The Migratory Bird Game

CREA+BIRD

Motacilla alba

WHITE WAGTAIL

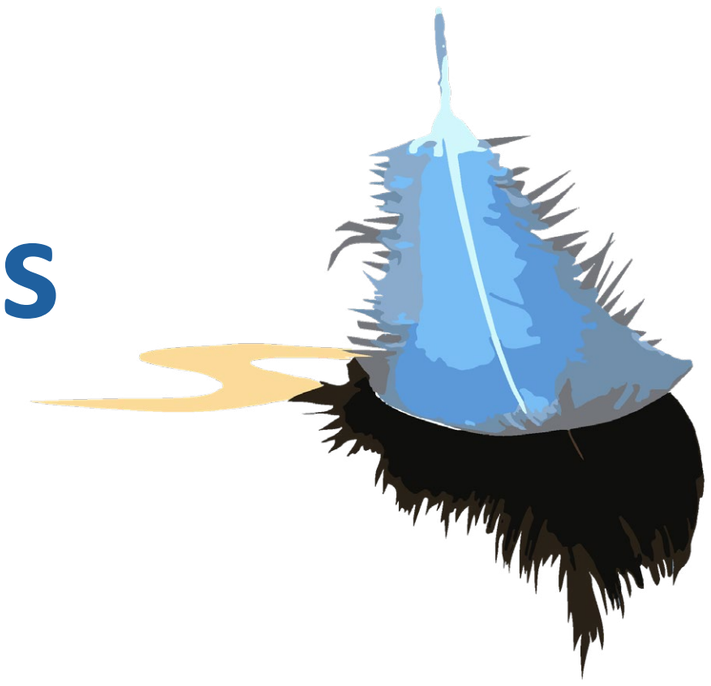
Västäräkki
Ballerina bianca
Codobatură albă
Bela pastirica

Co-funded by
the European Union

Goals of the Game

- In this outdoor game, you get to experience the life of a white wagtail as a migratory bird. You will learn about both natural and human-caused challenges that birds encounter during migration.
- The game combines several pedagogical methods and school subjects. The game is primarily designed for pupils in grades 5–6, but it can also be played with younger or older pupils (grades 4–9).
- The estimated time needed to play the game is 45 min.
- The learning goals of the game are to:
  - Evoke empathy for birds and nature
  - Provide understanding of birds' adaptations, behaviour, and ecological niche
  - Give knowledge about environmental changes that threaten birds and how they can be protected

Equipment and Materials



In this material:

- opening story about the white wagtail
- numbered task cards (26 cards, print out in size A5)
- location cards showing the cities, countries and places along the migration route
- a map of the white wagtail's migration route with its locations (for the facilitator)
- background information for the game facilitator

Other equipment:

- clothespins or string to attach the task cards to the cones
- a dice for each group (e.g. a small dice in a transparent lidded container or a large soft die)
- a game token for each group (e.g. soft toy birds)
- a compass (for the facilitator)
- cones to mark the route the pupils will follow
  - 16 red cones (or another clearly visible colour) for mandatory tasks
  - 10 blue cones (or other colour) for additional tasks
  - at least 36 cones in another colours to place between tasks (at least two cones between each mandatory task)

Instructions and Rules

- The facilitator sets up the cones with their tasks in the terrain (forest or park) as shown in the illustration.
- Task cards and location cards can be attached to cones with a clothespin or string.
- The facilitator reads the opening story to the pupils and goes through the rules of the game
- Pupils must pay attention to the places they visit or “fly past”—they will need this information later in the game (in task 17).
- The game is played in groups of 3–4 pupils. Each group moves at its own pace and throws its own dice to advance.
- There are twelve mandatory tasks (with a red numbered circle) where all groups must stop (even if the die roll would move them further). Other tasks (with a blue numbered circle) are completed only if the group lands on them.
- Tasks that a group has already completed may be skipped if the group lands on them again. At some points, the route splits, and pupils may choose which path to follow (A or B). In one task, the dice roll determines the route.
- The game ends when every group has reached the goal. The game is not a competition of speed, everyone is a winner.
- After the finish line on the task cards, you will find suggestions for follow-up activities.

Opening story

The white wagtail in Egypt

A dry, warm wind is blowing. Sand and dust are swirling through the air. The water of the oasis sparkles in the sun. In the shade of a palm tree, a white wagtail scurries about. Suddenly it darts into the air to snatch yet another fly. It needs to build up fat reserves for the long journey that lies ahead.

The white wagtail is beginning to feel restless. Its time in Egypt is coming to an end. It escaped here for the winter. There is no snow or cold here. Only sunshine, warmth, and plenty of food. There are also many other birds here, including those that live here all year round. They are hungry too. If the white wagtail stays here, it may not be able to raise many chicks.

The journey it is about to make is long and dangerous. On its way north, it follows the spring. In a few weeks, it will arrive in Finland, the land far away in the north where the days are long and the white wagtail's chicks can grow strong.

The white wagtail's heart beats rapidly. The internal clock tells it that the time has come. The wind is blowing in the right direction. Suddenly, it is gone. The journey has begun!

0

START

You are white wagtails that have spent the winter in Egypt. Egypt is in Northeast Africa. It´s the end of March, and you need to start your migration back to Finland.

The pyramids in Egypt are over 4,500 years old! Build a pyramid using natural materials. Show the pyramid to the teacher.

1

You have eaten well and fattened up for the migration. The journey is long and requires good fitness.

Now it’s time for a warm-up! Prepare for the long trip with **one** of these exercises:

- 10 jumping jacks
- 10 push-ups (knees on the ground)
- 10 squats

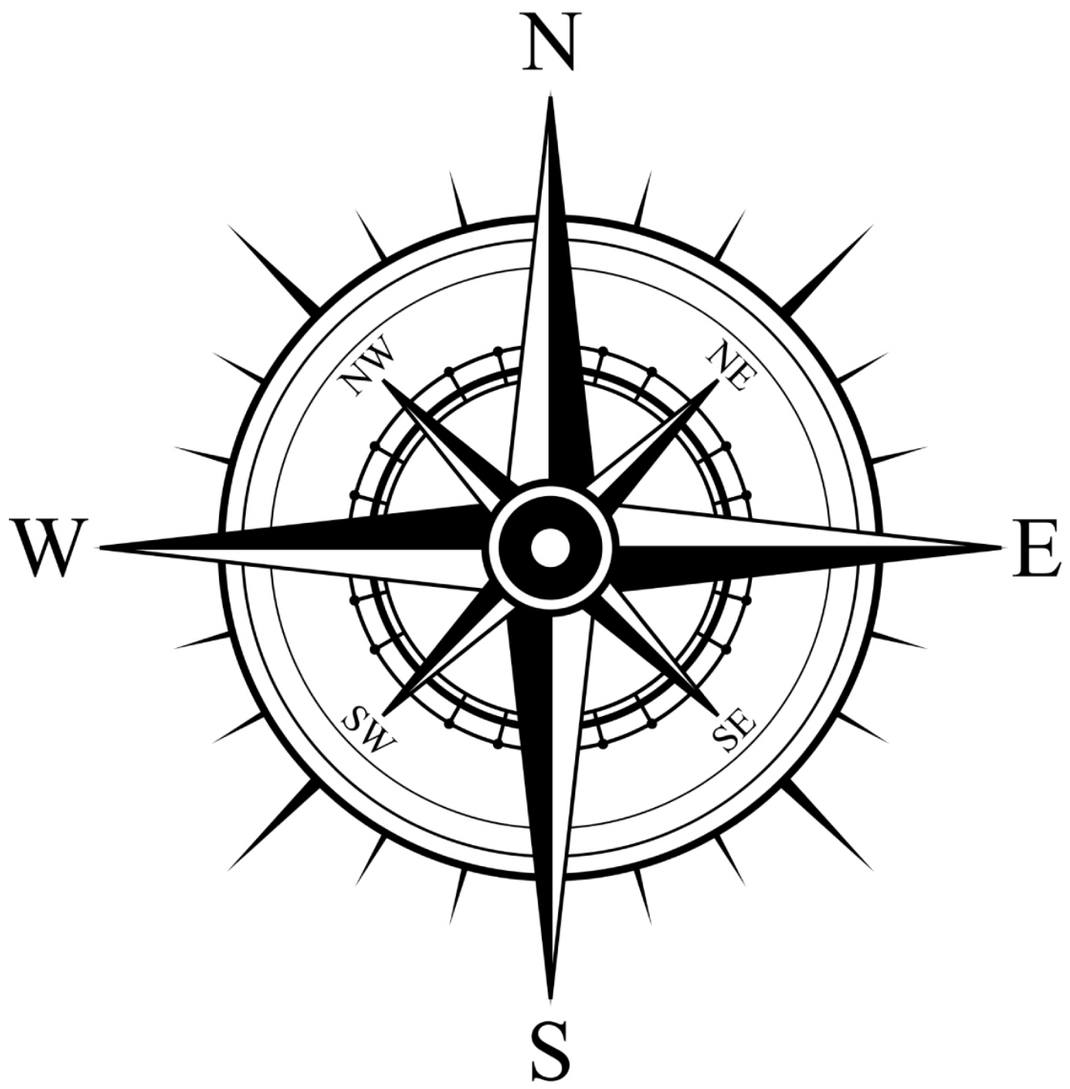
2

The white wagtail’s plumage is black, white, and grey.

Find the colours of the white wagtail in nature and show the teacher.

3

It is time to depart, and you must now take the correct direction toward Finland



Find out where the **north** is using signs in nature. Tell your answer to the teacher.

- trees often have more and longer branches on the south side
- ant hills are on the south side of stones and trees
- the sun rises in the east and sets in the west, around midday the sun is in the south

4

Many small birds migrate at night, but the white wagtail migrates during the day. What do you think it uses to find its way to Finland?

a) the sun

b) the starry sky

c) landmarks (coastlines, headlands)

Tell your answer to the teacher.

5

You are now flying over Jordan, which is in the Middle East. It is hot and dry.

The white wagtails thrive near bodies of water. Do you see water nearby? If not, do you know where you can find the nearest lake, pond, stream or river? Tell the teacher.

Next, choose either the left or the right path in the game.

6A

A strong wind from the east carries you to the island of Cyprus in the Mediterranean. There you get caught in a net set by a bird catcher. You must free yourself quickly!

Stand in a circle and **close your eyes.** Stretch out both hands and grab someone else's hands. Your group now forms a knot. Can you untangle the knot without letting go?

If you don't succeed, go back to task 5 and continue along the other route.

6B

A tailwind quickly takes you to the coast of the Black Sea in the northern parts of Turkey. There you get caught in a ringer’s net at a bird station. You get a ring on your leg.

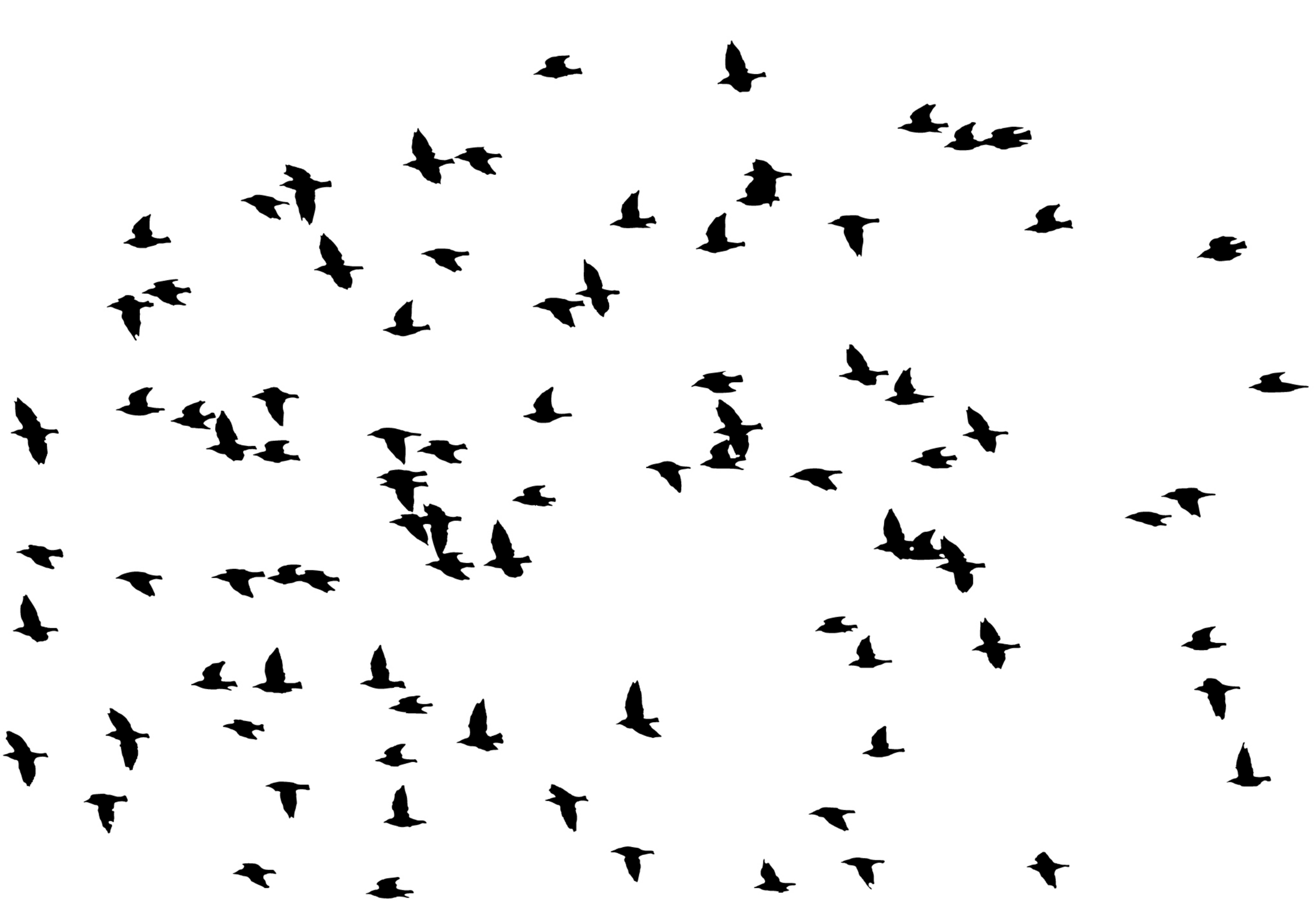
Why do you think the wagtail got a ring on its leg? Tell the teacher.

7

White wagtails migrate in flocks.

Now there are quite a few of you together.

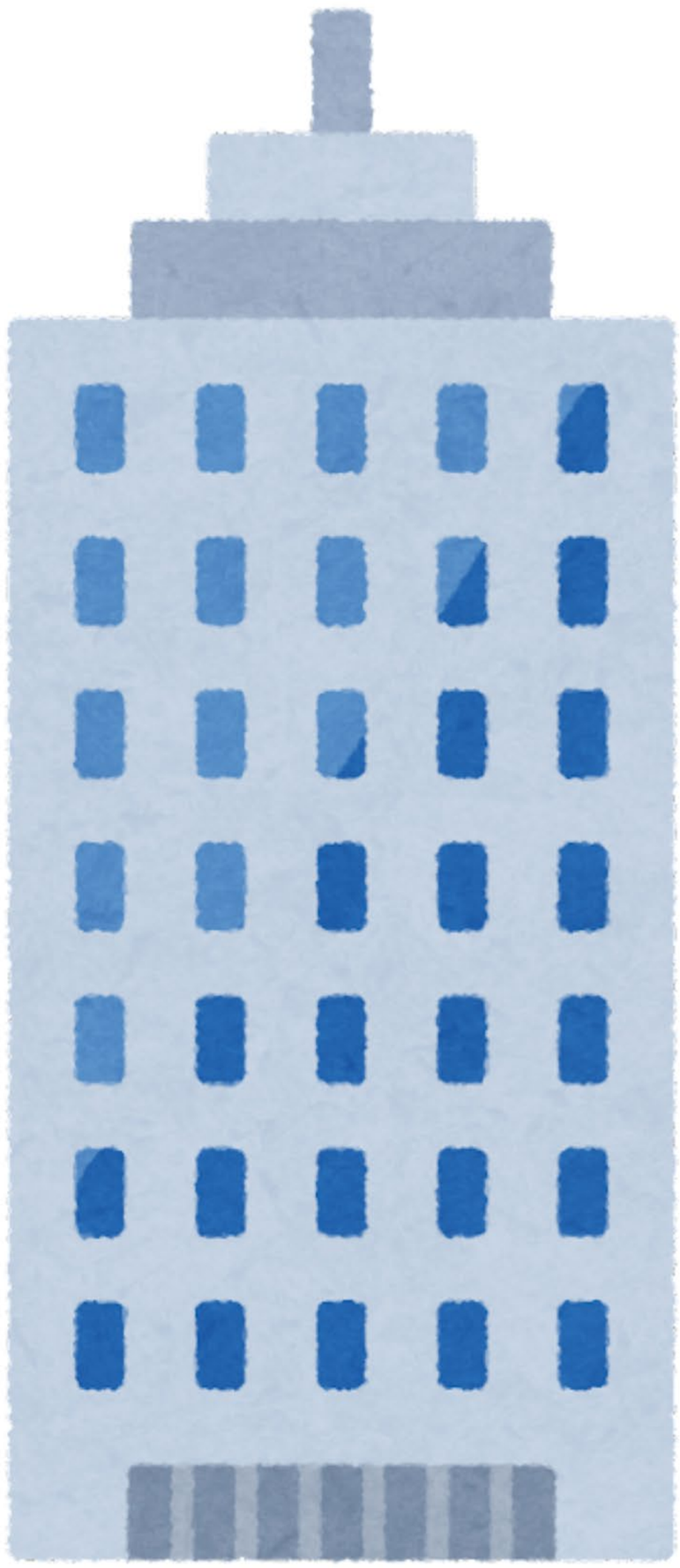
Run in a line, flapping your wings, around another group. For a moment, there are even more wagtails migrating together!



8

You fly over Bucharest, a large city in Romania. When you land to rest, you bump into a skyscraper window. Luckily, you escape with just a scare!

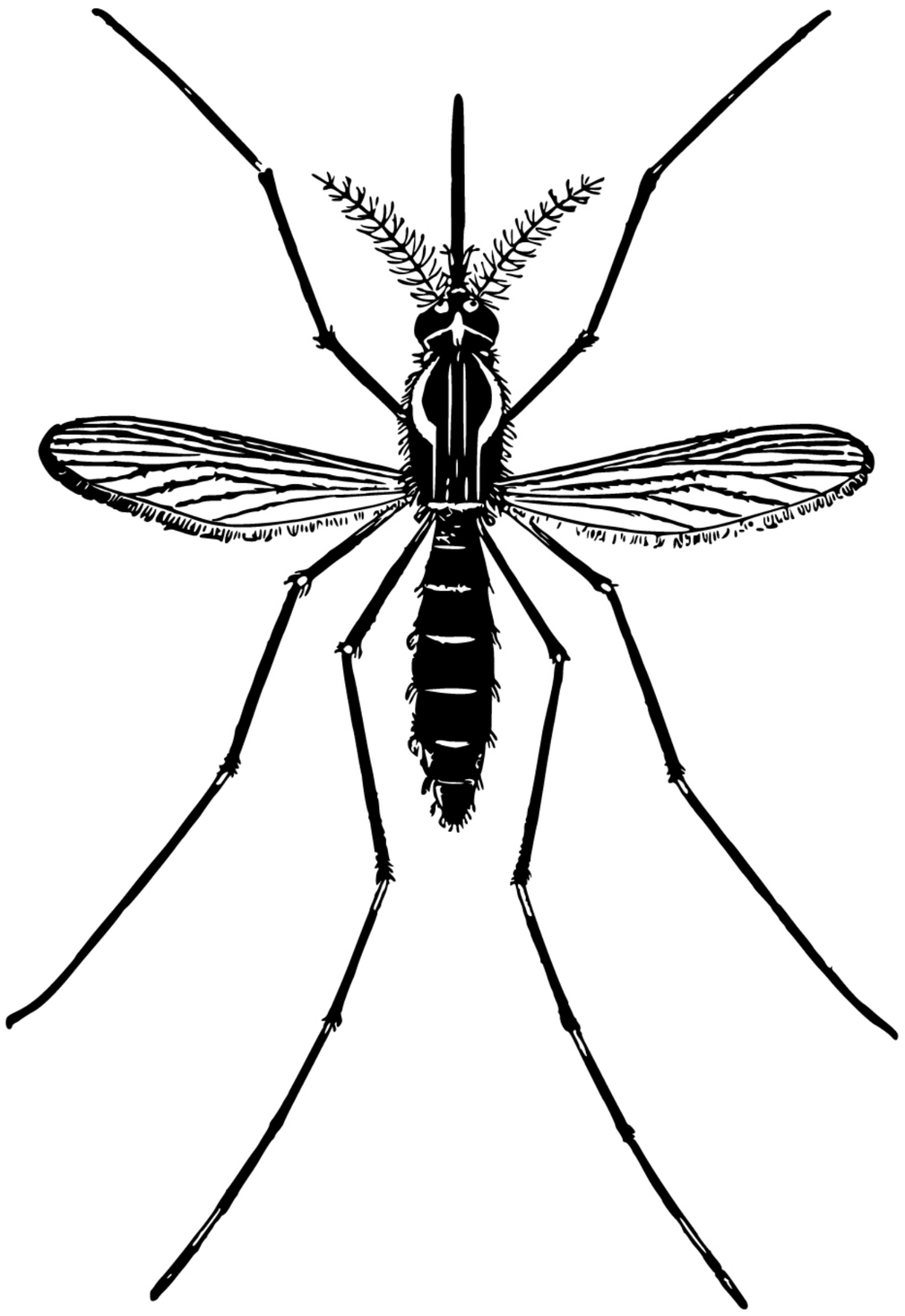
How can you make windows safer for birds?
Reflect on solutions and tell them to the teacher.



9

The migration is long and requires a lot of energy. You need to land to eat. The white wagtail is an insect-eater, which you can tell by its narrow beak.

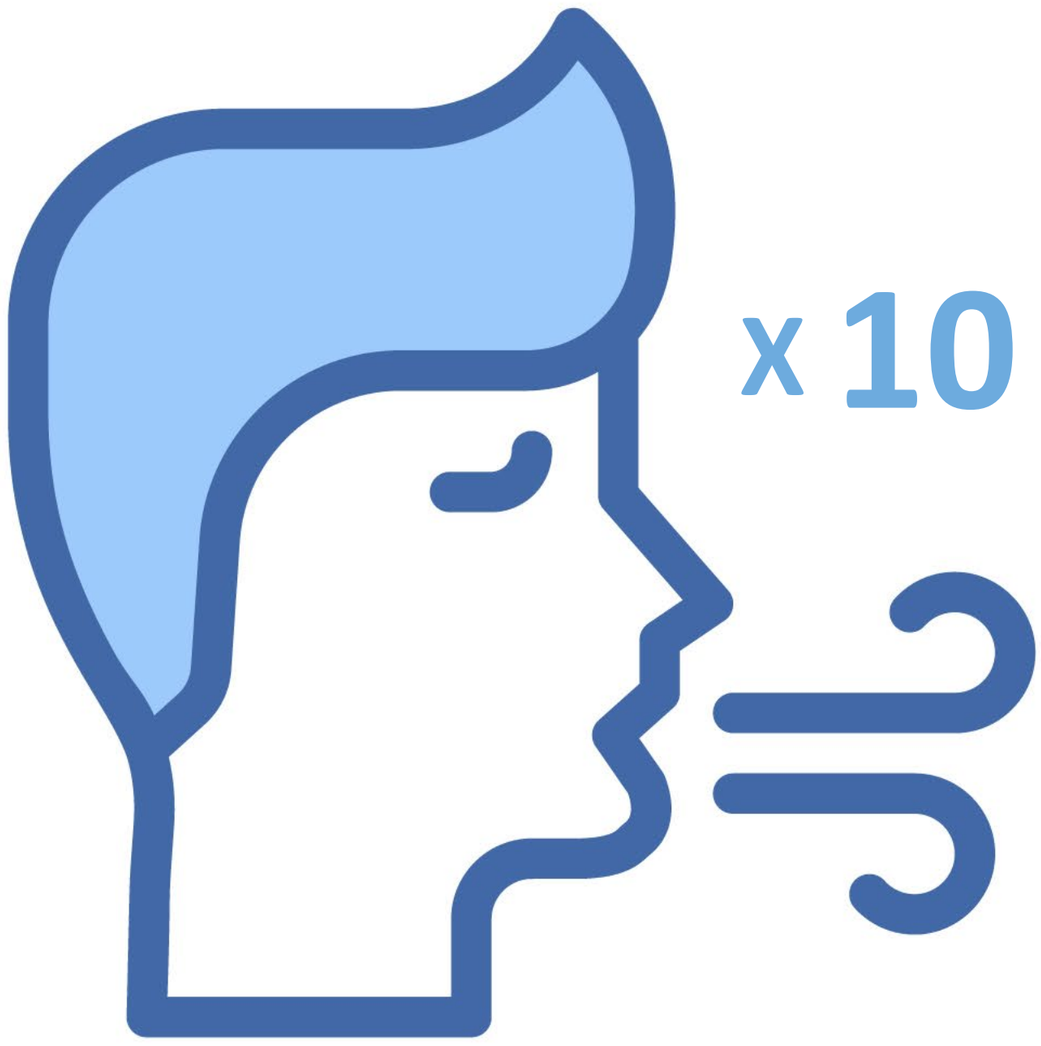
1. Can you find an insect or traces of insects?
2. Build an insect from natural materials.
   The insect must have 6 legs.



10

You are getting quite tired and decide to land.

Sit down (under a tree) to rest and breathe calmly in and out ten times.

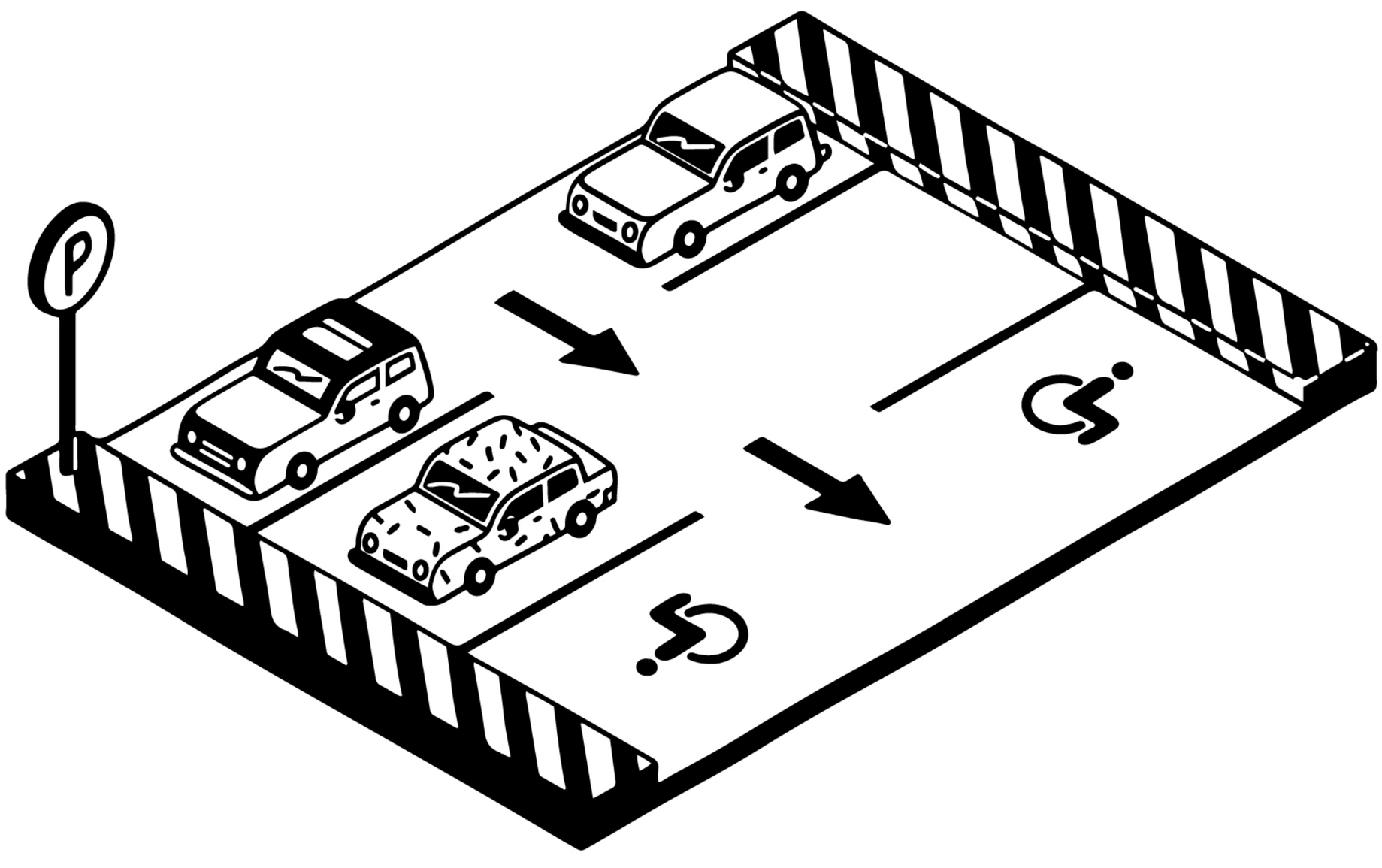


11

You have arrived in Warsaw, which is in Poland. Oh no, a good resting place along the migration route has been turned into a huge parking lot! You can’t find enough insects to eat there.

The white wagtail flock must look elsewhere for a resting place and food. Move two steps back in the game and roll the dice again.

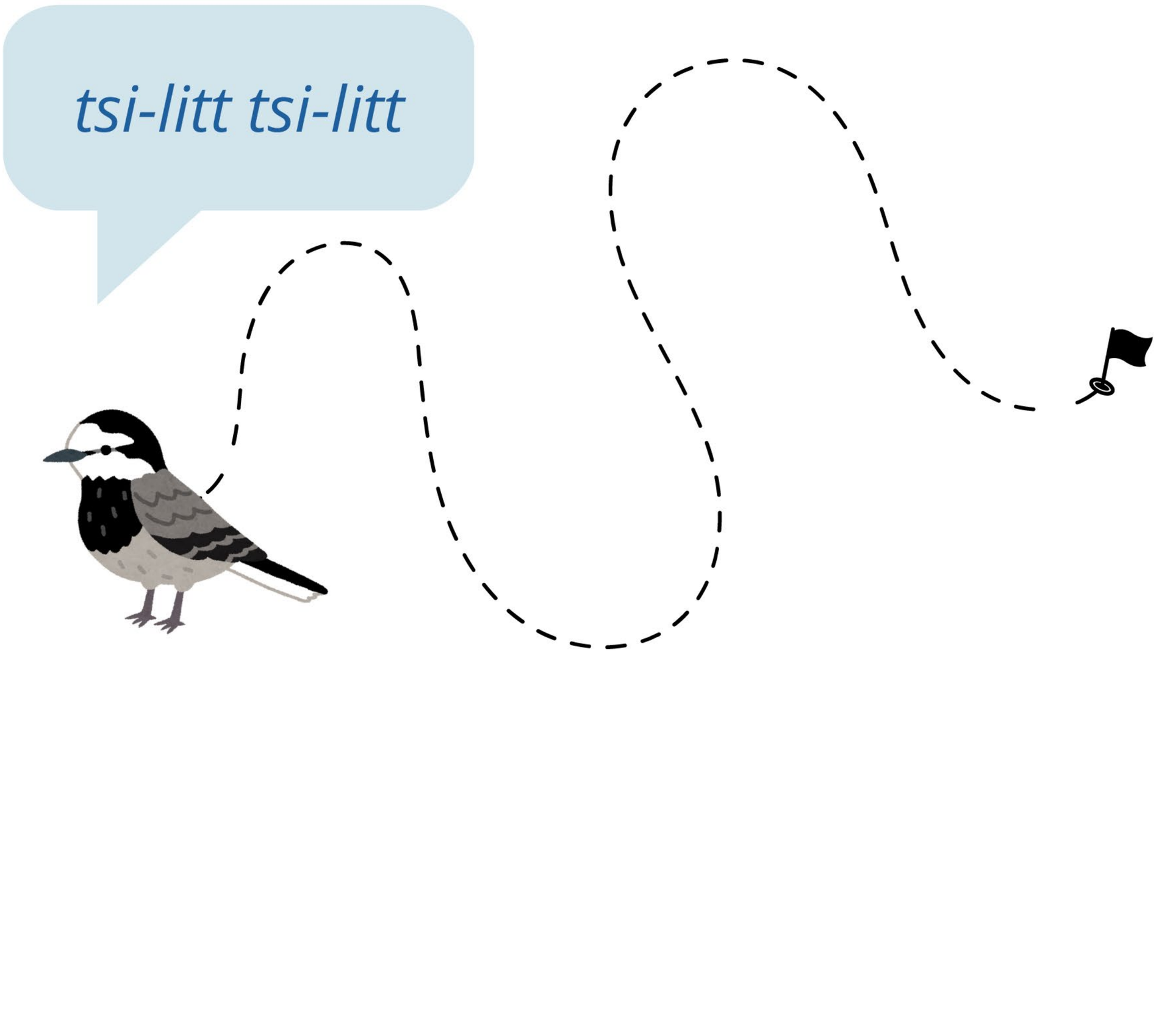
You do not have to stop here again.



12

Help! You have lost your direction!
You accidentally flew straight east.
Take a new direction.

Imitate the white wagtail's call "tsi-litt tsi-litt" and lure all wagtails toward the correct direction!



13

Now you have arrived in Riga, the capital of Latvia. The white wagtail is Latvia's national bird. White wagtail in Latvian is "Baltā cielava".

Cheer out "Baltā cielava" three times together with a movement of your choice. With this cheer you encourage all migrating white wagtails!

14

You land on a field, where the farmers have used a lot of poisonous pesticides against insects. It will be harder to find food here.

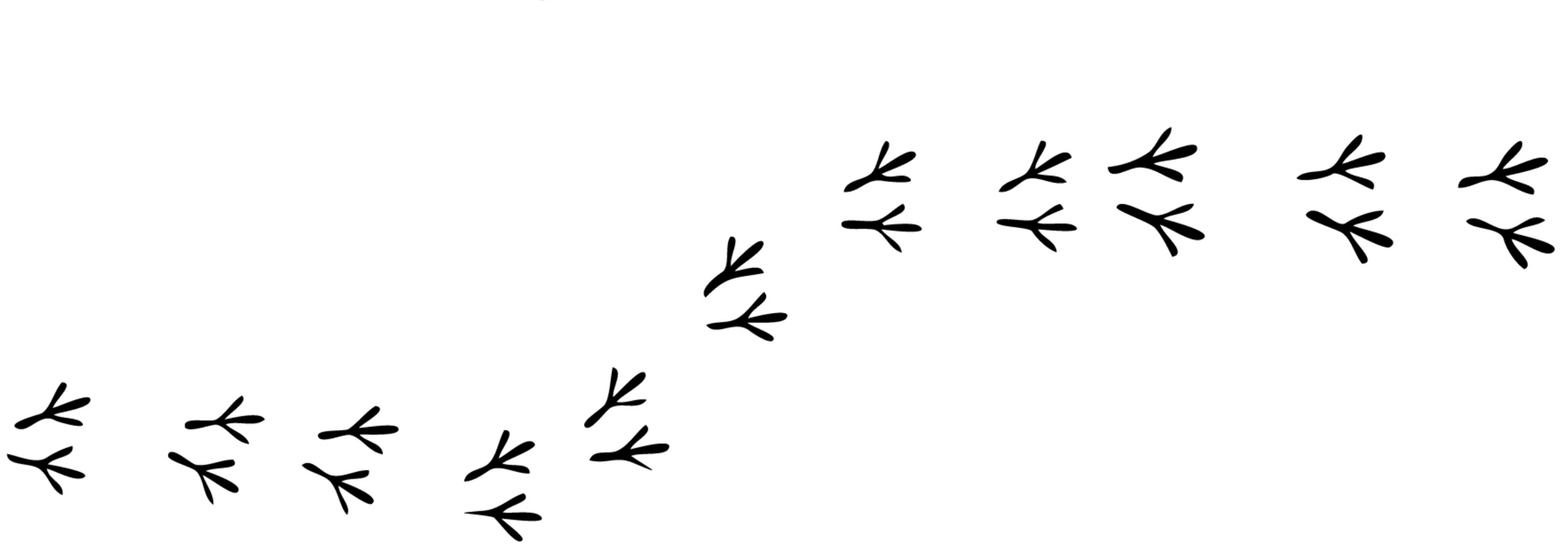
Throw a dice until you get a **number three**, to have time to eat enough insects, then you can continue your journey.

15

An Eurasian Sparrowhawk tries to attack you!

Birds of prey avoid humans. The fearless white wagtail can use this and fly close to a human to avoid being eaten.

Fly close to an adult, where you will be safe for a moment!



16

You fly over Estonia toward the coast.
Ahead is a sea crossing, but you have a headwind.
You wait for a southern wind.

At the harbour in **Tallinn**, there is a sign in Estonian that says: “Head reisi ja tere tulemast jälle!” What do you think it means? Tell your guess to the teacher.

17

Finland in sight! It´s the end of April, and you have flown all the way from Egypt. Soon you can see Finland´s capital, Helsinki.

Look at the map. Where have you been during your migration journey and in which order? Tell your teacher about your route.

Next, choose either the left or the right path in the game.

18A

Spring has started in Finland! The white wagtail is seen as a sign of spring. In the past, it was believed that the wagtails have especially strong legs. Thus they could break the ice on the shores when jumping on it.

Jump on two feet to celebrate the spring!

18B

You thought you would reach the buffet tables, but you end up in a snowstorm! Winter has returned to Finland, and you must turn back toward the Finnish coast.

Take two steps back. Roll the dice until you get a **one or a three**, and continue forwards.

19

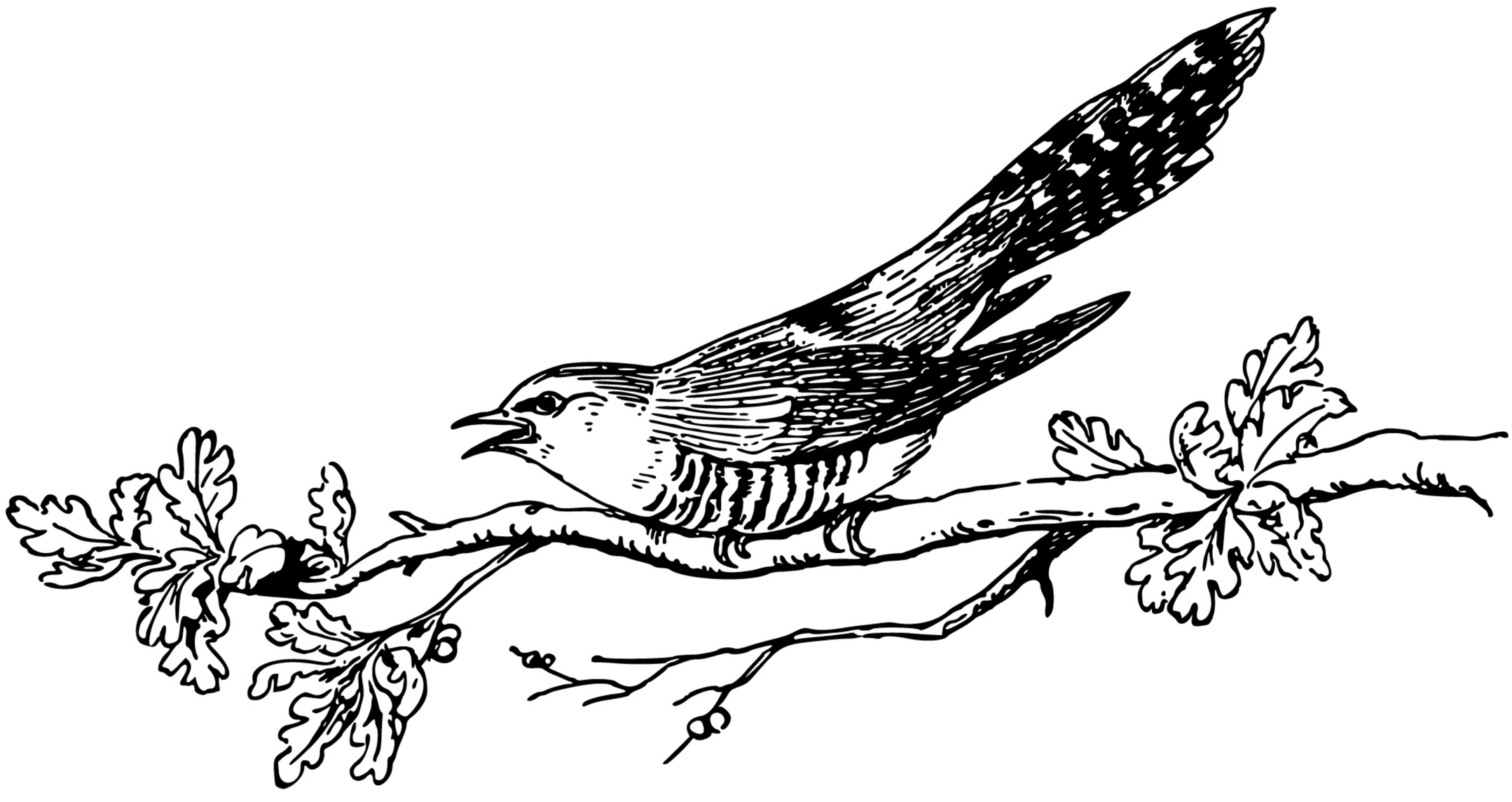
Now it is time to find a partner and build a nest. The white wagtail can build its nest in a hole in a building or tree, in a pile of stones, or in a woodpile.

Walk around nearby and find a good hole for the white wagtail's nest. Tell the teacher what kind of place you found.

20

A cuckoo has laid eggs in your nest! The cuckoo chick will push all your eggs or chicks out of the nest.

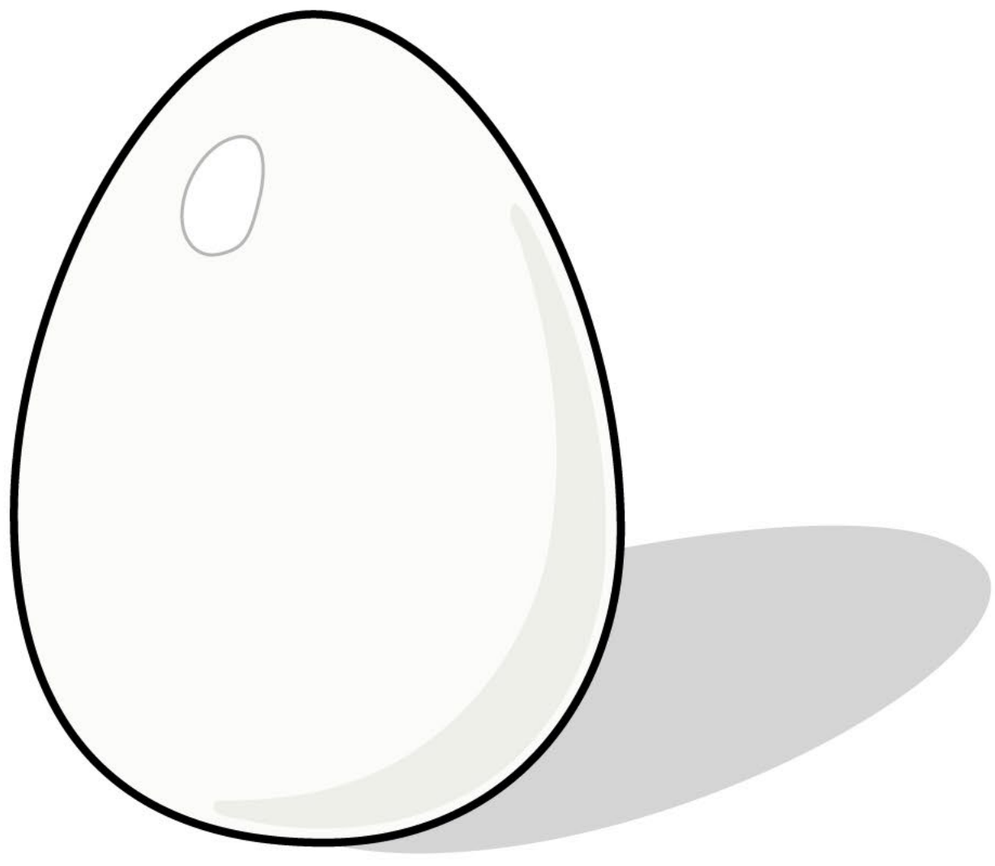
Breeding failed because of the cuckoo. Roll the dice.
Number 1–3 = you breed again. Go to task 21 A.
Number 4–6 = you don´t breed again.
Go to task 21 B.



21A

You succeeded in breeding! Together with your partner, you take turns incubating five eggs in the nest. After about two weeks, the eggs hatch. Now you must work hard and feed them, so they have a good chance to survive.

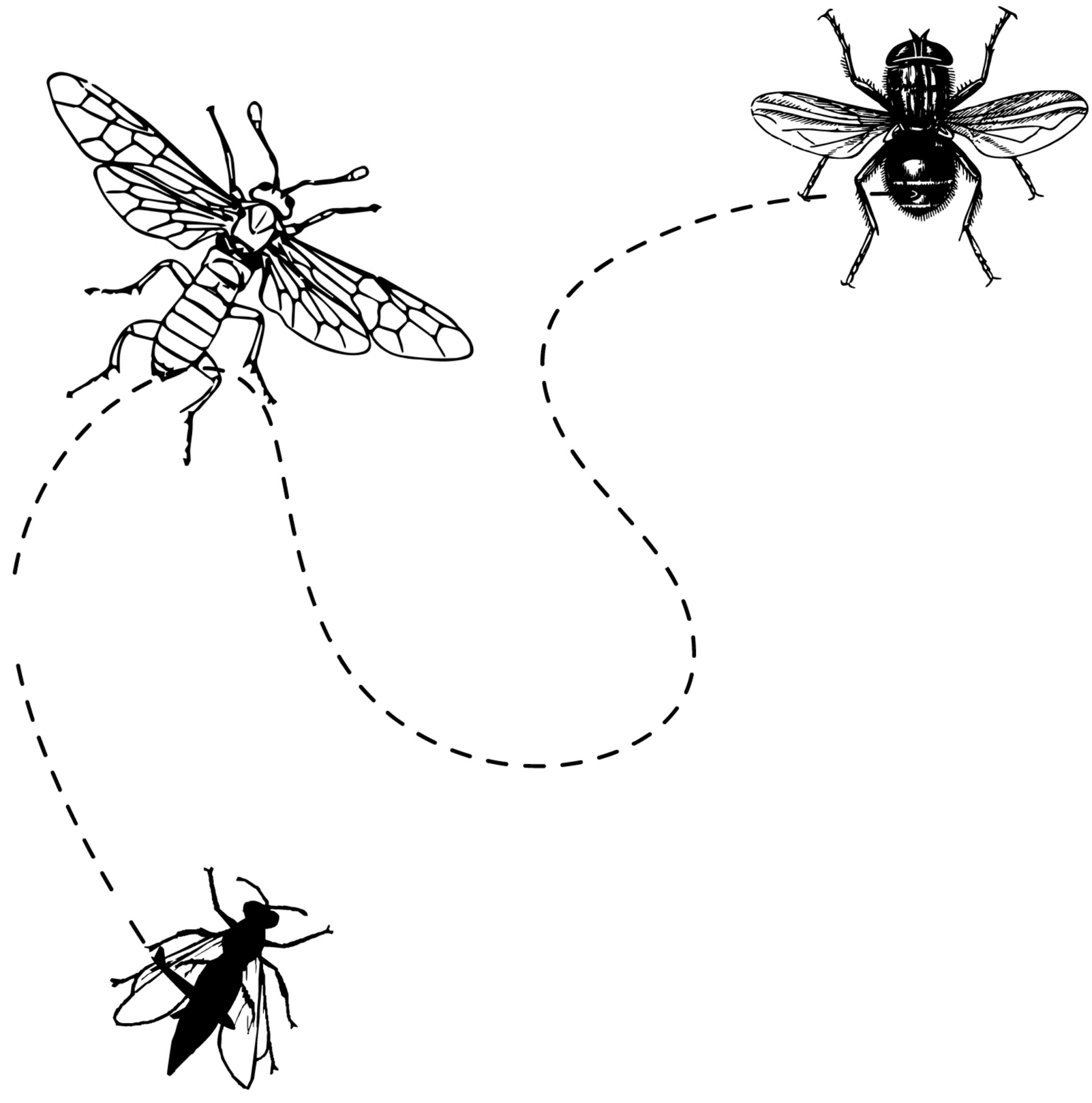
Each of you collects **five** cones or stones to use as eggs in your nest and sits on them brooding for a while.



21B

Your breeding failed this year,
but you survived the long migration!

Wag your tails joyfully and catch insects in the air with your beaks (hands).

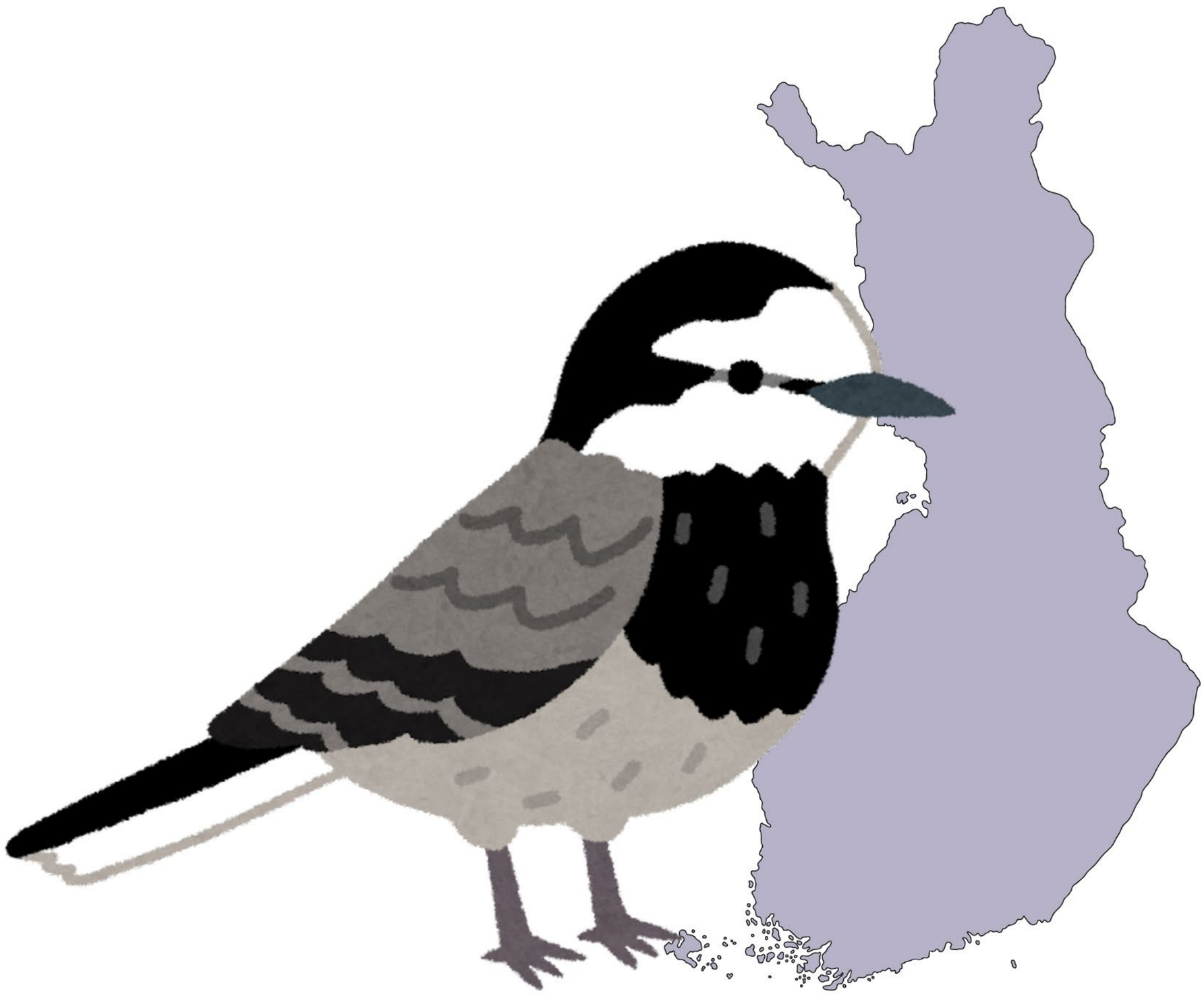


22

GOAL!

The white wagtail's migration was long and dangerous. Why was it still worth coming to Finland to breed?

Think of possible reasons and tell the teacher.



Follow-up activities

- Calculate the length of the migration route “as the crow flies” to the town where you live (or where your school is located). You can also draw the route on a map.
- What dangers did the white wagtails encounter in the game?
- The number of breeding white wagtails in Finland has decreased over the long term. The reason for this decline is unknown. What kinds of factors do you think might be causing the decrease?
- What can we do to help the white wagtails and other birds?

Egypt

Jordan

Cyprus

Black Sea

Bucharest

Warsaw

Riga

Tallinn

Helsinki

Helsinki
Tallinn
Riga
Warsaw
Bucharest
Black Sea
Cyprus
Jordan
Egypt

Background Information For The Game Facilitator

White Wagtail (scientific name: Motacilla alba)

- A slender, long-tailed small bird with a striking pattern of black, white, and grey. The male has a completely black throat and crown, while females and juveniles have the same areas in dark grey.
- The white wagtail often wags its long tail and is relatively unafraid of people.
- Its most typical call is a clear, two-part “tsilip”.
- The white wagtail feeds on insects and other invertebrates.
- It is a bird of open environments, thriving in yards and urban areas, the archipelago, near bodies of water, as well as fields and meadows.
- The white wagtail is a short-distance migrant. Most of the wagtails breeding in Finland winter in northern Africa and the Middle East. The journey takes 2-4 weeks depending on wheather, wind, route choice and access to food.
- The white wagtail is a calendar migrant, which means that it arrives at around the same time each year. I arrives in southern Finland in the end of April, depending on the weather conditions.
- The number of breeding wagtails in Finland has decreased over the long term. The cause of this decline is unknown, which makes collecting additional information—for example through bird ringing—especially important for this species.
- Source: https://mappa.fi/lajikortit/vastarakki/

Tasks

(the mandatory tasks start with a red font, some of the tasks have additional information for the game facilitator)

- **0: Start.** You are white wagtails that have spent the winter in Egypt. Egypt is in Northeast Africa. It´s the end of March, and you need to start your migration back to Finland. The pyramids in Egypt are over 4,500 years old! Build a pyramid using natural materials. Show the pyramid to the teacher.
- **1: You have eaten well and fattened up for the migration.** The journey is long and requires good fitness. Now it’s time for a warm-up! Prepare for the long trip with one of these exercises: 10 jumping jacks, 10 push-ups (knees on the ground) or 10 squats.
- 2: The white wagtail’s plumage is black, white, and grey. Find the colours of the white wagtail in nature and show the teacher.
- **3: It is time to depart, and you must now take the correct direction toward Finland.** Find out where the north is using signs in nature. Trees often have more and longer branches on the south side, ant hills are on the south side of stones and trees, the sun rises in the east and sets in the west, around midday the sun is in the south. Tell your answer to the teacher (who can check with a compass).

- 4: Many small birds migrate at night, but the white wagtail migrates during the day. What do you think it uses to find its way to Finland? a) the sun, b) the starry sky, c) landmarks (coastlines, headlands).
    - How does the White Wagtail navigate? The white wagtail migrates during the daytime and navigates using the position of the sun, landmarks, the Earth's magnetic field, and an innate genetic "program" that tells it which direction to fly and for how long. Options a) and c) are the correct answers.

- **5: You are now flying over Jordan, which is in the Middle East.** It is hot and dry. The white wagtails thrive near bodies of water. Do you see water nearby? If not, do you know where you can find the nearest lake, pond, stream or river? Tell the teacher. Next, choose either the left or the right path in the game.
    - Why does the White Wagtail prefer areas near bodies of water? The white wagtail thrives in open environments and near bodies of water, where there are often plenty of flying insects — in other words, an abundant food supply for the wagtail.
    - In their wintering areas in Africa and the Middle East, white wagtails gather together in the evenings and take a quick bath before sunset, after which they settle into a communal roost for the night.

- **6A: A strong wind from the east carries you to the island of Cyprus in the Mediterranean.** There you get caught in a net set by a bird catcher. You must free yourself quickly! Stand in a circle and close your eyes. Stretch out both hands and grab someone else's hands. Your group now forms a knot. Can you untangle the knot without letting go? If you don't succeed, go back to task 5 and continue along the other route.
    - Why are trapping nets set up? According to studies conducted by BirdLife International in 2015 and 2016, around 25 million birds are illegally killed every year in the Mediterranean region.
    - The reports show that large numbers of birds are still being shot or trapped using snares, nets, or glue applied to tree branches, in violation of national laws and international agreements.
    - Birds are killed for food, but also for sport, to be stuffed, or because they are considered pests.
    - Source: Preliminary assessment of the scope and scale of illegal killing and taking of birds in the Mediterranean | Bird Conservation International | Cambridge Core, New report: Millions of birds still illegally killed – and most countries failing to stop it - BirdLife International

- **6B: A tailwind takes you to the coast of the Black Sea in the northern parts of Turkey.** There you get caught in a ringer's net at a bird station. You get a ring on your leg. Why do you think the wagtail got a ring on its leg? Tell the teacher.
    - Why are birds ringed? Ringing provides information on, for example, the distribution, abundance, behaviour, age and mortality of birds. The information produced by ringing also promotes bird conservation.
    - Source: https://www.helsinki.fi/en/luomus/observations-and-monitoring/bird-monitoring-and-ringing/bird-ringing
- 7: White wagtails migrate in flocks. Now there are quite a few of you together. Run in a line, flapping your wings, around another group. For a moment, there are even more wagtails migrating together!
- 8: You fly over Bucharest, a large city in Romania. When you land to rest, you bump into a skyscraper window. Luckily, you escape with just a scare!
    - How can you make windows safer for birds? Reflect on solutions and tell them to the teacher. How can bird collisions with windows be prevented? You can keep blinds and curtains closed to reduce reflections. Not cleaning the windows can also lessen reflections and transparency, which helps prevent collisions.

- Hawk-shaped stickers may help with small windows, but for larger windows their effect is very limited.
- You can use a UV marker to draw patterns on windows that are visible only to birds. Dot patterns can be created by taping collision-prevention tape onto the glass. There are also windows that come with built-in patterns from the manufacturer.
  - Source: https://www.birdlife.fi/suojelu/oma-ymparistomme/lintujen-ikkunatormaykset/, Preventing Glass Collisions - American Bird Conservancy

- **9: The migration is long and requires a lot of energy.**
  You need to land to eat. The white wagtail is an insect-eater, which you can tell by its narrow beak. Can you find an insect or traces of insects? Build an insect from natural materials. The insect must have 6 legs.
  - What might the pupils find? The pupils might find, for example, ants, beetles, mosquitoes, flies, bumblebees, and butterflies. Insects leave feeding marks on leaves, branches, and tree trunks.

- 10: You are getting quite tired and decide to land. Sit down (under a tree) to rest and breathe calmly in and out ten times.
- **11: You have arrived in Warsaw, which is in Poland.**
  Oh no, a good resting place along the migration route has been turned into a huge parking lot! You can’t find enough

insects to eat there. The white wagtail flock must look elsewhere for a resting place and food. Move two steps back in the game and roll the dice again. You do not have to stop here again.

- 12: Help! You have lost your direction! You accidentally flew straight east. Take a new direction. Imitate the white wagtail's call "tsi-litt tsi-litt" and lure all wagtails toward the correct direction!
- 13: Now you have arrived in Riga, the capital of Latvia. The white wagtail is Latvia's national bird. White wagtail in Latvian is "Baltā cielava". Cheer out "Baltā cielava" three times together with a movement of your choice. With this cheer you encourage all migrating white wagtails!
- 14: You land on a field, where the farmers have used a lot of poisonous pesticides against insects. It will be harder to find food here. Throw a dice until you get a number three, to have time to eat enough insects, then you can continue your journey.
    - How do insecticides affect the White Wagtail? In agriculture (except in organic farming), large amounts of insecticides are used. These chemicals kill not only pest insects but also many other insect species. Since white wagtails feed mainly on insects, insecticides also have a harmful impact on them.

- 15: An Eurasian Sparrowhawk tries to attack you! Birds of prey avoid humans. The fearless white wagtail can use this and fly close to a human to avoid being eaten. Fly close to an adult, where you will be safe for a moment!
- 16: You fly over Estonia toward the coast. Ahead is a sea crossing, but you have a headwind. You wait for a southern wind. At the harbour in Tallinn, there is a sign in Estonian that says: “Head reisi ja tere tulemast jälle!” What do you think it means? Tell your guess to the teacher. Head reisi ja tere tulemast jälle! = Have a nice journey and welcome again!
- 17: Finland in sight! It´s the end of April, and you have flown all the way from Egypt. Soon you can see Finland´s capital, Helsinki. Look at the map. Where have you been during your migration journey and in which order? Tell your teacher about your route. Next, choose either the left or the right path in the game.
    - Route: Egypt - Jordan - Cyprus - Black Sea - Bucharest- Warsaw - Riga - Tallinn - Helsinki.
- **18A: Spring has started in Finland!** The white wagtail is seen as a sign of spring. In the past, it was believed that the wagtails have especially strong legs. Thus they could break the ice on the shores when jumping on it. Jump on two feet to celebrate the spring!

- **18B: You thought you would reach the buffet tables, but you end up in a snowstorm!** Winter has returned to Finland, and you must turn back toward the Finnish coast. Take two steps back. Roll the dice until you get a one or a three, and continue forwards.
- **19: Now it is time to find a partner and build a nest.** The white wagtail can build its nest in a hole in a building or tree, in a pile of stones, or in a woodpile. Walk around nearby and find a good hole for the white wagtail's nest. Tell the teacher what kind of place you found.
- **20: A cuckoo has laid eggs in your nest!** The cuckoo chick will push all your eggs or chicks out of the nest. Breeding failed because of the cuckoo. Roll the dice. Number 1–3 = you breed again. Go to task 21A. Number 4–6 = you don´t breed again. Go to task 21B.
    - How does the cuckoo reproduce? The cuckoo does not build its own nest but is a brood parasite on several passerine species (such as the redstart, meadow pipit, white wagtail, dunnock, and brambling). The cuckoo chick pushes the host bird's eggs or chicks out of the nest, after which the host parents incubate and feed the cuckoo chick.
    - Source: https://mappa.fi/lajikortit/kaki/

- **21A: You succeeded in breeding!** Together with your partner, you take turns incubating five eggs in the nest. After about two weeks, the eggs hatch. Now you must work hard and feed them, so they have a good chance to survive. Each of you collects five cones or stones to use as eggs in your nest and sits on them brooding for a while.
- **21B: Your breeding failed this year, but you survived the long migration!** Wag your tails joyfully and catch insects in the air with your beaks (hands).
- **22: Goal!** The white wagtail's migration was long and dangerous. Why was it still worth coming to Finland to breed? Think of possible reasons and tell the teacher.
    - Answer: In spring and summer, insects and other food sources are abundant for both adult birds and their chicks. There is less competition for food which enhances successful breeding. The light nights and long days also give the birds more time to search for food.

CREA+BIRD

Through education to a deeper connection with nature

The Migratory Bird Game, 2026.

Authors: Pia Lindström, Porvoo Nature School &
Maria Salin, The Finnish Nature Centre Haltia

GGraphic design: Sanna Saari-Vesterinen,
The Finnish Association of Nature and
Environment Schools

Accessibility editing: KMG Turku

METSÄHALLITUS
FORSTSTYRELSEN

HALTIA
THE FINNISH NATURE CENTRE

PORVOO BORGÅ

Co-funded by
the European Union

LYKE
verkosto