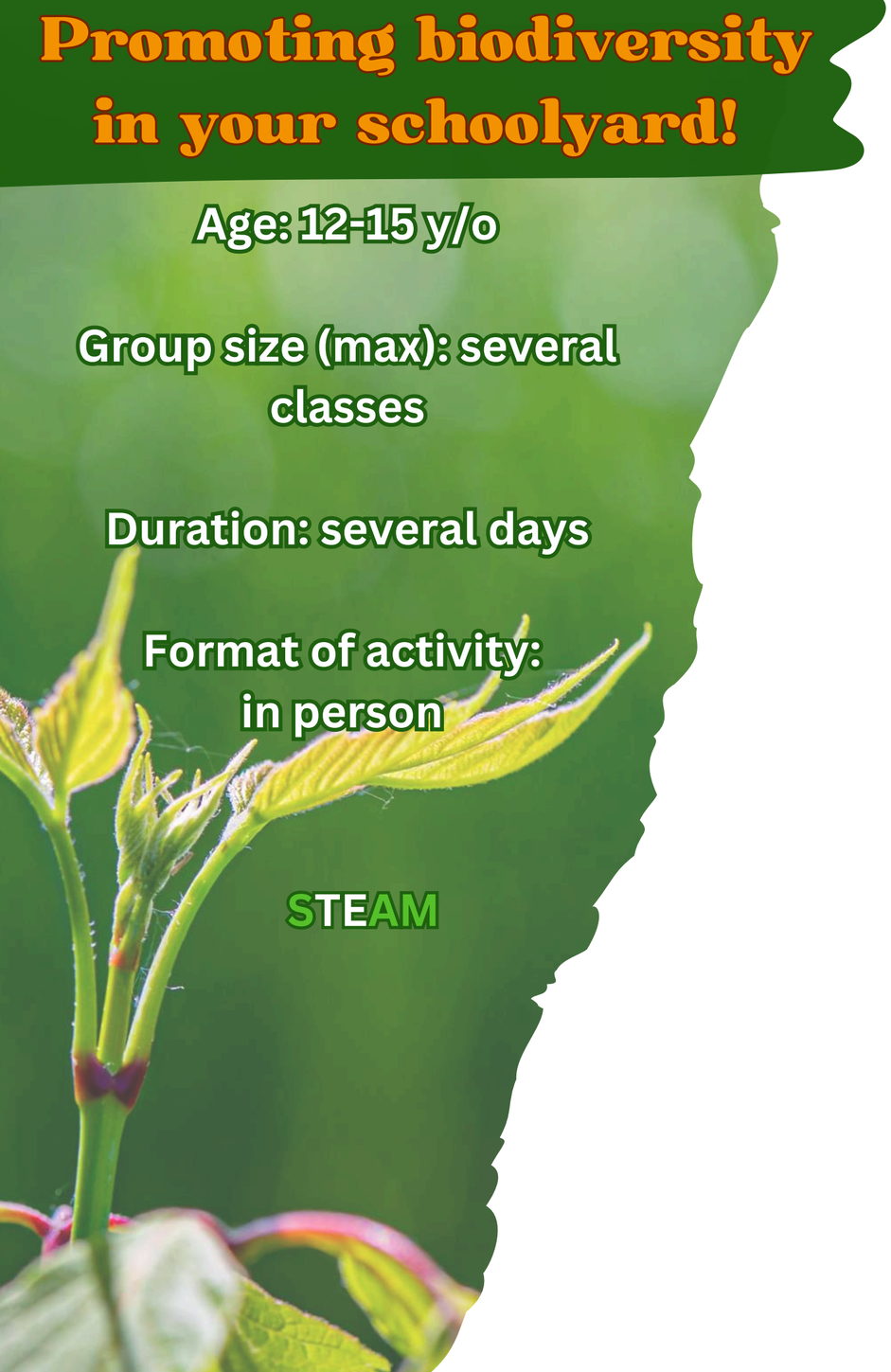
Depending on the project, it is important to involve different types of teachers who will help and promote some of the actions they decide to do and develop the project of each part with the students.

If the project is sophisticated, such as making a biodiversity patch, it's good to have the support of the school.

Examples of actions:

- Identify the trees
- Make a biodiversity path
- Make an artistic intervention
- Make a bird table/ bug hotel

Promoting biodiversity in your schoolyard!



Age: 12-15 y/o

Group size (max): several classes

Duration: several days

Format of activity: in person

STEAM

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Learning outcomes:

- communication skills
- debating skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team
- taking action for nature

SDGs:

Resources:

- Tools and materials needed to implement ideas.
- Examples:
  - Pl@ntNet app
  - instructions on how to build a bird table/ bug hotel

Pl@ntNet

What does Environment mean to you?

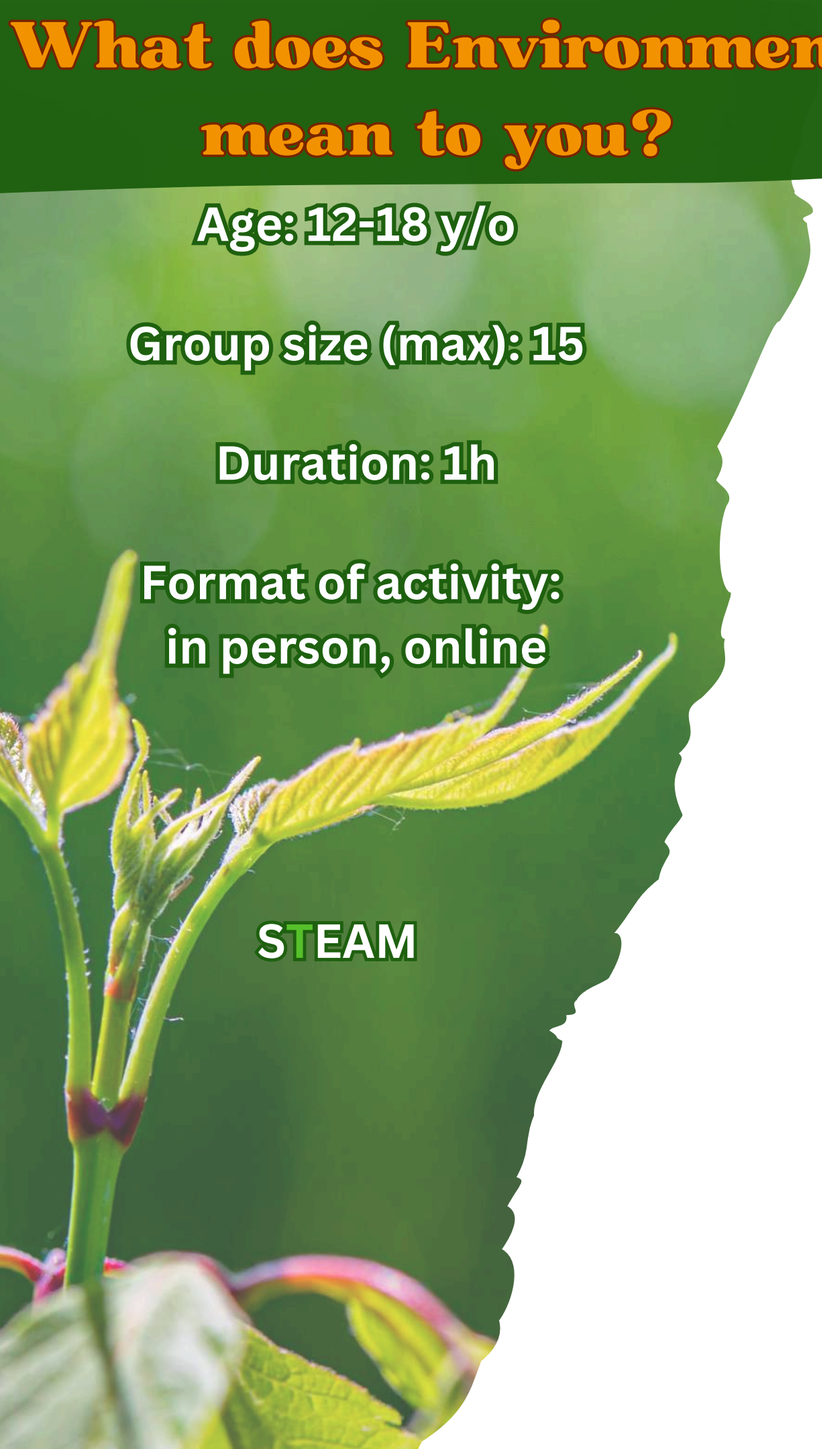
Age: 12-18 y/o

Group size (max): 15

Duration: 1h

Format of activity: in person, online

STEAM



Description:

- The teacher welcomes everybody and presents the activity. Then, the students are invited to participate in an icebreaker. Recommended icebreaker: moderator is sharing the screen and presenting the game: firstly, everyone has to write a sentence, then each student will receive a sentence from another student that they have to draw. Then, the drawings are circulated and each student has to describe their drawing in one sentence.
- The teacher introduces the topic of Nature by inviting students to an open discussion and asking them questions. The questions should be visible during the exercise. Examples:

  - What does the environment mean to you?
  - Where do you come across the natural environment in your daily life?
  - What benefits does the natural environment bring?
  - Why is protecting the environment important to you?

- The teacher conducts the discussions aiming to teach the participants about the importance of nature. The conclusions are wrapped up in a challenge in which the participants have to create a short video of surprising nature in different forms and moments.

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What does Environment mean to you?

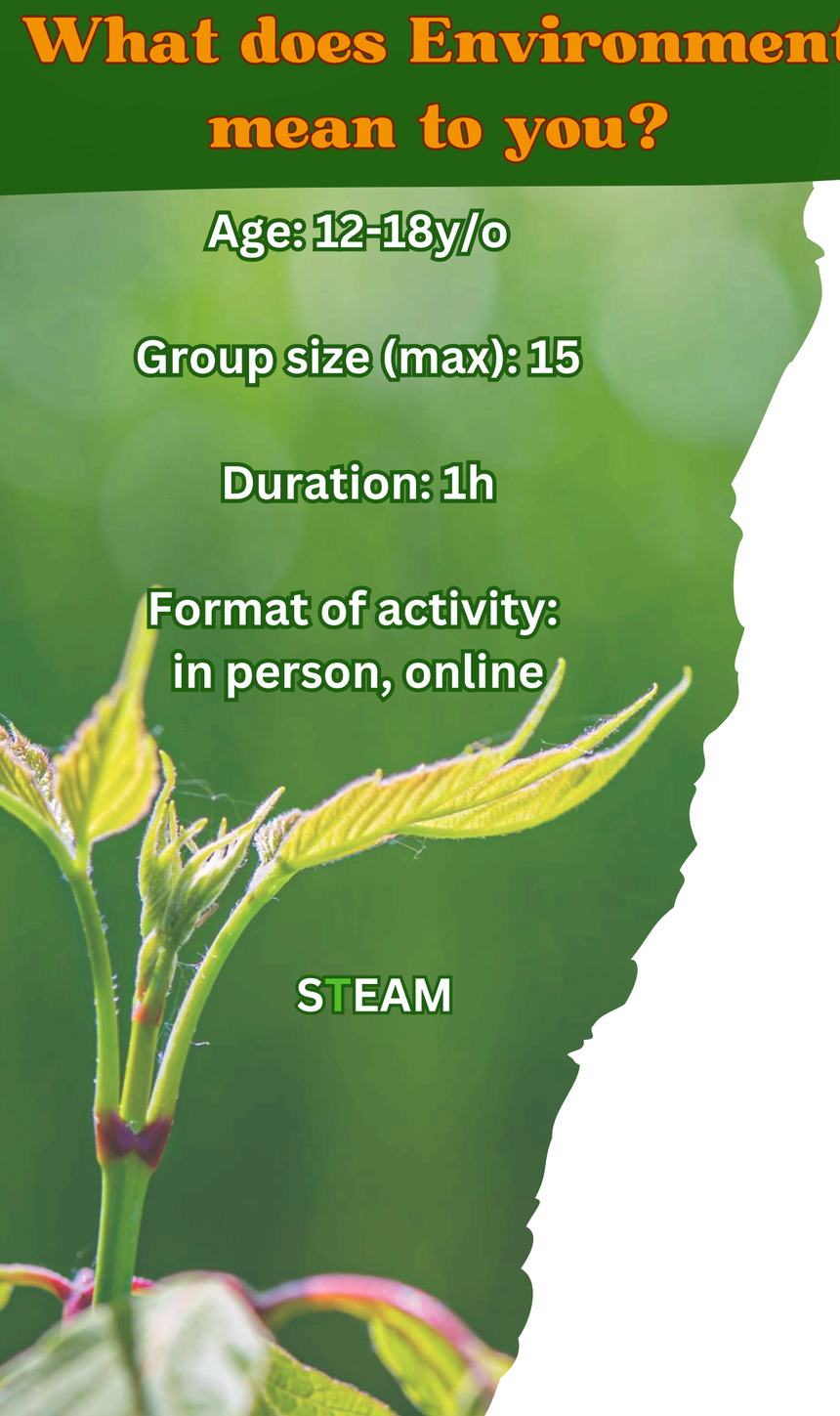
Age: 12-18y/o

Group size (max): 15

Duration: 1h

Format of activity:
in person, online

STEAM



Blooming Schools

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Learning outcomes:

- communication skills
- presentation skills
- debating skills
- listening skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team

Resources:

- A digital workspace (such as Mural) is needed for the digital version.
- Creating video app - CapCut
- Icebreaker - online version

SDGs:

My NatureEmoji

Age: 12-18 y/o

Group size (max): 15

Duration: 1,5h

Format of activity: in person, online

STEAM

Description:

- The students have to think about a character representative for the topic of nature, a persona that sums up the characteristics of someone that cares and act in the benefit of nature.
- Each student has to create a story about a Nature emoji in 15 minutes.
- They have to invent a short story about a Nature Emoji (think about age, gender, name, location, education, and so on).
- The students should create their Nature emoji based on the guiding questions:

- Why and how is it in contact with nature?;
-What are the values and opinions of the Emoji?

- Once the time is up, the teacher asks the students if someone would like to present the story. If not, the moderator chooses one, explaining the choice and creation of personas.
- In the end, they reflect as a group on the similar characteristics of their emojis and their connection with nature, as a means of understanding the common ground in a diverse world.
- Moreover, the teacher emphasizes the meaning of creating a persona for a social media campaign and how it can help the participants get in the target audience's mindset.

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My NatureEmoji

Age: 12-18y/o

Group size (max): 15

Duration: 1,5h

Format of activity: in person, online

STEAM

Blooming Schools
Co-funded by the European Union

Learning outcomes:

- communication skills
- presentation skills
- debating skills
- listening skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team

Resources:

- A digital workspace (such as Mural) is needed for the digital version.
- Printed templates for offline activity.

SDGs:

Creating a Social Media Campaign

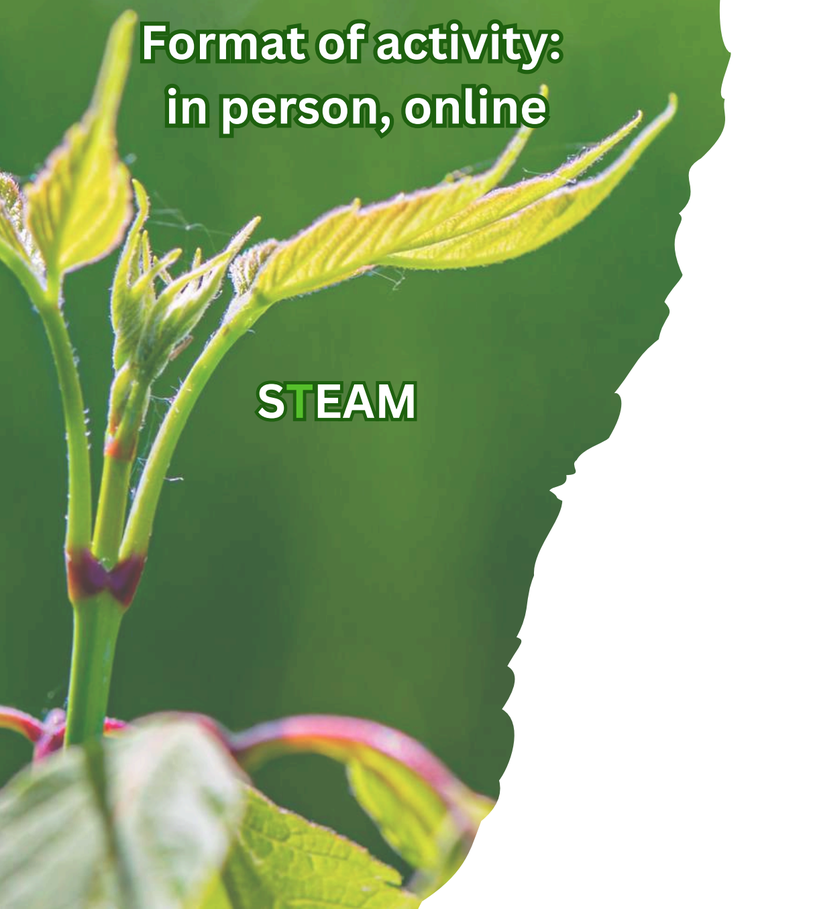
Age: 12-18 y/o

Group size (max): 15

Duration: 1,5h

Format of activity: in person, online

STEAM



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Description:

- The students learn to identify the elements of a social media campaign and then create a first sketch of a campaign.
- Divide students into 2 groups. Each group has a canvas with the recommended questions and activities. The students have to choose one topic related to protecting/preserving the environment for their social media campaign.
- Step 1 represents the creation of the key campaign message. This section provides students with information and a few tips on key messages and explains why they are important for social media campaigns. The teacher will give a first introduction with the following rules and recommendations on key messages.
- Step 2 asks the students to choose their target audience. They need to have an idea of who their audience is going to be.
- Step 3 is for students to learn how to choose the online platforms on which they would like to run their campaign, according to their audience and campaign topic.
- As part of step 4, students should learn that before starting a campaign, they should write down a clear definition of success. Based on it, they have to define the impact of their social media campaign.
- At the end, they come back to the main group and reflect as a group on the steps for creating a social media campaign, and how it can be used for promoting the importance of protecting/preserving the environment in their daily lives, its usefulness, relevance, effectiveness and innovativeness, and its involvement of target groups.

Creating a Social Media Campaign

Age: 12-18y/o

Group size (max): 15

Duration: 1,5h

Format of activity:
in person, online

STEAM

Blooming Schools

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Learning outcomes:

- communication skills
- presentation skills
- debating skills
- listening skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team
- taking action for nature

Resources:

- A digital workspace (such as Mural) is needed for the digital version.
- Printed templates for offline activity.

SDGs:

The Future is Today: Nature next door!

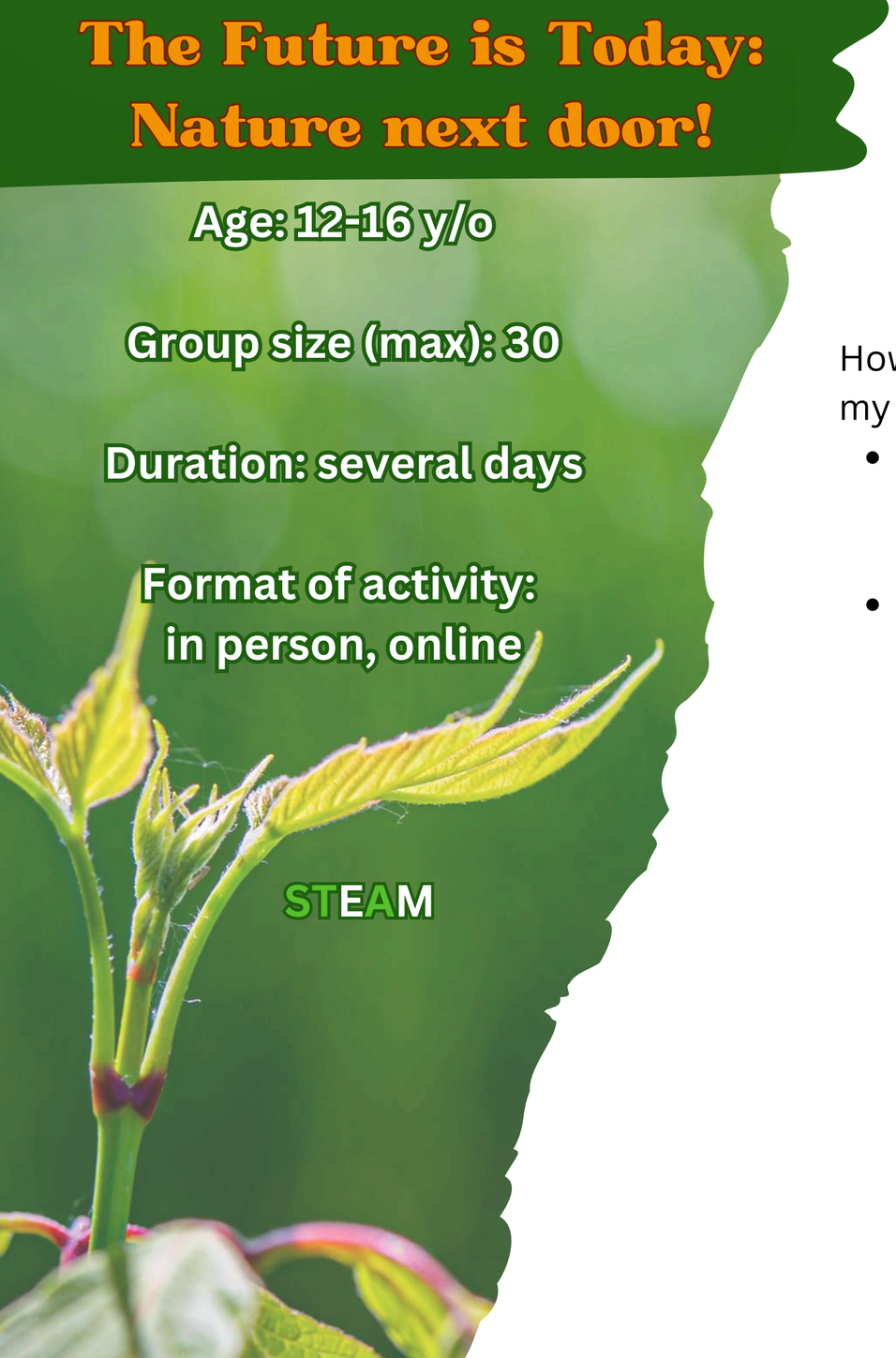
Age: 12-16 y/o

Group size (max): 30

Duration: several days

Format of activity: in person, online

STEAM



Blooming Schools

Co-funded by the European Union

Description:

How do I protect the fauna and flora of my community?

- The protection of local fauna and flora, especially native species, must be an environmental priority.
- In this activity, students studied the local fauna and flora and developed species preservation strategies. This activity can be carried out in any school, just start by researching which species are characteristic of the region or the closest environmental protection zones.

The teacher shows a video about the local nature or the nature of the protected area that they will later visit with the class. Students need to note every species that appeared in the video.
The next step is to divide them into groups of 2-4 students and they need to create a citizen card of a noted bird. Translate cards to English and present work at e.g PowerPoint, poster, video, Story Jumper.
After watching the videos, the teacher can take the students to the protected area or a nearby park to search for the species they have learned about.

The Future is Today: Nature next door!

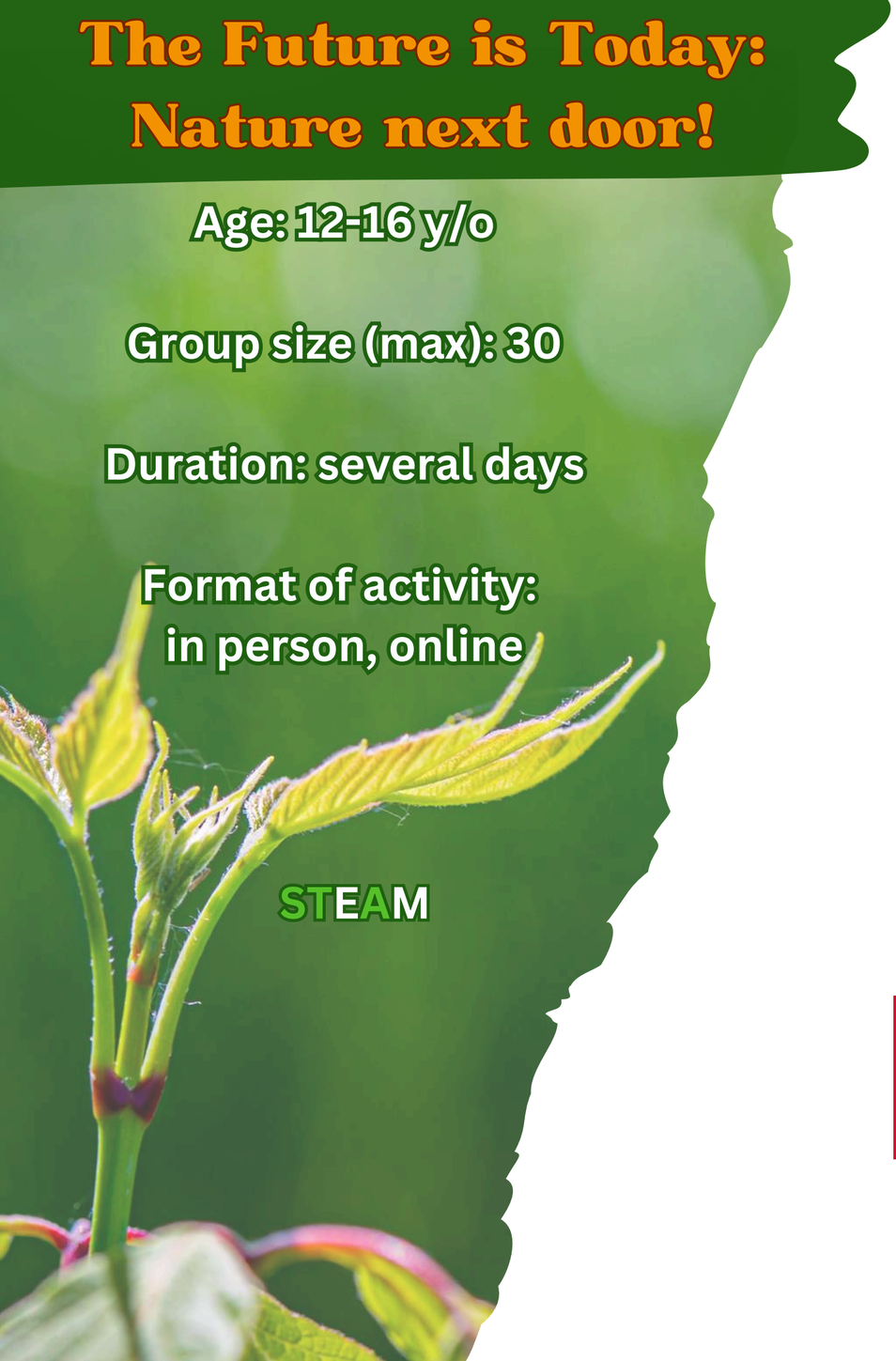
Age: 12-16 y/o

Group size (max): 30

Duration: several days

Format of activity: in person, online

STEAM



Blooming Schools

Co-funded by the European Union

Learning outcomes:

- communication skills
- presentation skills
- debating skills
- listening skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team
- taking action for nature

Resources:

- Videos about local nature or protected area
- Pl@ntNet
- About birds
- Story Jumper

SDGs:

Board game - tornados and ladders

Age: 12-13 y/o

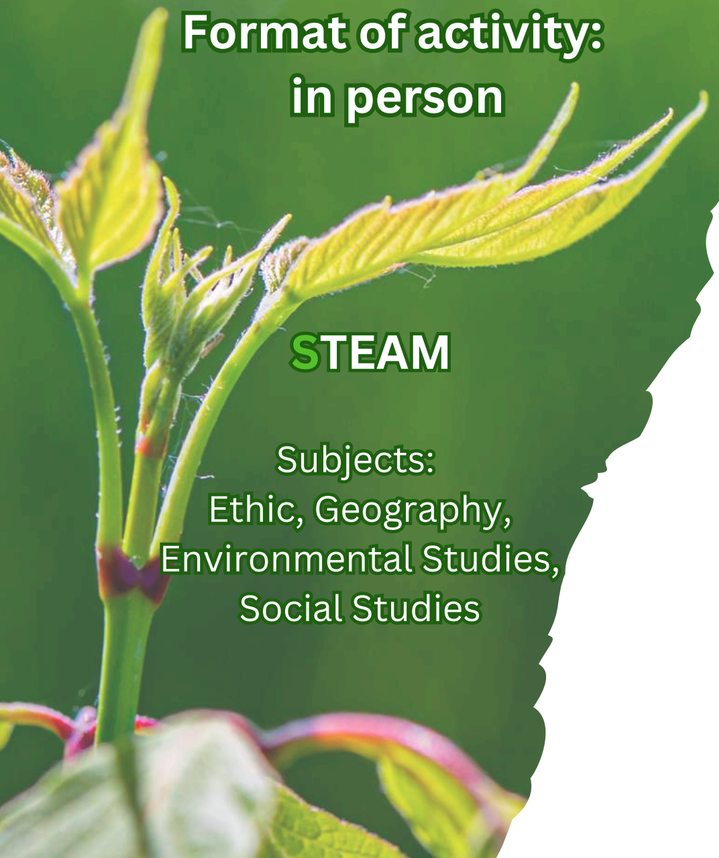
Group size (max): 8 in 2 teams

Duration: 1h

Format of activity: in person

STEAM

Subjects:
Ethic, Geography, Environmental Studies, Social Studies



Blooming Schools

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Description:

- Print board game and dice.
- Cut, fold, and glue dice.
- Use buttons or similar counters
- Players need a different coloured counter.
- Throw dice in turns and move accordingly like in Snakes and Ladders.

Learning outcomes:

- knowledge about nature and the environment
- ability to work in a team
- taking action for nature

SDGs:

Resources:

- Board game sheet
- Dice sheet
- Counters

Earth Bound Hideout

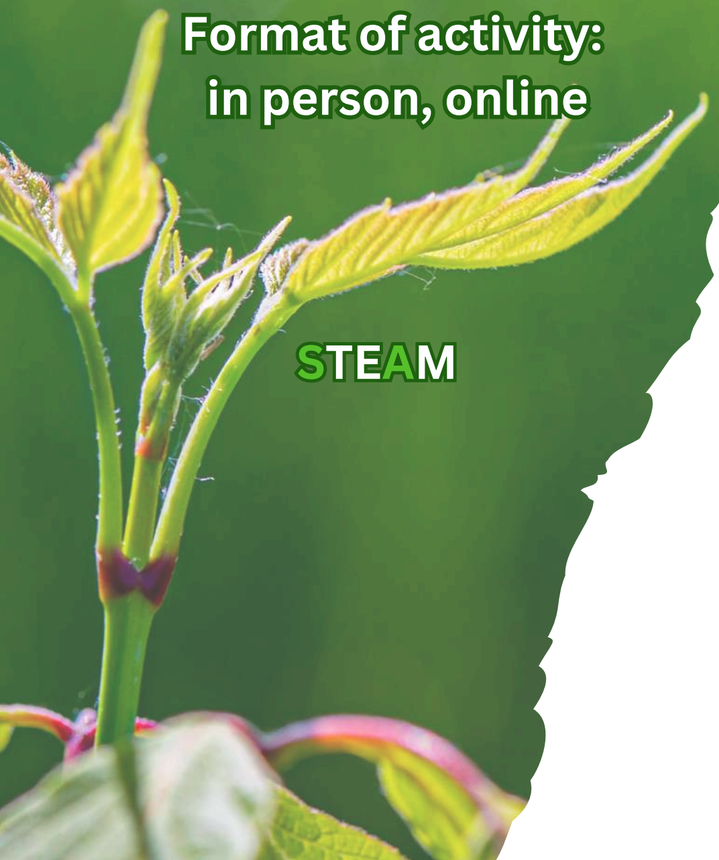
Age: 12-13 y/o

Group size: 6+

Duration: 2h

Format of activity:
in person, online

STEAM



Blooming Schools

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Description:

1. Introduction

Introduce the EarthBound Hideout activity, what it is about and the learning outcomes.
Go through some key vocabulary (sense of place, sustainable cities, rewilding, brownfield site).
Form teams (2-3) and make sure each group has 1 phone with a wi-fi connection. Hand out two sheets of plain A4 paper.
Inform students of time allocation: 45 mins.
Explain the extent of the area to be used and any safety recommendations and Green Code (avoid trampling and disturbing plants/wildlife).
Students scan QR code for Earthbound Hideout and download it to phone before setting off.

2. The Earthbound Hideout (outdoors)

Keep track of time and assist groups.
Ask students to present their ideas for their Hideout.

3. Workshop on SDG's (indoor or outdoor)

See separate PDF file.

4. Conclusion

Summarise ideas for greening possibilities.
Ensure the site is left clean.

Earth Bound Hideout

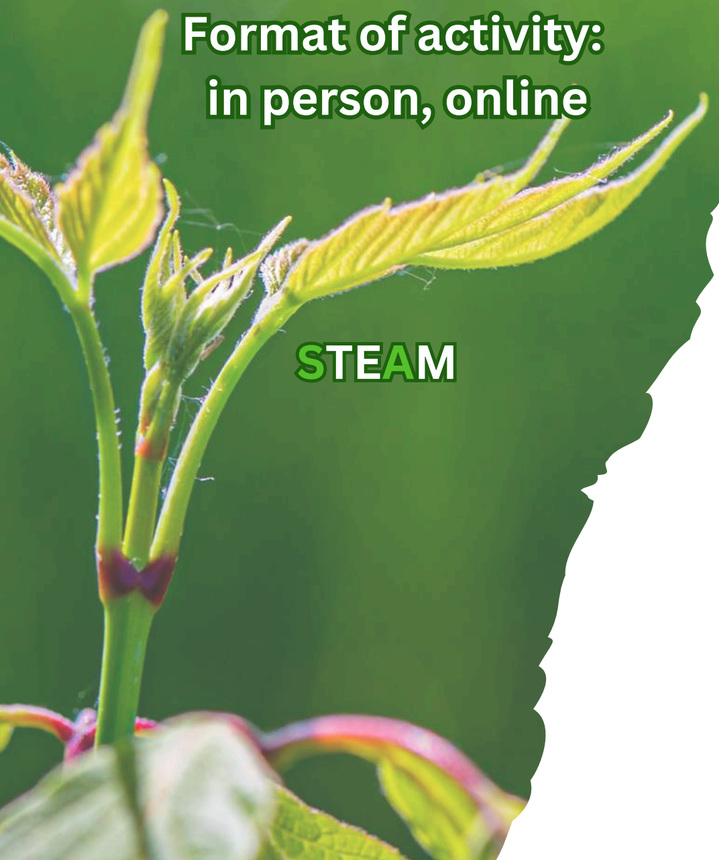
Age: 12-13 y/o

Group size: 6+

Duration: 2h

Format of activity:
in person, online

STEAM



Learning outcomes:

- listening skills
- knowledge about nature and the environment
- ability to work in a team
- taking action for nature

Resources:

- QR Code
- smartphone/tablet per group
- answer sheet for teacher
- PPT for workshop images if doing in class or printouts if doing outside
- 1 blank sheet A4/student, one A3/chart
- pencils/makers

SDGs:

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Climate Justice Bound

Age: 15-18 y/o

Group size: 6+

Duration: 2h

Format of activity:
in person, online

STEAM

Description:

1. Introduction and briefing

2. Climate justice: quick brainstorm

What is the irst word or image that comes to mind when you hear the term “climate justice”?
Quick reflection on answer given - is it all about environment or also equality, economy, etc.?
We will learn a bit more about climate justice through an Escape Game where you have to complete a mission to help young activists. You have a 1h.

3. The climate justice escape game

Formation of teams (2-3) and name team, check App and give out handout, scan QR code.
Play climate justice escape game on Actionbound.

4. Reflection

- What do they Grey Men represent in your opinion?
- Were you aware of Doughnut Economics?
- What would the effects of drought be on Malta?

Positive framing:

- Have you ever participated as an activist?
- Did any story inspire you or are there other positive stories you know about?
- What can we do for climate justice?

5. Conclusion

What word would you associate most now with Climate Justice?

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Climate Justice Bound

Age: 15-18 y/o

Group size: 6+

Duration: 2h

Format of activity:
in person, online

STEAM

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Learning outcomes:

- debating skills
- listening skills
- knowledge about nature and the environment
- ability to work in a team
- taking action for nature

Resources:

- QR Code for game
- smartphone/tablet per group
- answer sheet for teacher
- Doughnut diagram and QR Code puzzle for each team
- 1 blank sheet A4/team
- Doughnut Economic video 1
- Doughnut Economic video 2

SDGs:

System: Reclaim The Escape Game

Age: 15+ y/o

Group size (max): 25

Duration: 2h

Format of activity: in person, online

STEAM

Subjects:
Ethic, Geography, Environmental Studies, Social Studies

Description:

- Divide into groups of 4 and give out one booklet to each team
- Explain the aim of the game and set a time limit
- Give out all the clue cards randomly divided amongst all groups (ensure a mix of different coloured cards to each team)
- Cards are colour coded according to the related topic on the booklet – this needs to be figured out by the team. They will eventually need to realise they require collaboration with other teams to solve clues

Learning outcomes:

- leadership skills
- conflict resolution skills
- knowledge about nature and the environment
- critical thinking and creativity
- ability to work in a team
- taking action for nature

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SDGs:

Resources:

- Clue card
- Booklet

Sounds of nature, Echoes of impact

Age: 11+ y/o

Group size: 25

Duration: 1h

Format of activity: in person, online

STEAM

Subject:
PSCD
Languages
Environmental studies

Description:

- Begin by explaining that you will play a short audio recording and ask the students to pay close attention to the different sounds they hear.
- Introduce the idea that sound plays a major role in understanding our environment and its changes.
- Ask them to close their eyes when the audio is played.

- Ask students questions:

1. *What sounds did you hear?*
2. *Which ones were familiar to you?*
3. *What animal sounds did you recognize?* (Guide them towards identifying crickets, chaffinches, waders, including lapwings)
4. *How did you feel when you heard the different parts of the recording?*
5. *What impact do disturbing sounds have on people and wildlife?*
6. *What can we do to help reduce these disturbing sounds and protect nature?*
7. *Can you think of ways we can improve the environment around us—at school, in our neighborhoods, or at home?*

- Summarize the key points discussed, highlighting:

How human activities affect animals and nature.
The importance of protecting wildlife.

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Key Skills:

- communication skills
- debating skills
- listening skills
- critical thinking and creativity
- environmental awareness
- ethical thinking
- civic responsibility

SDGs:

Resources:

- audio recording

A series of activities to be used in secondary schools connected with the Sustainable Development Goals and using a STEAM approach, enabling teachers who wish to create their own nature-based lessons.

Blooming Schools

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BirdLife MALTA

spea

crescat ut floreat

Ορνιθολογική HELLENIC ORNITHOLOGICAL SOCIETY

friends of the earth malta

Station Europe

Blooming Schools Project Survey Sheet 1

Habitats around our school

Date _____ Time of survey _____ to _____

Group name _____

Aims

- To become familiar with habitats in your school and how habitats support wildlife.
- To understand the difference between trees and shrubs.
- To learn basic identification of different species of trees and shrubs.

You will need

- school plan
- clipboard
- survey sheet
- writing tools
- tape measure
- camera
- Internet connection

1. The habitat survey

A. In small groups, walk slowly around the school grounds. As you walk, keep record of the different habitats and features in the table on page 2. Use the tape measure to measure the length of some of the features, e.g. rubble walls, grassy verges.

B. The habitats or features on page 2 have been coded A to R. Use this code to mark on the school plan the places where you find these habitats or features.

2. Areas and footprints

A. Back in class, use Google Earth to locate your school. Use its measuring tools to find the area of your school. This is known as its **footprint**.

School footprint _____ m^2

B. In the same way, find the area of the **built** part of your school _____ m^2

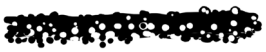
the **unbuilt (hard landscape)** part of your school _____ m^2

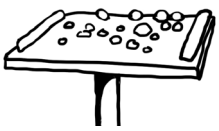
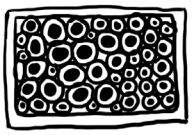
the **soft-landscape** parts of your school _____ m^2

C. Which is the dominant landscape in your school? _____

D. Are you planning improvements for nature in your school grounds? ☐ Yes ☐ No

Are you doing this survey before or after the improvements? ☐ Before ☐ After

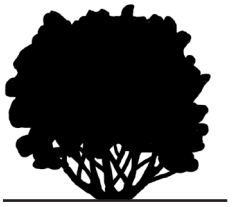
habitats + features	qty / length / area
☐ A  wildflower patch	total area
☐ B  grassy verge	total length
☐ C  lawn	total area
☐ D  trees + shrubs	total number
☐ E  wall + climber	total number
☐ F  pots + planters	total number
☐ G  bare soil	total area
☐ H  rubble wall	total length
☐ I  low ashlar wall ċint tal-franka	total length

habitats + features	qty / length / area
☐ J  gravel bed	total area
☐ K  fish pond	total number
☐ L  wildlife pond	total number
☐ M  dead log	total number
☐ N  twig pile	total number
☐ O  stone pile	total number
☐ P  bird table	total number
☐ Q  bug hotel	total number
☐ R  nest box	total number

3. The tree and shrub survey

In small groups, walk around the school grounds and count all the trees and shrubs you find. Use the ID Sheet to help you identify the species. Keep count in the table below. Write **T** or **S** to indicate if it is a tree or a shrub, and tick whether the plant is in fruit/seed or in flower. Take pictures of any mystery species so you can look them up later.

A **tree** grows from one or two main trunks, holding up a canopy of foliage that usually doesn't reach the ground



A **shrub** grows from several branches from the base, often has a hemispherical shape, with foliage often touching the ground

species	T / S	fruit	flower	counting box	total
EXAMPLE holm oak	T	☑	☐	𝍸 𝍸 II	12
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
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		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		

species	T / S	fruit	flower	counting box	total
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
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		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		

Total number of **species** ☐ Total number of **trees** ☐ Total number of **shrubs** ☐

Are there any other habitats or features you would like to see in our school grounds?

Nature Identification Sheets 3
Trees and shrubs

BirdLife MALTA

Italian Cypress
Ċipress

Aleppo Pine
Żnuber

Araar
Għargħar

Carob
Ħarrub

Judas Tree
Siġra ta' Ġuda

Pomegranate
Rummien

Almond
Lewż

Oleander
Oljandru / Difla

Creeping Groundsel
Kubrita Xeblieka

Fig
Tin

Olive
Żebbuġ

Prickly Pear
Bajtar tax-Xewk

Bay Laurel
Rand

Hawthorn
Żagħrun

Tree Spurge
Tengħud tas-Siġra

Spiny Asparagus
Spraġ Xewwieki

Dwarf Palm
Ġummar

Holm Oak
Ballut

Mediterranean Buckthorn
Alaternu

Myrtle
Riħan

Lentisk
Deru

Maltese Rock-centaury
Widnet il-Baħar

Golden Samphire
Xorbett

Chaste-tree
Għadiba / Virgi

Sticky Fleabane
Tulliera

Spanish Broom
Ġenista

Silvery Ragwort
Kromb il-Baħar Isfar

Spiny Asparagus
Spraġ Xewwieki

Dwarf Palm
Ġummar

Lantana
Lantana

Ficus sp
Fikus

Pittosporum
Pittosporum

Fennel
Bużbież

Fringed Rue
Fejġel

Greater Snapdragon
Papoċċi Ħamra

Evergreen Honeysuckle
Qarn il-Mogħża

Photography Desirée Falzon, Victor Falzon, Aron Tanti

Blooming Schools Project Survey Sheet 3

Pollinators around our school

Date _____ Time of survey _____ to _____

Group name _____

Aims

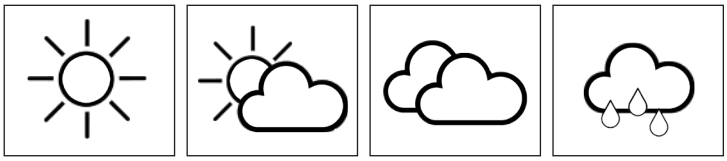
- To identify pollinator groups by using key features and ID guides
- To learn to orientate oneself on a map

You will need

- school plan
- pollinator ID sheet
- camera
- clipboard
- survey sheet
- writing tools
- thermometer

Weather

What's the weather like?



☐ ☐ ☐ ☐

Use the thermometer to find the air temperature? ☐

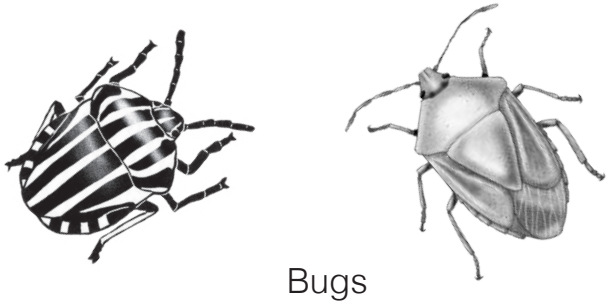
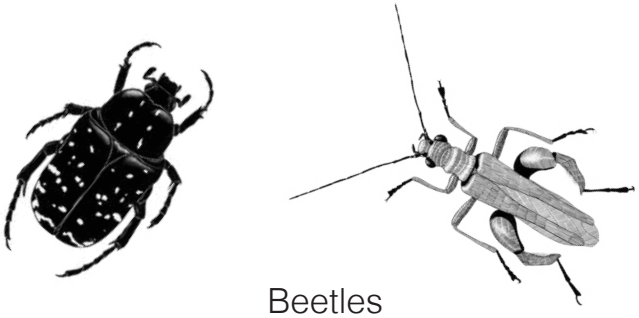
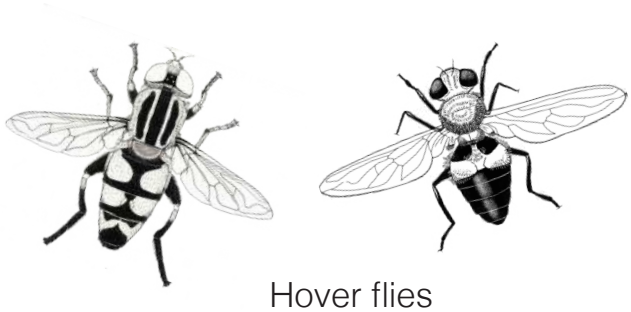
To take a temperature reading correctly, hold the thermometer in the shade and about 1m from the ground. Take the reading after a few minutes.

How windy is it?

☐ no wind ☐ breeze ☐ moderate wind ☐ strong wind

Doing the survey

- In small groups, walk slowly for 15 minutes around the school grounds, looking for pollinators.
- With the help of the Pollinator ID Sheets, try to identify the kind of pollinators you see.
- Record your pollinator sightings in the table on page 2. Keep count of how many you see.
- Each group of pollinators has been coded with the letters A to E. Using these letters, mark on the school plan the places where you see the pollinators.
- At the end, count the total number of pollinators you observed today.
- Take photographs of the school grounds where you carried out your pollinator survey.
- Choose one person in your group as photographer – the photos may help you later to identify a pollinator that wasn't on your ID sheet.
- Choose one person in your group as artist – sketches (and descriptions) may help you later to identify a pollinator that wasn't on your ID sheet.

A  Bugs	Number seen
B  Butterflies and moths	Number seen
C  Beetles	Number seen
D  Bees and wasps	Number seen
E  Hover flies	Number seen

Total number of pollinators observed

The most common type of pollinators we saw today were

The habitat most popular with pollinators was

Sketch or description

Did you identify the pollinator?

☐ No

☐ Yes, it was a

_____

_____

_____

_____

Sketch or description

Did you identify the pollinator?

☐ No

☐ Yes, it was a

_____

_____

_____

_____

What other features would you like to see more of in our school grounds?

_____

_____

_____

_____

BirdLife MALTA

NATURAL NATIONS

Erasmus+

Nature Identification Sheets 2
Pollinators

BirdLife MALTA

Bugs

Striped Shield Bug
Spallut Irrigat

Soldier Bug
Suldat

Chrysanthemum Bug
Seffud tal-Lellux

Beetles

White-spotted Barbary Beetle
Busuf tat-Tikek Bojod

Yellow-haired Barbary Beetle
Busuf tal-Pil Isfar

Asphodel Longhorn Beetle
Ħanfusa tal-Berwieq

Soft-winged Flower Beetle
Dliela Leqqiena

Yellow Flower Beetle
Dliela Safra

Green Flower Beetle
Dliela Ħadra

Butterflies and moths

Swallowtail
Farfett tal-Bużbież

Painted Lady
Farfett tax-Xewk

Red Admiral
Farfett tal-Ħurrieq

Small White
Farfett tal-Kromb

Large White
Farfett tal-Kaboċċi

Clouded Yellow
Farfett tas-Silla

Lang's Short-tailed Blue
Ikħal Denbu Qasir

Long-tailed Blue
Ikħal Denbu Twil

Geranium Bronze
Farfett tal-Ġeranju

Common Blue
Farfett tal-Anġlu

Hummingbird Hawkmoth
Ħabbara

Speckled Beauty
Is-Sbejħa

Bees and wasps

Bumblebee
Bomblu

Large Carpenter Bee
Bomblu Iswed

Honey-bee
Naħla tal-Għasel

Kohl's Megachilid Bee
Naħla tat-Toqob

Yellow-striped Megachilid Bee
Naħla tal-Granfi

Snail-shell Bee
Naħla tal-Bebbux

Black Mining Bee
Naħla Sewda

White-banded Digger Bee
Naħla tal-Ġonna

Paper Wasp
Żunżan tax-Xehda

German Wasp
Żanzun

Mammoth Wasp
Qerd iż-Żaqquq

Hairy Scoliid Wasp
Qerd iż-Żaqquq Żgħir

Hover-flies

Drone-fly
Dubbiena Dakar

Lesser Drone-fly
Dubbiena Għajnejha Rrigati

Slender Hover-fly
Dubbiena tal-Fjuri

Yellow-banded Hover-fly
Dubbiena Żunżanija

Marmalade Hover-fly
Dubbiena Żunżanija

Photography Desirée Falzon, Victor Falzon, Aron Tanti

Blooming Schools Project Survey Sheet 4

Birds around our school

Date _____ Time of survey _____ to _____

Group name _____

Aims

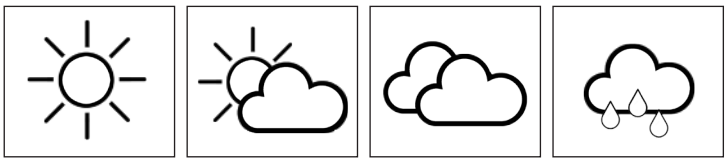
- To explore using our senses and using ID guides to help us identify birds
- To develop teamwork skills to help us find and identlfy birds

You will need

- bird ID sheet
- binoculars (if available)
- weather thermometer
- clipboard • survey sheet
- writing tools

Weather

What's the weather like?



☐ ☐ ☐ ☐

Use the thermometer to find the air temperature? ☐

To take a temperature reading correctly, hold the thermometer in the shade and about 1m from the ground. Take the reading after a few minutes.

How windy is it?

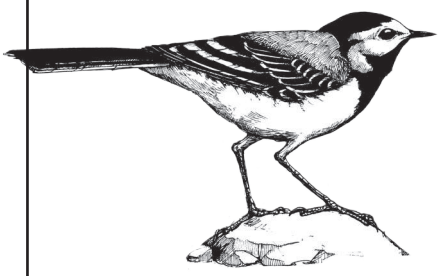
☐ no wind ☐ breeze ☐ moderate wind ☐ strong wind

Doing the survey

- In small groups, walk slowly around the school grounds for 10 minutes and look out for birds. Use binoculars if you have any.
- Identify the birds you see with the help of your Bird ID Sheets.
- Record your bird sightings in the table on pages 2–3. Keep count of how many birds of each species you see. If you cannot count the birds, just tick the box. Don't include domestic birds, e.g. pigeons.
- Keep your voice low at all times so as not to disturb the birds. Sudden movements will also scare them off.
- At times, stop and listen quietly for any birds calling — discuss with your teacher to identify the species you are hearing.
- At the end, count the total number of birds you observed today.
- Take photographs of the school grounds where you carried out your bird survey.
- Choose one person in your group to take photographs of the birds – the photos may help you later to identify the birds.
- Choose one person in your group to sketch or describe (on page 3) any birds you have seen that are not in the Bird ID Sheets.

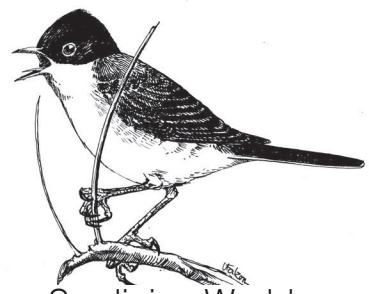
Spanish Sparrow

Number seen



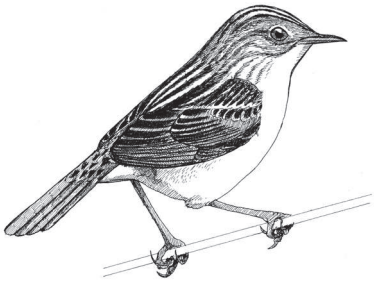
White Wagtail

Number seen



Sardinian Warbler

Number seen



Zitting Cisticola

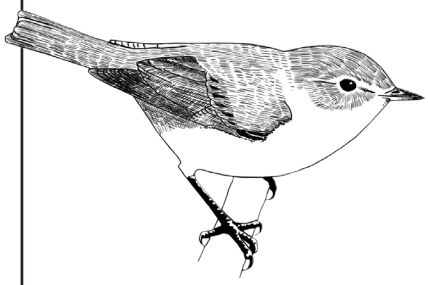
Number seen

Robin

Number seen

Black Redstart

Number seen

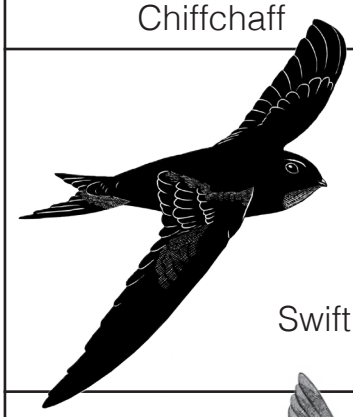


Chiffchaff

Number seen

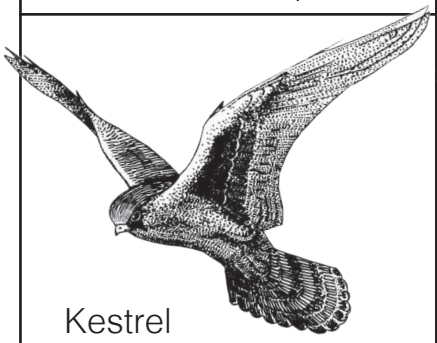
Meadow Pipit

Number seen



Swift

Number seen



Kestrel

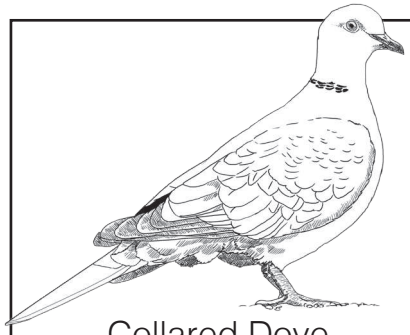
Number seen

Barn Swallow

Number seen

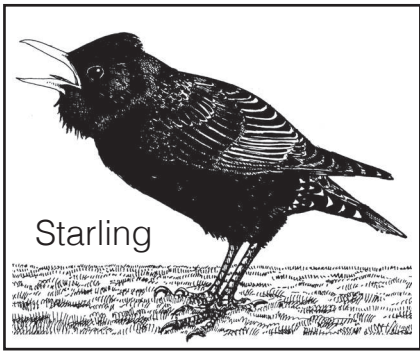
Stonechat

Number seen



Collared Dove

Number seen



Starling

Number seen

Other species (sketch or description)

Did you identify the bird?

☐ No

☐ Yes, it was a

_____

_____

Number seen

Total number of birds observed ☐

What other features would you like to see more of in our school grounds?

_____

_____

_____

_____

BirdLife MALTA

NATURAL NATIONS

Erasmus+

www.birdlifemalta.org

Nature Identification Sheets 1

BIRDS (TOWN AND SUBURB)

BirdLife MALTA

Spanish Sparrow (male) • *Għasfur tal-Bejt*

Spanish Sparrow (female) • *Għasfur tal-Bejt*

Sardinian Warbler (male) • *Bufula Sewda*

Sardinian Warbler (female) • *Bufula Sewda*

Black Redstart (male) • *Fjamma Sewda*

Black Redstart (female) • *Fjamma Sewda*

Photography Aron Tanti

Stonechat (male) • *Bućaqq tax-Xitwa*

Stonechat (female) • *Bućaqq tax-Xitwa*

Meadow Pipit • *Pespus*

Chiffchaff • *Vjolin tax-Xitwa*

Robin • *Pitirross*

White Wagtail • *Zakak Abjad*

Photography Aron Tanti

Barn Swallow • *Ħuttafa*

Swift • *Rundun*

Collared Dove • *Gamiema tal-Kullar*

Starling • *Sturnell*

Zitting Cisticola • *Bufula tal-Imrewħa*

Kestrel • *Spanjulett*

Photography Aron Tanti