

**SEEING THE WORLD THROUGH NATURE**

**SCHOOL WORK SHEETS**



**BLOCK 1:**

**BECOME**

**A GOOD**

**BIRDWATCHER**





### Download the project's app

To complete some of the tasks outlined in the school work sheets you will need our special smartphone app. To download this app, please go to the online app store (App Store for iOS or Google Play for Android) and enter the name "Meet the Birds" in the search field.



Co-funded by the Erasmus+ Programme of the European Union



# BLOCK 1

## BECOME A GOOD BIRDWATCHER

**Background:** Atmosphere is built in the classroom by placing depictions of birds (drawings, photographs or models) around the classroom and providing a basket with binoculars, a camera, a scope and bird guides. After each trip to the field the decoration can be changed (with participation from the children); only the bird species seen in the field are retained.

DETAILED PROBLEMS	What is a bird? How can you recognise the presence of birds?
<b>Activities in the field</b>	<p>Animals use different methods of camouflage, which is why observations require attention and concentration. Practice perception in the natural environment with the help of a card.</p> <p>Be a sharp observer of nature <b>(S1/A/1)</b>.</p> <p>Before going out, give to the students some of the equipment that will help them to identify birds (e.g., binoculars, camera, field guide). Discuss observation methods with blind learners.</p> <p>In addition to seeing birds in order to identify them, hearing is also important. Birds are often heard but not seen, and they can be identified just by their songs and calls. Think which objects will help with observing birds <b>(S1/A/2)</b>.</p> <p>If you decide to go to the forest, have a discussion with your students about birds and their behaviour. It can be an in-class conversation before the trip. Try the listening activity <b>(S1/A/2)</b>, especially with blind students.</p> <p>Birdwatching requires patience, knowledge and a bit of luck. An important part of it is the ability to see the traces of their presence. The most common are footprints – that is, the impressions of a bird's feet left on a soft surface such as mud, damp sand or snow. It is worth collecting various objects that provide other clues to the presence of birds and document them by taking photos. The collector's guide <b>(S1/A/3)</b> may be helpful.</p>
<b>Indoor observations and experiments</b>	<p>In the classroom, play different bird songs or calls or other nature sounds that you can find on the internet (e.g., go to <a href="http://www.xeno-canto.org">www.xeno-canto.org</a>) or on our <b>smartphone app</b>. Ask your students to guess what creature it is. If they are not familiar with bird songs, you can give them 3-4 guesses for each song. Ask them to describe each bird's call or song: is it one bird or more of the same species? Is it melodic or more mechanical? Can you imitate their song?</p> <p>Take your students outside to the schoolyard or nearby park and use section <b>S1/A/1</b> to discover the birds and other organisms that live there.</p> <p>Play the activity 'Where's my match?', a game about forming pairs based on birds' calls or songs <b>(S1/A/4)</b>.</p> <p><b>Multimedia presentation provokes observation and thinking about what a bird is (S1/A/5).</b></p> <p>Practice with children how to use a pair of binoculars in especially simplified conditions. This activity is impossible to apply with blind students, but they can hold the binoculars, especially if they have never used a pair of binoculars before.</p> <p>With partially sighted students, you may use other optical aids such as magnifiers or monoculars. Bear in mind to assist them and make sure that they can see well <b>(S1/A/6)</b>.</p>
<b>Artistic tasks</b>	<p>Making a drawing with descriptions of the characteristic parts of a bird's body can be a brilliant learning exercise.</p>
<b>Linguistic and written tasks</b>	<p>Suggest to children the fun of arranging nursery rhymes to help you remember the characteristics of birds. For example:</p> <p style="padding-left: 40px;"><i>"Big or small, every bird has Two legs, two wings and One beak and lots of feathers."</i></p> <p>Look carefully, do not shout.</p>
<b>Mathematical tasks</b>	<p>After returning from the walk in the forest or in the park, ask students how many birds or other living organisms they could observe or listen to.</p> <p>You may also ask the questions before the walk and ask students to note down their observations. Remember to reward the best observers in some way.</p> <p>You can also, play nature sounds from real habitats and ask students to count how many different bird calls they can hear. You can find videos on YouTube or on websites (e.g., <a href="http://www.naturesoundmap.com">www.naturesoundmap.com</a>).</p>



## BE A SMART NATURE OBSERVER

### Task 1. Tracing hidden animals

Let the students listen for natural sounds around them. Encourage them to close their eyes for 1-2 minutes and to try to use only their hearing to explore the natural world. They should try answering the following questions:

- 1 What and how many sounds did you hear?
- 2 Were all natural sounds? Did you hear any man-made sounds as well?
- 3 What do you think these animals are doing?
- 4 Are they moving or not?

Let children look for small animals in a garden or park: butterflies, ants, grasshoppers, flies, bees, wasps, spiders, or larger animals like birds, frogs, newts or mice. They should try answering the following questions:

- 1 What is this animal doing?
- 2 Is this animal trying to hide?
- 3 How is it doing it?

Pay attention to the colours and patterns on the bodies of the animals. They use them to look like their surroundings, to be less visible. Talk about camouflage.

### Task 2. 'Find Me' game

In the class, start a conversation with the students about the organisms that live in a forest. You can even play forest sounds in the background to help students feel like being in a forest. You can find nature sounds on YouTube or on the website [www.naturesoundmap.com](http://www.naturesoundmap.com). Students should try to answer the following questions:

- 1 Which animals do you think it is easier to find in the forest? Name some of them.
- 2 Which animals are difficult to find at all and why? Name some of them.

If there's a forest, park or meadow near the school, take your students there and discuss the concept of searching for animals:

- 1 Are there any special techniques for finding animals? Which senses shall we use?
- 2 Are there any difficulties in finding animals?
- 3 Do you know what camouflage is? Why do animals use camouflage? Give examples of animals that adapt their colours and appearance to the natural environment (e.g., moths, octopuses, chameleons, lizards, spiders).
- 4 Then ask the students to use all their senses to find any animals in the forest.

### Tasks and questions

- 1 What kind of animals did you find/hear/see, etc?
- 2 Was it difficult to find them?
- 3 Do you think it is easier to find a snail, an insect, a bird or a mammal?
- 4 Have you searched for animals before? If so, which animals did you find?
- 5 Have you had an animal before in your palm or did you touch it? What was it?



## HOW TO OBSERVE BIRDS

### What will an observer need?

Think what objects will help pupils to observe birds. Bring the objects outlined below to the class so that visually impaired students can touch them. If you can't find the objects, instead describe them to your students.



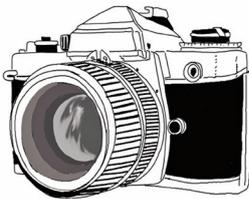
(MK)



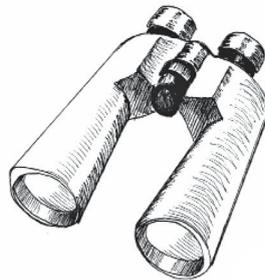
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### Listening to sounds of nature in a forest or at the park

In the forest or the park, do the following activity, especially with students who have visual impairments:

Listen for a moment to forest sounds and answer the following questions:

- 1 How many birds have you managed to listen to?
- 2 Do you think they are big or small?
- 3 Can you recognise species? (If not, encourage students to make guesses.)
- 4 What do you think birds are doing? Are they singing from a tree, in flight or from the ground?
- 5 Have you heard these sounds before?
- 6 Can you imitate the melody you have just heard?

### How to behave

- Always go with an adult. If you get lost, stand where you are and wait for them.
- Don't behave loudly, don't sing, don't shout.
- Don't run, don't jump. Don't attract attention.
- Walk slowly and with caution. If you spot an interesting bird, stop and stay as calm as you can, so that you don't scare it.
- Don't go close to nests or nesting colonies.
- Don't litter. Take everything you brought back with you!



(JM)



(KK)



## SIGNS OF BIRDS - FIELD GUIDE

### Guidelines for teachers

- Before you begin collecting and documenting signs of birds, talk about the concept of leaving traces by birds, humans and animals:
- 1 What traces do humans leave on the Earth?
- 2 What traces do birds and other animals leave?
- 3 Have you found signs left by birds before? If so, what were they?
- 4 What do the signs they leave say to us about the animals that left them?
- 5 Is it easy to identify an animal by just observing the traces they leave?

If you have footprints, tactile pictures or foot models of birds or other animals, you may show them to the students.

### What you will need

- Plastic boxes (lunch boxes), string bags
- Tweezers
- Magnifying glass
- Bags
- Quick-drying plaster mould for making bird feathers

### These will be useful:

- A laminating machine and laminating foil or ziplock bags, a camera

### Tasks and questions

- Your task will be to document the traces that birds leave in the field. The task lasts for the entire school year, but some of the traces (nests, hollows, feeding tracks, tracks) will be most easily documented during the winter. Your collection will depend on how perceptive you are. The collector's guide below will help you with the task.

### Practical considerations for the collector

- The eggshells you find should be well-preserved in the described boxes - e.g., boxes or jars.
- If you find an empty bird's nest that has fallen to the ground (e.g., because it was blown down by the wind), you can take it for display in the classroom.

NEVER REMOVE A NEST FROM SHRUBS OR TREES, EVEN IF IT APPEARS EMPTY. IT MIGHT BE USED AGAIN BY ANOTHER BIRD OR OTHER ANIMAL.



### I. COLLECTION OF EGGSHELLS

In the spring and summer, an attentive observer can find eggshells ejected from nests after the chicks have hatched. Maybe you can find and identify some of them? If students can't find any eggshells, you can make replicas out of clay, using the illustrations below as a guide for the size of the eggs.

Eggs of medium to large size		
 Magpie (33-24 mm) (MK)	 Blackbird (29.5-21.5 mm) (MK)	 Woodpigeon (29-20 mm) (MK)
 Mallard (60-44 mm) (MK)	 Rook (40-29 mm) (MK)	 Song Thrush (27-20 mm) (MK)
Eggs of small size		
 House Sparrow (21.2-14.6 mm) (MK)	 Great Tit (17.2-13.4 mm) (MK)	 House Martin (18.5-12.0 mm) (MK)

#### Questions and tasks

- 1 Where was the eggshell found?
- 2 When was it found?
- 3 What did it look like?
- 4 Compare eggshells and find similarities and differences.



## II. FEATHERS

Birds' feathers can be found throughout the year. Some of them are easy to recognise due to their colours and patterns.

Bring different feathers and show them to the students. Show or give them each one feather to touch and encourage them to answer questions to learn more about the bird that the feather belonged to.

Then, reveal a secret concerning the feathers you were talking about. You may then show another one and repeat the activity. Ask students to compare both feathers and elicit answers.

Alternatively, divide the students into groups, give them different feathers and ask them to study them, compare them and write down their observations. Ask each group to present their observations to the rest of the class. To avoid the accidental loss of feathers, make sure that the students are seated at their desks or around a table.

 (MK)	 (MK)	 (MK)
<b>Jay has lost this feather</b>	<b>Great Spotted Woodpecker feather</b>	<b>Goldfinch feather</b>
 (JV)	 (JV)	 (JV)

### Questions and tasks

- 1 Where was the feather found?
- 2 When was it found?
- 3 Was it a single feather or more than one?
- 4 What part of the bird do you think it came from (e.g., wing, belly, tail)?



## III. NESTS

Winter is the best time to investigate how many nests birds have built in the local area.

Bring binoculars and a notepad.

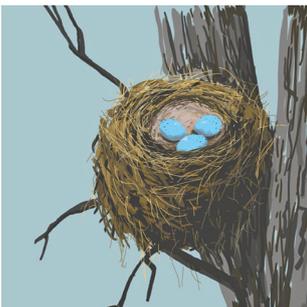
Look around carefully - look at the trees and shrubs. When there are no leaves on them, you can clearly see the abandoned bird nests.

Count how many of them there are and draw where you can see them.

Look at them carefully (perhaps through binoculars) - maybe you can work out what bird they belong to.

**REMEMBER: DO NOT REMOVE NESTS FROM TREES AND SHRUBS!**

Instead of just looking for and observing birds' nests, talk with students about different types of nests. Use the collector's guide below to show them, or to describe to them, different types of nests. If possible, collect abandoned nests and hand them to blind students. If you know that Swallows have their nest close to your school, take students and show them what it looks like. If not, prepare a clear description supported by a tactile or high-contrast picture or a model, if possible. You can also support the lesson with clear photos of nests for partially sighted students.

 (MK)	 (MK)	 (MK)
<b>Young Magpies grew up here</b>	<b>Young Song Thrushes grew up here</b>	<b>This is the nest of a Great Spotted Woodpecker</b>
 (JV)	 (JV)	 (JV)

### Questions and tasks

- 1 Have you seen or touched a bird's nest before? What did it look or feel like? Where was it?
- 2 What kind of materials can a bird use to build its nest?
- 3 Where does it build its nest?
- 4 When do birds build nests?



(MK)



(RM)



(JV)

**Sand Martins nest in earthen or sandy banks by burrowing small holes**

**Generally, birds' nests are built so that only the host species can easily access them**

**Swallows often nest in barns, sheds or old houses. They glue mud together with saliva and stick it to the underside of an eave or rafter**



(JV)



(RM)



(JV)



## IV. FEEDING HABITS

Discuss the kinds of food birds eat, and show the students various types of food that birds can eat, such as walnuts, apples, cones, acorns, seeds, etc. Have your students hold the food and ask your blind students to guess what food it is. If you teach older students, you may ask them to bring from home what they think that birds can eat. Use the collector's guide below to show them and to discuss the traces that birds leave in nature while feeding.

	
<p><b>Cones embedded in the bark of a tree and a lot of damaged cones lying at its base could be a sign of woodpeckers</b></p>	<p><b>Holes cut in walnuts and acorns could be the work of a Great Tit</b></p>
	
<p><b>Walnut husks lying on the ground can be evidence of crows feeding. They break the nuts by dropping them from a great height onto hard ground</b></p>	<p><b>Large, irregular holes in nuts may indicate the meal of a woodpecker</b></p>
 <p>(MK)</p>	
<p><b>Apples with eaten pulp and peel leftovers usually indicate the feast of a Blackbird or Fieldfare</b></p>	<p><b>Bird feathers scattered everywhere – a bird probably provided a meal for some predator here!</b></p>



## V. FOOTPRINTS

Birds walking on wet muddy or sandy ground (e.g., at the seashore, lakes, rivers) or on snow leave prints which can provide clues for us to figure out which species was present and even what direction they were going in.

Start a discussion about the footprints we humans leave while walking on sand, mud or snow. If possible, show photos of such footprints to the students, or do with them the activity described below. Then discuss the different feet birds have, and in particular explain why waterbirds have a membrane between their toes, i.e., webbed feet.

1. Examine the prints of your feet. To do this, prepare wet sand or use fresh snow – leave traces of your feet (shoes) on it, going forward, jumping on both legs, running, walking as if you were looking for something. Take a picture or draw how your footprints look.

<b>We were moving forward</b>	<b>We were running</b>	<b>We were jumping</b>	<b>We were looking for something</b>

2. Now let's read the message left by the bird's feet on the seashore:



(MK)

**The bird walked in different directions  
- probably looking for food**

**There is a membrane impression between  
the toes (webbed feet) - it is a waterbird**

**The footprints are all the same  
- it was probably one bird**



3. This bird also went on the beach. What can you read from these tracks?



(MK)

4. What do the following footprints tell you?

You can also make a model of a bird's footprint to show to students. The model should be very simple and clear.



(MK)

### Questions and tasks

- 1 What do you think the model represents?
- 2 How many birds are in the model?
- 3 Is the bird big or small?
- 4 Do you think it is a waterbird?
- 5 What, in your opinion, was the bird doing?



## VI. MAKE YOUR OWN HANDPRINT

### What you will need

- Bowl
- Water
- Quick-setting plaster of Paris
- Spoon for mixing plaster of Paris
- Single-use plates or trays

### How to make it

- Add plaster of Paris to the bowl and mix it with water.
- Pour the plaster onto paper plates or trays (one for each student), remembering to sign each plate or tray before using it!
- Wait patiently for the plaster to get firm enough for the next stage.
- Gently put your palm on the plaster to make your handprint.
- Put aside the plates until the following day.
- Observe the handprint you made. Compare it with other students' handprints and find any differences and/or similarities.



## WHERE'S MY MATCH?

Give each student one of the cards below. The name and the call of a bird is written on each card. At least two students must have the same card. The students must find their feathered mate by singing aloud the bird's call or song, written on the card they are holding. Ask students not to reveal their card to anyone.

<p>MALLARD</p> <p>Quaek-quaek-quak-quak-quah-qua</p>
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<p>CUCKOO</p> <p>Goo-ko</p>
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<p>GREENFINCH</p> <p>Jup-jup-jup</p>
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<p>GOLDFINCH</p> <p>Tickelitt</p>
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<p>BEE-EATER</p> <p>Prrüt prrüt prrüt</p>
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<p>HOODED CROW</p> <p>Krrah-krrah-krrah-krrah</p>
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## HOW TO USE BINOCULARS

### Task 1. Observation with a limited field of view

#### What you will need

- Several objects in different sizes
- A4 and A3 sheets of paper
- Rubber bands

#### Tasks and questions

- 1 Roll a piece of paper into a tube and secure it with a rubber band.
- 2 Find the object indicated by the teacher, using the paper tube you have prepared.
- 3 What can you see? Can you find the object you are looking for? When using the tube, can you also see other objects?
- 4 How fast can you find the friend you are looking for?

### Task 2. Observing an unknown shape

#### What you will need

- 10 boards with drawings of any chosen small and simple objects
- Binoculars

#### Tasks and questions

- 1 Explain to the students how to use the binoculars and how to focus the image.
- 2 Tell the children to stand fifteen steps from the boards. Ask them to look through the binoculars and say what they can see in the picture.
- 3 Change pictures and let the children try several times.

### Task 3. Searching in the distance

#### What you will need

- 10 charts with drawings of animals
- Binoculars

#### Tasks and questions

- 1 In selected places, hide drawings of animals familiar to the children.
- 2 Make the children stand at a distance of 30 steps. The task is to recognise as many animals as possible in three minutes.
- 3 You can propose a competition for 3-5 person teams.



## Task 4. Birdwatching

### What you will need

- Binoculars

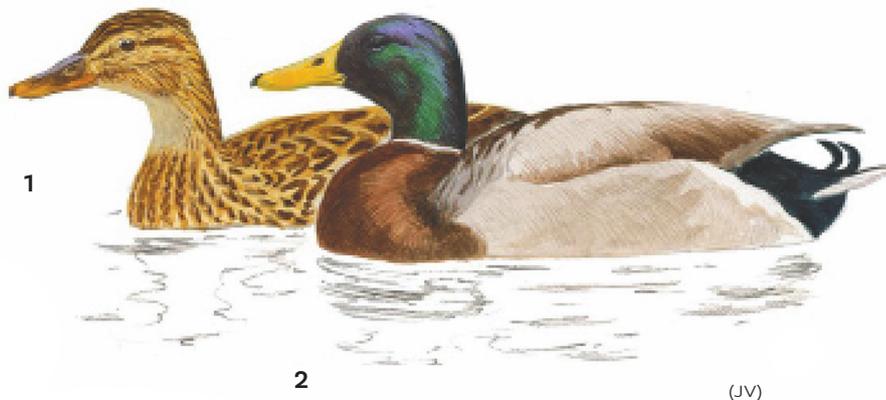
### Tasks and questions

Prepare pictures of birds and position them at a distance of 15 steps from the observation point. Below you will find:

- a a drawing of a male and female Blackbird
- b a drawing of a male and female Mallard

Ask the pupils to use the binoculars and answer the following question:

- 1 What differences can you see between birds 1 and 2 in each case?





**These materials for teachers working with blind and visually impaired children have been prepared within the project “Seeing the World Through Nature.” These are based on the educational resources that resulted from the project “Empowering Teachers and Pupils for a Better Life Through Nature,” and the suggestions contained therein have been adapted to work with children with impaired vision in order to enable them to learn as much as possible about nature through direct contact with it.**

**Non-governmental organisations involved in bird protection, partners in international federation BirdLife International, participated in the project. The Polish Society for the Protection of Birds (OTOP) was the leader of this educational initiative, which also involved the associations BirdWatch Ireland, BirdLife Malta and BirdLife Cyprus. The Polish Association for the Blind was the partner cooperating in the field of adaptation of source materials for the needs of teaching blind and visually impaired children.**

**Both projects were carried out with the financial support of the European Commission (Erasmus+ programme).**

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**BIRDWATCH IRELAND is the largest independent conservation organisation in Ireland. A registered charity, its aim is the conservation of wild birds and their natural habitats. It has over 15,000 members and a network of 30 local branches. It manages nature reserves which protect threatened habitats and their wildlife, works to conserve Ireland’s biodiversity, and carries out education, survey and research work. For more information, go to [www.birdwatchireland.ie](http://www.birdwatchireland.ie)**

