



SEEING THE WORLD THROUGH NATURE

INTELLECTUAL OUTPUT 4: TEACHER-TRAINING TEMPLATE on how to use the educational material with visually impaired children

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Overview

The Erasmus+ project ‘Seeing the World Through Nature’ (2019-2022) has developed ready-made resources for teachers of blind and partially sighted children of preschools and primary schools. The purpose of these educational materials is to engage pupils with nature, through interactive, sensory, outdoor and indoor activities and games, focused on birds and their habitats. The educational package has been adapted to the needs of visually impaired children after consultation with associations for the blind and teachers working with the visually impaired. It is the result of cooperation of BirdLife International partner organisations – the Polish Society for the Protection of Birds, BirdLife Cyprus, BirdWatch Ireland and BirdLife Malta – as well as the Polish Association for the Blind.

The project partner organisations are aware that spending time in nature boosts the physical and emotional health of people, but that many children with visual disabilities and their teachers face challenges that limit their opportunities to be close to nature. The materials aim to make nature-based activities and exercises more inclusive and accessible to children with visual impairments.

This document is intended for institutions and organisations that work with the teachers of visually impaired children **and plan to train** teachers on how to use the resources of the ‘Seeing the World through Nature’ project. It is also addressed directly to teachers (in either special or mainstream schools) who are interested in learning how to use the educational material, as well as to organisations, clubs, etc. that organise afterschool programmes for visually impaired children. Based on who is using the document, users will find some parts more relevant than others.

Benefits of a connection with nature to children with visual impairments

Nowadays children, especially in urban settings, spend less and less time in nature and more time indoors and in front of computer and television screens. In his book ‘Last Child in the Woods’, Richard Louv defined this situation as ‘nature-deficit disorder’.



Many research studies conclude that direct exposure and connection with nature is essential for healthy childhood development and for the physical and emotional health of both adults and children. The Covid-19 pandemic proved exactly that. Going on hikes, listening to bird songs and walking in local parks were vital for many people to cope with lockdowns and social distancing, especially in urban areas.

Being outdoors can mean a lot, especially for visually impaired children and adults. Spending time in nature can be a highly multi-sensory experience that gives children opportunities to

use all their senses to learn and helps them to create an image of the environment around them. The sounds of flowing water, the touch of breeze and sunshine on the skin, the sound of walking in the leaves and the grass, birds chirping: all these were described by visually impaired participants in a research of UCL as rejuvenating and gratifying (M. Bandukda et al., 2019).

In the words of visually impaired participants in a 2-year research project exploring the diverse sensory and emotional experiences people have in nature (S. Bell, *Easing into nature with sight impairment Booklet*. University of Exeter):

“It’s life-giving really, to me, nature. It’s an awareness of the space that I can find myself in, and when I go outside, I’m aware of light, which I’m not always aware of inside. I’m aware of, just the air and the sounds, the natural sounds around, which are very special. And when you can’t see anything, the smallest sounds, especially if they’re birdsongs, are very, very special... I think if I don’t get out or involved with it, I feel very drab, very dull, very flat.”

One participant described the local resident birdlife as his “extended local family”, explaining that “the little robins welcome me in the morning, and then the blackbird follows me in”.

Main challenges and needs in teaching children with visual impairments about nature

While preparing educational materials for teachers of children with visual impairments, we sought to address the most important difficulties in engaging the blind in nature activities. Hence, teachers were asked to provide feedback about the challenges and needs when it comes to outdoors education.

Almost all of the teachers recognised that nature education is important for the development of visually impaired pupils. However, when asked how often the teachers organised outdoor nature activities with their pupils, the majority (41%) answered that they did it occasionally (once every 2-3 months), whereas 27% and 23% answered that they organised outdoor activities rarely (1-2 times/year) and frequently (at least monthly) respectively.

When asked about the main obstacles that kept them away from organising outdoor nature activities with their classes, the top three answers were lack of time (60%), transportation issues (47%) and lack of suitable educational material (34%).

In a question about the kinds of resources they would like the project to provide them with, the answers were (note: the teachers could choose more than one answer):

- Structured lesson plans were preferred by 82% of the respondents
- Games were preferred by 82% of the respondents
- Stand-alone activities were preferred by 73%
- Mobile device apps were preferred by 65%
- Material based on birdsong were preferred by 56%
- Braille texts were preferred by 27.7%



The three most-selected resources that teachers used to teach visually impaired pupils are natural materials (such as feathers and leaves), recordings of natural sounds (such as bird songs) and videos or multimedia materials with audio descriptions.

Teaching visually impaired children

Adaptation of material

Visually impaired students, like their sighted peers, usually learn on the basis of the same curriculum and should meet the same requirements. For most subjects, one can identify those that require more adaptation, whereas for other subjects, adaptation is simply limited to producing materials in accessible formats such as Braille or large print.

Considering subjects that require more in-depth adaptation, much work needs to be done by the teacher, especially when most of material is purely based on visual context when vision is the key to achieve already set goals. In such case, a teacher faces the dilemma whether to spend time on adaptation or leave out the unfriendly exercise. Also, visually impaired learners, like their peers, prefer attractive and innovative lessons than theory they have to learn by heart. Hence, it is necessary to face the challenge and master sufficient skills to make teaching effective and interesting. Knowledge of accessibility and issues related to proper rehabilitation of visually impaired is of great value and serves as an indispensable asset in teaching. Given the above circumstances, proper adaptation or even redesign of exercises fulfilling the same aims and objectives sighted learners have to accomplish may have great impact on the education of children with special needs.

Mainstream and special schools

In Poland and in other European countries, blind and visually impaired children learn in special schools, through integrated teaching or are included in mainstream education. The number of blind and visually impaired pupils attending mainstream schools is still growing, with a simultaneous decrease of students at schools for the visually impaired. Essentially, the pattern of students in special schools has undergone significant changes. Currently, most blind and visually impaired learners have additional disabilities, and the education process needs to be adapted to face difficult challenges that learners with multiple disabilities have to face.

Given the availability of teaching aids, special schools are more often in a better position than mainstream ones. Most of the teachers there have sufficient work and education experience. They have also been properly trained on how to work with blind and low vision children. Also, they have at their disposal sufficient machinery and software to help them prepare relevant teaching materials. By contrast, teachers in mainstream schools are sometimes in a worse position, as many of them have not gained experience and do not receive sufficient support from the state and municipal authorities. Hence, they have limited access to teaching aids. Additionally, the way of working with one blind student among sighted peers is much different than working with a full class of visually impaired students. In schools for the blind, a teacher has smaller groups and thus is able to spend more time with each student to compensate for disability-related problems. By contrast, a blind student in mainstream education has to do their very best to catch up with sighted peers and learn the required material. Also, the teacher should learn how to approach such student in order to

achieve as much as possible, so that a pupil is prepared for further education, thereby minimizing the risk of dangers, such as educational delay and social exclusion, that may determine their future.

Ways of working at school

Blind students who receive primary and secondary education use alternative methods for reading and writing, such as Braille, embossed images or illustrations. They may also use electronic devices, such as a computer with screen-reading software or a Braille notetaker, that helps them acquire information. In these two instances, a student has readily accessible material which their teacher can read as standard print. Unlike blind pupils, partially sighted learners usually use standard print with a help of magnifying aids, proper lightning and increased font size.

When designing reading materials for partially sighted people, some key factors need to be considered:

- ✓ Proper font not smaller than 14 points. The font size is student-specific and it is recommended to consult either the student or vision training instructor to find best solution. The font should be non-serif, preferably Arial or Tahoma.
- ✓ Proper lighting, such as by providing an additional lamp or positioning the student next to an additional source of light, such as a window, might be helpful.
- ✓ Magnifying aids, that can help partially sighted learners read printed material. Potentially suitable magnifying aids include: magnifying glasses, electronic (stationery and portable) magnifiers, smart phones with magnifying software, etc.
- ✓ If students have to read text, remember to print it in Braille or using a larger font, or make sure to read the text out loud.
- ✓ A story needs to be read aloud, printed in Braille or in large print for partially sighted pupils.



When using images and maps:

- ✓ They should be described or presented in a verbal way to make them accessible to blind students
- ✓ They should be printed with proper contrast, so that elements in pictures can be clearly detected.
- ✓ A tactile picture should not be very detailed, and the outline should contrast with the rest in the picture. If embossed pictures are not suitable, such as in cases where blind students have difficulties understanding them, teachers should instead focus on a detailed verbal description.
- ✓ You may emboss a number of illustrations for further use in the classroom.
- ✓ Tactile maps and images can be prepared by using a Braille embosser/printer. If a teacher does not have access to such a device, they may prepare a tactile map with

the use of available materials: ropes, lines, paper strips, etc., taped to a sheet of paper or cardboard.

- ✓ It is advisable to check the legibility of tactile pictures before the lesson to decide whether to use them or skip them.

This document's purpose is not to be a comprehensive resource on teaching blind and partially sighted students. It is advisable for teachers to contact relevant organisations in their countries that may direct them to more specific materials and clarifications.

Alternatively, a teacher will find additional information in the section "Publications and Resources" on the website of European Blind Union: www.euroblind.org.

While taking care of visually impaired students, a teacher should consider that stress and fatigue may affect proper functioning of a visually impaired learner and their overall performance. If such students become overloaded, they may perform more slowly than usual. In such situations, the teacher should find other solutions to maximise students' efforts, and should also pay special attention that all teaching goals for sighted peers have been fulfilled. It has to be clarified that visually impaired learners should meet the same criteria and requirements, and that any reduction in syllabus is not recommended.



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About the educational material

The purpose of the educational material of the 'Seeing the World through Nature' project is to inspire and facilitate teachers of visually impaired pre-primary and primary school children to engage their pupils with nature activities, focused mostly on birds. The resources will help pupils to discover the world of birds, encourage them to explore nature around them, encourage them to do simple things to help birds around them, develop positive attitudes and feelings of connectivity and care about birds and the natural world, which is a prerequisite to acting to protect it.

The material is available in electronic-only format in English, Polish, Greek and Maltese.

The educational material is divided into **11 thematic blocks**, each one dedicated to particular behaviours, ecology and life cycle of birds. The 11 thematic blocks are:



Block 1 - Become a good birdwatcher: tips on how to observe birds and find signs of their presence, where to find birds, when to go out to search for birds, which equipment one needs.



Block 2 - Wandering out in autumn: interesting information and fun facts about autumn migration, how do we know that birds migrate.



Block 3 - What do birds eat: interesting information about when and how to feed birds (type of bird feeders, what kind of food to use and what not, where to place a bird feeder)



Block 4 - Winter is not so bad: what strategies and adaptations do birds have in order to survive winter and interesting facts about feathers that keep birds warm during harsh weather (among others).



Block 5 - Birds living next to us: how do birds survive in urban areas, good and bad things about living in a city, how we can help urban birds.



Block 6 - Spring migration: why do birds migrate in spring, which routes do they follow, why some birds fly in V shapes, dangers that migratory birds face, including human-made dangers.



Block 7 - Why do birds build nests: discover fascinating facts and behaviours of birds during the breeding period, and read about different kind of nests. Useful tips about where to place a nest box for birds.



Block 8 - Which birds live in farmland: examples of birds that live in farmland, traces that birds leave behind them, learn why this group of birds is the most threatened in Europe and what needs to be done to reverse this trend.



Block 9 - How birds take care for their young: read about how birds can be great parents, how chicks manage to get out of the egg, why some chicks are born ready to walk and feed by themselves and some are not and which birds carry their chicks on their backs.



Block 10 - Forest birds: learn about which natural components make up a forest and why all parts of it are interconnected and vital to keep a balance in the ecosystem, even dead trees, learn about which birds live in forests and how they are dependent on it, how should we behave when visiting a forest.



Block 11 - Wetland birds: what is a wetland and how wetland birds are adapted to this specific environment, dangers for wetlands and the life they support.

Each thematic block consists of two parts:

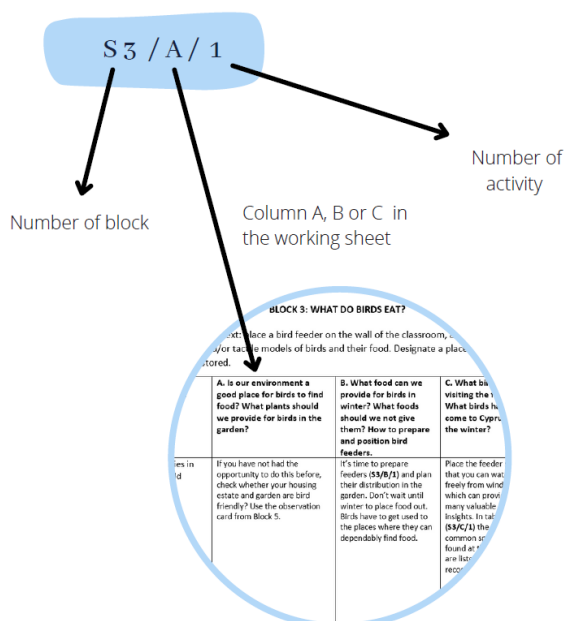
Introduction that gives theoretical information about the theme of each block.

Activities and tasks that teachers can use with their students to explore the above topics. They are divided into activities that can be done outdoors and in the classroom, including experiments, games, competitions, sensory activities and multimedia presentations that the teacher can use during class activities.

Almost all activities and tasks are accompanied by **supporting working sheets** for the students and/or explanatory sheets for the teachers, which are stand-alone activities that can be implemented autonomously.

For example, in Block 2 'Wandering out in autumn', we suggest a game with cards to help children understand the life cycle of a White Stork (see page 1 of this block). Instructions on how to play the game and the cards are provided in S2/A/5 Attachment.

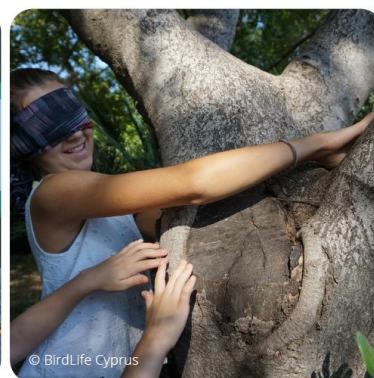
The name for each working sheet is given in parenthesis (e.g. S3/A/1) and it is explained below:



To make it easier for the teachers to implement the activities and decide under which **teaching subject** these belong, the material proposes activities/tasks under the following specific subjects:

- Art - Artistic tasks and skills. For example:
 - Making a drawing with descriptions of the characteristic parts of a bird's body (from Block 1 - Become a good birdwatcher).
- Language - Linguistic and written tasks. For example:
 - Think of and write down rhymes to help remember birds' characteristics (from Block 1 - Become a good birdwatcher).
 - Putting syllables in the correct order to form different types of birdfood (Block 2 – Wandering out in autumn, Attachment S2/A/3).
- Mathematics - Mathematical skills. For example:
 - Count how many different bird calls or other natural sounds pupils can hear (Block 1 - Become a good birdwatcher).
 - Calculate how many days it takes migratory birds to arrive at their destination (e.g. a Barn Swallow travels 100km per day. Africa, the final destination is 6,000km away from their nest. How long does it take them to reach Africa?, Block 2-Wandering out in autumn, S2/B/7).
- Science (Indoor observations and experiments). For example:
 - Carry out experiments to illustrate what wetlands are (Block 11-Wetland birds, S11/A/2) and what happens to the soil when it rains (Block 11, S11/A/3).
- Games and competitions. For example:
 - A game in which cards must be put in the correct order to form the life cycle of a Barn Swallow (Block 2 – Wandering out in autumn Section S2/A/5)

In particular, the material emphasises the **use of all of our senses** to explore and discover nature (nature offers excellent opportunities to practice this!). To get to know birds and experience nature, one needs to use more than sight - actually for some birds you usually only get to hear them and not see them!



Examples of such sensory activities are:

SEE	HEAR	SMELL	TOUCH
Observe different types and shapes of migrating flocks (Block 2, S2/A/1)	Listen to different voices of birds (Block 2, S2/A/1)	'School of smell' game (Block 2, S2/B/1)	Touch moss on trees or feel the sun's warmth (Block 2, S2/B/1)
	Sensory pathway (Block 2, S2/B/3)	Smell different herbs and try to identify them (Block 2, S2/B/3)	Identify natural material by touch (Block 2, S2/B/3)
	Learn to distinguish different bird songs (Block 7, S7/A/1)		Compare different types of feathers (Block 4, (S4/A/1 and S4/A/2).
	What can you hear in the grasslands? (Block 8, S8/B/2)		What is a bird's egg made of? (Block 7, S7/B/1)

Who should use the education material, and how should they use it?

The educational material can be used by:

- teachers who teach visually impaired children in special schools.
- teachers in mainstream schools, whose class includes visually impaired children.
- organisations, kids' clubs, summer schools, etc. that implement extracurricular activities in which visually impaired children participate.
- Even teachers in mainstream schools, with no visually impaired children in their classes, will find these materials beneficial.

If not familiar with the topic of birds, teachers and facilitators are strongly encouraged to read the introduction part of each block before implementing the activities.

The activities described are suitable for pre-primary and primary pupils. Teachers are not obliged to implement all activities from all blocks; rather, they can decide which are most suitable based on the age, abilities and interests of their pupils. For example, teachers who teach a specific subject can choose to do various activities and tasks from different blocks, relating to it. They can also cooperate with other teachers in their school in order to follow a cross-curricular approach, where a topic about birds (e.g., Wetland birds) is analysed and seen from the perspective of various subjects.

Teachers in pre-primary schools where no teaching subjects exist can choose a theme (a block) and elaborate the chosen theme through the various tasks we propose.

Also, teachers are encouraged to follow the rhythms of nature and birds and implement activities based on the seasons and the linked behaviour of the birds:

Autumn	Winter	Spring	All seasons round
Block 2- Wandering out in autumn	Block 4 – Winter's not so bad	Block 6 - Spring Migration	Block 1 – Become a good birdwatcher
		Block 7 - Why do birds build nests	Block 3 – What do birds eat
		Block 9 - How birds take care of their young	Block 5 - Birds living next to us
			Block 8 - Which birds live in farmland
			Block 10 - Forest birds
			Block 11 - Wetland birds

Also, the teacher can choose which block(s) to explore, based on where the school is located. If there's an important habitat for birds next to your school (e.g. forest, wetland), you can use the relevant block to learn more about it (Block 10 - Forest birds, Block 11 - Wetland birds). If the school is located in an urban area, you may choose Block 5 - Birds living next to us. If the school is located in a rural area, you may choose Block 8 - Which birds live in farmland. This way, pupils will learn about and feel more connected with their local environment.

'Meet the birds' app for smartphones and tablets

An important resource that supplements the educational package is the project's app, called 'Meet the birds'. The app is designed for visually impaired people who want to learn about birds in the field. It is also useful for people without visual impairments. It contains descriptions and sound recordings of the birds most typically found in the regions of northern, central and southern Europe represented by Ireland, Poland, Cyprus and Malta. The user has the option of setting the font size and adjusting the screen contrast as suits them best.

The app is available to download from [Google Play](https://play.google.com/store/apps/details?id=com.meetthebirds) and the AppStore on either Android or iOS smartphones or tablets.

The features of the app are:



Search: Check which bird species are included in the app, which are found in the area where you are using the app and find information about a species by searching for its name. For each bird, you will find a description (including distribution, habitat, behavior, food, breeding, interesting facts), captioned photos and a recording of the sound it makes.



Identify: The identification questionnaire is a tool to help determine which birds' voices you might have heard in the wild. It requires you to answer questions about the sound which you heard the bird make and the circumstances of your observation.



Record: you can record a bird's voice in the field and then listen to it and identify it at a later date.

How teachers can use the app:

- To identify a bird when outdoors with their class, by using the identification questionnaire.
- To give to pupils more information about a bird they find when outdoors.
- To play various bird sounds and encourage pupils to identify the species or identify similarities and differences between the songs and/or calls of different species.
- To record a bird's song and try to identify it later on.

How teachers can effectively introduce nature to visually impaired children

To start with, you can bring nature to your doorstep! Given the fact that sometimes it may be difficult to bring pupils outside of the school grounds due to lack of time or limited mobility of visually impaired children, one way to engage more with nature is to bring nature inside the school or the classroom. This way, students will become familiar with nature in a known and safe environment and will gain the confidence needed to participate in nature activities in novel places outside the school.

Some ideas to bring nature in your school are:

Create a sensory path or garden

A sensory garden is an excellent way to invite pupils to use all of their senses to enhance their enjoyment: sight, smell, taste and touch. Guidance and key steps in designing a sensory garden can be found in the 'Seeing the World through Nature' educational materials, for example:

- Block 3, S3/A/2: Design your own bird-friendly garden
- Block 5, S5/B/1: Assess which elements of the environment are friendly and which are not for a bird

You can find more tips by the Sensory Trust here:

<https://www.sensorytrust.org.uk/resources/guidance/sensory-gardens-design-guide>

Create an indoor herbal corner

If your school lacks the space to create a sensory garden, you can simply use pots to plant fragrant herbs, like rosemary, mint and basil, and place them by a sunny window in your classroom. You can even use them to prepare food or snacks, or even to make herbal tea.

Plant fragrant trees and shrubs

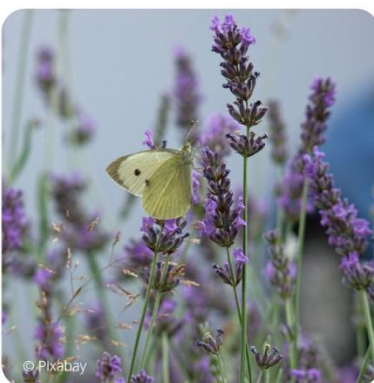
A school yard with fragrant trees, flowers and shrubs not only looks wonderful, it's also full of a variety of smells. By choosing the right scented plants, you can have a fragrant garden all year round. Make sure to plant native trees and bushes, which are adapted to the climate and soil conditions of your country. Avoid plants with thorns, like roses.

Make your school bird-friendly

Encourage birds to visit your school grounds more frequently or even to make the school their home. This way, your students will enjoy their voices every day and learn to recognise their feathered neighbors by their songs.

Birds will come to your school if they can find food, water, refuge and a place to nest. Simple things you can do to attract birds:

- ✓ Install a **nest box** for small birds. Birds may use it to raise their chicks or as refuge during harsh winter months. Find out how to make one here: <https://birdlifecyprus.org/make-your-own-nestbox/>
- ✓ Hang **bird feeders** on trees (find out more in the project's educational material, Block 3- What do birds eat).
- ✓ Place a **bird bath** for birds to bathe in and drink water from. Find out how to make one here: <https://birdlifecyprus.org/how-to-make-a-bird-bath/>
- ✓ **Plant fruit trees and bushes/flowers with seeds** (e.g. sunflower) to help birds find food.
- ✓ **Make your school's windows safer for birds** (find out more in the project's educational material, Block 5 - Birds living next to us).



You can find more tips on how to make your school bird-friendly in Block 5 - Birds living next to us. You can always contact your local BirdLife partner about more advice on how to attract birds in your school. Find your local partner here: <https://www.birdlife.org/regions-and-partners/>

Create a "nature's treasure" corner

Collect natural materials and exhibit them in the class to use whenever you teach about nature. Material could be feathers, nests (making sure that they have been abandoned: never take nests that are being used by birds!), eggshells, leaves of different shapes and colours, different kind of rocks, twigs, seeds (acorns, pine cones) etc. More tips on how to create a collector's box can be found in Block 1 (S1/A/3).

Engage all senses

Nature offers great opportunities to use all senses and learn about it. In fact, one really gets to appreciate and experience nature only by using all of one's senses: hearing a bird's song can be as important as seeing it in order to identify it, and sometimes even more so. For example, teachers can guide children in sensory activities by encouraging them to examine different plants and flowers. This way, they can learn to identify a flower not only by seeing it, but also by smelling it and touching it to feel the texture of its leaves and blossom.

Suggested material to engage with all senses:

- ✓ natural material of different texture, colour and weight (e.g., feathers, leaves, bones, etc.)
- ✓ Artificial models of plants, birds or birds' footprints in life-size
- ✓ Recordings of natural sounds (e.g., recordings of bird song)

A summary of sensory activities included in the educational material is given on page 11 of this document.



Visit your local park

Organising nature activities in a nearby natural area (e.g., a park), which you can visit frequently to do outdoor activities, makes children feel more familiar with the space and helps them to move more freely every time they visit it.

Make verbal descriptions

When visiting a natural area, a park or any unfamiliar place, describe the environment to your students with visual impairments and indicate landmarks and clues, such as trees, rocks, benches, and streams. Students with no visual impairments can help with this task.

Organising a workshop for teachers

If your organisation is interested in organising a successful workshop for teachers to introduce them to the educational material of the project, here are some tips and advice on how to do it:

- ✓ Define the aim and objectives of the workshop.
- ✓ Choose the right location. You may want to choose a venue that offers the possibility to organise some outdoor activities with the teachers.
- ✓ Create an agenda and try to combine various learning styles (e.g., presentation, whole group discussion, small groups/pairs exercises, hands-on activities).
- ✓ Start the meeting with a few icebreakers to get everyone relaxed and comfortable, such as:
 - True or false: ask participants to introduce themselves and to share 3 statements (one of which should be untrue). The rest of the team must guess with statement is false.
 - Interviews: ask participants to get into pairs. Each person then interviews his or her partner for a set time. Afterwards, each person introduces their interviewee to the rest of the group.
 - Nature-themed: ask participants what their favourite bird or animal is and why, what nature means to them, their favourite natural sound or natural place, etc.
- ✓ Don't be afraid of asking for feedback. Create a questionnaire to give to all participants at the end of the workshop, and give them plenty of opportunities to share their opinions on how well it went.
- ✓ Do some outdoor sensory activities with participants to help them feel connected with nature. For example:

Listening activity: Take the group outside, preferably to a quiet garden or nearby park. The participants form a circle (they may sit down if they prefer), they close their eyes for 1 minute and try to listen to the sounds of nature. How many different sounds did they hear? Did they hear any birdsong? Can they identify the species? (from Block 1, S1/A/4)

Meet a tree blindfolded: Divide the participants in pairs. One member of each pair is blindfolded and the other has to lead them to a certain tree. The blindfolded person smells and touches the tree. Then they move away from the tree, the blindfold is removed and the 'blind' participant has to guess which was their tree.

What's that smell? You can put different herbs into bags (each separately) and encourage participants to feel them and distinguish between their smells. (from Block 1, S1/B/3)

Magic box: Find some natural materials from a park or a forest and put them into a box or a bag. Each participant closes their eyes and takes one item. They then try to guess what object they are holding by touching and smelling it. (from Block 1, S1/B/3)

'Find my pair' game: each participant takes a card with the name and the sound of a bird written on it. At least two participants must have the same card. Participants must find their feathered mate by singing aloud the call or song of the bird which is written on the card they are holding. (from Block 1, S1/A/4)

Make a nest: make a cup-shaped nest by using mud or clay and other natural materials that a bird could find in nature: feathers, grass, twigs, etc.

About birds

Our planet is home to more than 11,000 species of bird, all of them wonderful and unique. From the tiniest of songbirds to the most magnificent birds of prey, birds evoke wonder and inspiration and connect us to the rhythm of the natural world in a way that perhaps no other living thing can.



Why birds matter? Birds are a vital part of nature's balance. Together with millions of other species, birds make up the web of life that supports all life on earth, including our own. Birds play an essential role in the functioning of ecosystems, in a way that directly impacts human health, the economy and food production – as well as the millions of other species that call this planet their home. For example, birds control pests by eating up to 400-500 million tons of insects a year, they pollinate plants, they are nature's clean-up crew, and they spread seeds. Birds are also the messengers that tell us about the health of the planet.

What makes a bird a bird? Many other animals have the ability to fly, to lay eggs and even have beaks as well. But birds are the only animals on Earth that have feathers!

Do all birds fly? The vast majority of birds can fly, though some have lost this ability. A bird's body is specially designed for flight: their main bones are hollow in order to make them light and be able to take off.

Where do birds live? Birds can be found everywhere: from the poles to the deserts; from the highest mountains to the open seas; from steep cliffs to lakes and marshes. The natural area that a bird lives is called its 'habitat'. Birds also live next to us, in our gardens and parks, in our towns and villages.

What does a bird do all day long? Birds are very busy creatures. During spring they are busy looking for a mate, building their nests or looking after their chicks. When it is not the breeding season, a bird fills its day with two main activities: feeding and keeping its feathers in good condition.

What do they eat? Birds need to eat large amounts of food each day in order to have enough energy to survive. Depending on what they eat, birds have bills of many shapes. For example, birds that eat insects have small, thin beaks. Birds that eat seeds have thicker beaks to peck seeds or crack nuts. Birds of prey (which eat meat) have a sharp, hooked beak for tearing flesh.



Why do birds migrate? Not all bird species migrate: around 40% of them are migratory. Birds migrate from one place to another for their survival. In spring here in Europe, they travel to their breeding grounds in the north, where they will build their nests and raise their chicks. In autumn, they travel to their wintering grounds in the south, where it is warmer and there is plenty of food for the winter.

What kind of threats do birds face? Apart from natural threats, such as bad weather conditions, birds face many dangers that come from humans and their activities. These threats include the degradation and loss of the areas where birds live, water and land pollution, illegal hunting and trade, introduction of new predators to areas where they are not found naturally, and contribution to global warming, forcing birds to survive in a rapidly changing climate.

What is BirdLife International and how does it protect birds? BirdLife International is a global partnership of over 100 BirdLife Partners worldwide, that strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources. Each BirdLife Partner is working at a local level to protect birds, through monitoring, conservation, lobbying, awareness and education actions. Find your local partner here: <https://www.birdlife.org/>

How can you find out more about birds? Lots of interesting information about birds, their behaviour and habitats can be found in the introduction sections of the 11 educational blocks. Each introduction contains focused information about specific topics concerning birds' behaviours and habitats.





Suggested reading / other resources

Books and other publications

D. A. Sibley, 2020. What It's Like to Be a Bird: From Flying to Nesting, Eating to Singing-What Birds Are Doing, and Why (Sibley Guides).

L. Svensson, K. Mullarney, D. Zetterström and P. J. Grant, 2010. Collins Bird Guide (2nd ed).

M. Bandukda, A. Singh, N. Bianchi-Berthouze, C. Holloway, 2019. Understanding Experiences of Blind Individuals in Outdoor Nature, Conference: ACM CHI'19 at: Glasgow, Volume: 2019.

S. Bell, Easing into nature with sight impairment. University of Exeter. Available [here](#)

Apps

'Meet the birds' (free)

Collins bird guide (not free)

Websites

<https://www.birdlife.org/>

<http://www.springalive.net/> - BirdLife International's educational programme to learn about birds

<https://www.wildlifetrusts.org/actions> - ideas to do at home or school to help wildlife and the planet

<https://www.sensorytrust.org.uk/resources/activities> - nature activity ideas

<https://pixabay.com/> - free images and royalty free stock

<https://www.youtube.com/> - free videos

<https://www.xeno-canto.org/> - bird calls and songs

<https://www.world-sounds.org/map/> - collection of urban and natural sounds

<https://timberfestival.org.uk/soundsoftheforest-soundmap/> - sounds of the forest

https://owleducation.org/ispring/get_to_know_the_birds/res/index.html - interactive modules with quizzes and useful information to help teachers investigate birds

