BLOCK 6

SPRING MIGRATION
The prolonged day and higher ambient temperatures are a signal of coming big changes in nature. We all can observe the first appearing in our environment signs of spring. Already in February we can see leaning out from the snow the first flowers, such as snowdrops and winter aconites. The hazel is also beginning to bloom. In March beginning to appear the early spring plants, there are flowers of primrose, kingcup, lesser celandine, coltsfoot, hepatica and trees: willow, birch tree, poplar, alder, aspen and shrubs: forsythia, dogwood and privet. In the first stage of development, plants benefit from the resources stored in the previous year in rhizomes, bulbs and roots. Then their growth processes will be faster, the more they will be favored by ambient conditions, i.e. the right temperature, access to sunlight, water and soil suitable for the species.

Of course, not only plants come to life. Animals wake up from the winter sleep: bears, badgers, raccoon dogs, hedgehogs, bats and amphibians, including common frogs and insects, which wintered buried in the ground or under the bark of trees. Such an early awakening can become a trap in the event of a significant deterioration of the weather. Many animals can die then. Deteriorating weather conditions are also not favorable for plants. For birds, the coming spring is an important signal to start preparing to an extremely vital life function, i.e. reproduction and upbringing of offspring. Of course, migratory birds that spent the winter in other geographical regions must reach the place where they will build nests and raise their offspring. Therefore, they are undertaking a return journey from wintering grounds, which in the meantime may become less friendly, due to the high competition between numerous wintering individuals. The date of migration is regulated by an internal biological clock, controlled by the neurohormonal system. It causes physiological changes in the body of birds and arouses spring migration anxiety. Return from wintering grounds takes place according to determined by the tradition return's calendar. As the first, starting from mid-February, begin to appear small birds, associated with meadows and arable fields- skylarks. Their loud trilling issued when they rise into the sky are very characteristic and it’s hard not to hear it for visitors of suburban and rural neighborhoods. At the turn of February and March, the cranes flying in the characteristic V shaped formation, migrate with a laud voice called the clang. It is so characteristic that it makes it easy to distinguish between cranes from similar in flight storks. In turn, storks appear in the second half of March and although they are traveling in groups, they never create V-shaped formation. They do not fly actively during the migration (they are not flapping their wings constantly like geese) but soaring using ascending air currents. They perfectly recognize such „lifts” that elevate them very high (the official record is 1550 meters high), and then they slide down to the base of the next lift and repeat the whole maneuver. These birds usually return to the same nest where many villagers are looking forward to their return, treating storks as permanent, bringing luck co-inhabitants. In the second half of April and at the beginning of May appear insectivorous birds, although insects which are their food will only come to life when it is hotter. Thus, in mid-April, barn swallow and house martins will come. At the latest, because sometimes at the turn of April and May comes an inhabitant of urban areas- swift. Most birds come back to us generally in
March and April. At the same time, the quantity of winter guests, which often came to our feeders, is also waning. Usually waxwings, bullfinches and redpolls leave us in March. Young bird watchers should be encouraged to participate in an international campaign Spring Alive, in which children from three continents - Europe, Central Asia and Africa are taking part. As part of this action, children with their teachers and families follow yearly returns of swallow, white stork, cuckoo, swift and bee-eater. Participants register on the website www.springalive.net their first observations of these bird wanderers in a given year, creating an up-to-date map of the wandering, and thus a map of the progress of spring. Depending on the species and field conditions, the birds migrate during the day or at night. During the day wander birds familiar with open space, so they are capable of avoiding attacks of predators in the air, also forest species (such as tits or long-tailed tits), which fly at low altitude and can quickly hide in afforestation in case of danger. Birds which wander at night, avoid threats from the daytime birds of prey. Also when they fly in colder and more humid air, they reduce the loss of water, what is of special importance for overcoming places as unfriendly as deserts, where a hot day is definitely better to wait in the hideout.

The strategy of migration can take many forms. One of them is the so-called migration in a broad front, which is often used by small passerine birds (e.g. lark, finch, warblers). It consists of the fact that birds belonging to different populations migrate throughout the breadth of their breeding grounds and the various terrain forms. Migration does not pass through specific routes but through so-called flyways, which are used to determine current orientation. These can be the regular topographic forms of terrain, such as coastlines, watercourses or mountain ranges and water reservoirs or characteristic buildings. Another common and used by birds method is narrow migration corridors. It is mainly used by birds dependent on aerial updrafts (e.g. white storks). Birds migrate through narrow migration corridors in which updrafts form. Yet another form of migration is so-called the loop migration, which undertakes cuckoo, which chooses different routes in the case of spring and autumn migration. The mechanism of such a migration has not been fully explained yet. It is also worth to mention about the so-called return migration. It takes place when birds returning to the breeding grounds, encounter unfavorable weather conditions along the way. Then, they are forced to return to wintering grounds in order to wait the bad weather conditions and along with the warm front, return to the breeding grounds. This phenomenon often occurs in Central Europe. If such a situation takes place during the migration, a chance to withdraw to more conducive places is greater. If, however, the weather breaks down already after reaching the breeding ground, the risk of death from starvation or hypothermia is much more greater and therefore it is important to feed birds until the moment when the weather conditions will stabilize. The flight of birds may take an active form (it is a flight depend on continuous work of wings, requiring the current energy supply) or passive form, i.e. gliding, or short-time sliding flight. Gliding flight is used by many large birds, for which lifting and movement is a serious challenge because of their weight and can significantly reduce energy reserves. Hence, they use the occurring in the atmosphere the so-called updrafts, which are the effect of temperature differences between air masses at different altitudes, or large
differences in wind speed at small changes of altitude. Then are forming the so-called „thermal columns”. Such a strategy is used, among others, by big birds with extended wing surface (e.g. birds of prey- eagles, vultures, or well-known to all of us storks). The rising air currents can be used under the condition of sufficiently warm and sunny weather. That’s why storks start their journey in time, when the temperature is relatively high. They can not travel over the waters, because the rising air currents are not creating over the waters. An additional convenience in the case of gliding birds, is mentioned above a large wing surface, which creates additional resistance to the air masses, slowing down the bird’s falling. The sliding flight is most often used during landing when the energy expenditure is not necessary to keep the bird’s body at a certain altitude and all effort focuses on achieving a specific aim. Often it also requires an appropriate, holding wing setting and tail feather control. The variety of the way birds fly translates into a specialization in the construction of their wings. Birds, which are flying slowly, but are able to move agile among the thicket branches (e.g. magpie) have short and wide wings and a long tail. Heavy-flying pheasants have very wide wings equipped with muscles having almost equal power when lifting and when falling. Thanks to this, pheasants frightened by a four-legged predator can rising into the air almost vertically. Very narrow, curved backward wings of swifts, some falcons and waders resist little the air and are adapted to high speed of flight. This ability is a cost of the small efficiency of gliding and difficulty in taking off from a flat surface. Forming by migrating birds V-formation saves energy. The bird flying first performs the hardest work. Waving its wings, it generates current of air that facilities the flight of birds, which fly directly behind it. One can say that it paves the way for his companions. The effect is the greatest directly behind the wing tips. Birds, to ensure their visibility, stick to the line marked by the outer wing of the predecessor. The further away from the front of the V-shaped formation, the smaller is the air resistance and the work put into the flight decreases. There, the young and inexperienced or sick birds are always flying. At the end of the V-shaped formation also rest guides, which are changing from time to time. The V-shaped formation are formed by long-distance runners, eg cranes, geese, swans or cormorants. It’s easier for birds that migrate in a group like geese or cranes, because they have the chance to learn the routes from older and more experienced relatives, who have already flown a migration route many times and are able to recognize permanent details of the area.

The return of birds from wintering grounds is not only a big physical effort. Birds are exposed to various breakdown and changes of the weather or encounter obstacles in the form of technical infrastructure (power lines, large windmills, etc.). They must also avoid predators and gain food. The greatest danger they may encounter on the part of numerous people hunting for them- in order to obtain meat (native Africans) or for sport (especially intensively in Malta, Cyprus, the Middle East, and Arabia). Migratory birds are an object of hunting in many parts of the world. Hunters and poachers catch or kill birds that gather in refuges, including endangered species and subjected to strict protection. Only in the countries surrounding the Mediterranean, during their migration, there are killed annually up to 250 million birds. Migration through the Balkans, the Middle East, and Sicily, Malta and Spain are a real death trail for birds. In the
case of species endangered by extinction, the losses during migration can make the populations unable to reproduce, despite the protective actions taken in the breeding grounds. To promote protection of migratory birds around the world, especially those endangered with extinction every year in the second decade of May takes place the World Migrant Bird Day. The ability to fly is a huge convenience. In connection with endothermy it gives the birds the chance to reach almost all corners of our globe. When take into account speed of movement, distance covered and differences in height birds do not have equals among other flying animals- insects and mammals. Among birds we have speed recorders, such as swift (130 km / h), swallow (90 km / h) and peregrine falcon, which reaches 360 km / h in a diving flight. For comparison, the fastest terrestrial mammal, which is a cheetah, can chase the victim for short distances at a speed 120 km / h, 120 km / h antelope, 80 km / h, lion and horse- 70 km / hour. Spring observations of winged wanderers can be used to prepare a calendar of bird arrivals in the nearest surroundings. It is worth looking for them in various places because then the chance to collect additional interesting information about their traveling habits are much larger. Places where we will definitely see in the spring wandering birds are, for example, coastal beaches and meadows, riverside thickets, open areas with spring backwaters, suburban shelters and bushes, and balks. These are usually places where birds can find food or shelter and rest during the trip. When observing birds in flight, we must pay attention to distinctive features, specific to the species, especially if we observe birds from a greater distance and not all details are clearly visible, and the size of the body is difficult to assess. Such features include: the shape of the bird’s silhouette in flight, the length of the neck, the length and shape of the beak, the length and shape of the tail (straight, rounded, forked) and the size and shape of the wings (wide, narrow, rounded, sharpened). We need to remember that when we evaluate the size of the bird we need to keep the right proportions, preferably referring them to other parts of the body, for example the beak twice the length of the head or the length of the tail corresponds to the length of the torso.
This material was prepared as part of the project „We live in harmony with nature. The educational program for teachers of pre-school and primary education“. The project involved selected non-governmental organizations involved in the protection of birds associated as part of the international BirdLife International federation. In addition to the National Society for Bird Protection, which ran the project, the Spanish Ornithological Society (SEO), the Slovak Ornithological Society (SOS), the Macedonian Ecological Society (MES), the Czech Ornithological Society (CSO) and BirdWatch Ireland (BWI) were involved. The University of Gdańsk became the substantive partner of the project responsible for creating materials for teachers.

BirdWatch Ireland is a non-governmental organization with a public benefit status, dealing with the protection of wild birds and the places where they live. The aim of the Society is to preserve the natural heritage for the benefit of present and future generations. BirdWatch Ireland is the Irish partner of the global federation of bird protection societies - BirdLife International.
School Work SHEETS

BLOCK 6: SPRING MIGRATION
## Block 6: SPRING MIGRATION

**Background:** A washing line is put up in the classroom with names of spring months hung on it (panel hooks made with paper clips). On this spring time axis, graphical symbols of spring signs observed by children will appear.

<table>
<thead>
<tr>
<th>DETAILED PROBLEMS</th>
<th>HOW TO RECOGNISE THAT SPRING IS COMING?</th>
<th>WHEN DO BIRDS COME BACK TO US? WHAT DANGERS THERE ARE FOR MIGRATING BIRDS?</th>
<th>HOW DO BIRDS FLY?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Field activities</strong></td>
<td>The search of the first signs of spring can be turned into an adventure full of emotions. Mark one day of the week as the day of the Spring hunter (6/A/1-6/A/5). Every week on this day go for a walk with the children using the same route and carefully watch changes in the environment. Start the observations in the second half of February and carry them out until the end of April. During the walks pay attention to flowers - the first ones are the wind-pollinated flowers (on trees and shrubs, such as the common hazel or the birch), followed by (as the temperature rises) insect-pollinated ones. Along with the flowers, insects appear. This is the time when the first birds return.</td>
<td></td>
<td>While walking, pay attention to how birds fly. Maybe you will be able to see the gliding flight of a buzzard or a stork, or the active flight of swallows or pigeons.</td>
</tr>
<tr>
<td><strong>Observations and experiments</strong></td>
<td></td>
<td></td>
<td>How do birds fly? (6/B/1-6/B/2)</td>
</tr>
</tbody>
</table>
| | | | • Present the project Spring Alive to the children, using the information available on the project's website. (Spring Alive is an international project that gathers young amateurs information of nature from Europe, Central Asia and Africa. Observers track the timing of the spring migration of the White Stork, the Cuckoo, the Barn Swallow, the Swift and the Bee-eater. They record their observations on the Project’s website, creating a map of bird spring migration.  
  • Together with children, decide the return of which species you will be waiting for. In a city, it will most likely be the Swift, while different species will typically be found in the suburbs (Barn Swallow) or rural areas (Lapwing, Skylark).  
  • Draw a wanted notice (6/B/3) for the bird that you are waiting for. Put it up around the area.  
  • Decide where in your neighbourhood you can expect this bird (for example by asking parents).  
  • A calendar of bird returns (6/B/4)– find a place in the classroom to put the calendar of bird returns.  
  • Together with children, enter your observations to the Project’s database |
| | Together with children, design and set up a spring class blog, where the children will publish their notes on spring observations. | |  |
### Art and graphomotor tasks

Art tasks using colours that prevail in a given week, e.g. yellow, green, white or blue. This task will sensify the children to perception of colours in nature.

### Game – find differences (6/B/5) between pictures

(this task aims at drawing the children’s attention to basic differences between the birds that return in spring.)

### Language and writing tasks

Folk wisdom in proverbs (6/A/6) about birds. Competition on spring songs - you will find inspiration in the book:

*Ireland’s Birds: Myths, Legends and Folklore*  
By Niall Mac Coitir  
Collins Press

Searching for spring could also take place in the classroom. Collect a set of books, magazines and albums, and get a computer with access to the Internet. Together with the children, look for poems, stories, press notes, as well as paintings by known and less known painters, which show birds returning to their breeding grounds in the spring. Writing notes to be published in the blog.

### Maths tasks

Ask the children to create math problems with feather counting.

### Games and competitions

Play a game on the phone together  
*Bird Migrations (S6 / B / 6).*
SPRING HUNTERS

Invite children to play in the search for spring. Fun can take place between teams separated in a class / kindergarten group or between classes or pre-school groups.

The game is based on a systematic hunt for signs of spring in selected habitats. To aid in the task the participants will receive a Spring hunters handout containing a table of the most common organisms. There are three different badges to be earned:

BRONZE
Badges are earned for the finding and documenting (photograph, drawing):
- of 3 spring plants
- 1 insect
- 1 spring bird

SILVER
Badges are earned for the finding and documenting (photograph, drawing):
- of 6 spring plants
- 3 insects (including 1 butterfly)
- 2 spring birds

GOLD
Badges are earned for the finding and documenting (photograph, drawing):
- 10 spring plants
- 5 insects (including 2 butterflies)
- 5 spring birds
- Including at least 2 species found outside class/group classes.
# SPRING HUNTERS CHECKLIST

## SPRING HUNTER

You can use the pictures included in the spring hunter information sheets to complete the checklist.

<table>
<thead>
<tr>
<th>DATE OF OBSERVATION</th>
<th>WEATHER</th>
<th>PLANTS</th>
<th>INSECTS</th>
<th>BIRDS</th>
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<tbody>
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</table>
Can spring be measured?

What you will need

- A ruler
- Notepaper, something to write with

Tasks and questions:

1. Find a plant in the area waking up for spring – e.g. A snowdrop
2. Note down the date, the weather conditions and measure the height of the plant (measure from the surface of the soil).

In how many days, in your opinion, will the plant start to bloom?

3. Continue to measure every 2-3 days or during the search for spring, until the flower blooms

Were your predictions correct?

Think about:

- In your opinion what had the biggest influence on the plant’s speed of growth?
- In the beginning, from where do you think the plant got its strength to grow?
THE SPRING DERBY

Questions and tasks:

1. Imagine that you are a spectator at the Spring Derby, whose competitors include:
   - flowers without petals (wind-pollinated), such as hazel or birch
   - colourful flowers with petals
   - insects
   - barn swallows
   - swifts

2. Who do you think will finish in first place?
   Number your answers from 1 to 5 in the boxes next to the competitors.

3. Conduct field research (from mid February to mid April) were your assumptions correct? Note down your observations below.

Think about:
Why did the competitors finish in the order that they did?
# SPRING HUNTERS PLANT SHEET

## PLANTS

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><img src="image1" alt="HAZEL - FLOWERS" /></td>
<td><img src="image2" alt="WILLOW – FLOWERS" /></td>
<td><img src="image3" alt="SILVER BIRCH – FLOWERS" /></td>
</tr>
<tr>
<td><img src="image4" alt="MAPLE – FLOWERS" /></td>
<td><img src="image5" alt="SNOWDROPS" /></td>
<td><img src="image6" alt="SPRING SNOWFLAKE" /></td>
</tr>
<tr>
<td><img src="image7" alt="WINTER ACONITE" /></td>
<td><img src="image8" alt="FIG BUTTERCUP" /></td>
<td><img src="image9" alt="COLTSFOOT" /></td>
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<tr>
<td><img src="image10" alt="YELLOW STAR-OF-BETHLEHEM" /></td>
<td><img src="image11" alt="PRIMROSE" /></td>
<td><img src="image12" alt="MARSH MARIGOLD" /></td>
</tr>
</tbody>
</table>
# SPRING HUNTERS PLANT SHEET

## PLANTS

<table>
<thead>
<tr>
<th>SIBERIAN SQUILL</th>
<th>LIVERWORT</th>
<th>CROCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORSETAIL</td>
<td>PINK BUTTERBUR</td>
<td>WHITE ANEMONE</td>
</tr>
<tr>
<td>DAFFODIL</td>
<td>GRAPE HYACINTH</td>
<td>STITCHWORT</td>
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<tr>
<td>WHITE NETTLE</td>
<td>WOOD SORREL</td>
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<tr>
<td><strong>SPRING HUNTERS</strong></td>
<td><strong>ANIMALS</strong></td>
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<tr>
<td><strong>BUMBLEBEE (RED TAILED)</strong></td>
<td><img src="image" alt="Bumblebee" /></td>
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<tr>
<td><strong>CARABUS BEETLE</strong></td>
<td><img src="image" alt="Carabus Beetle" /></td>
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<tr>
<td><strong>FIREBUG</strong></td>
<td><img src="image" alt="Firebug" /></td>
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<tr>
<td><strong>BEE</strong></td>
<td><img src="image" alt="Bee" /></td>
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<tr>
<td><strong>LADYBUG</strong></td>
<td><img src="image" alt="Ladybug" /></td>
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<tr>
<td><strong>BRIMSTONE BUTTERFLY</strong></td>
<td><img src="image" alt="Brimstone Butterfly" /></td>
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<tr>
<td><strong>PEACOCK BUTTERFLY</strong></td>
<td><img src="image" alt="Peacock Butterfly" /></td>
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<tr>
<td><strong>SMALL TORTOISESHELL</strong></td>
<td><img src="image" alt="Small Tortoiseshell" /></td>
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<tr>
<td><strong>ANGLEWING BUTTERFLY</strong></td>
<td><img src="image" alt="Anglewing Butterfly" /></td>
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<tr>
<td><strong>SKYLARK</strong></td>
<td><img src="image" alt="Skylark" /></td>
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<tr>
<td><strong>SWALLOW</strong></td>
<td><img src="image" alt="Swallow" /></td>
<td><em>(jv)</em></td>
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<tr>
<td><strong>ROOK</strong></td>
<td><img src="image" alt="Rook" /></td>
<td><em>(jv)</em></td>
</tr>
</tbody>
</table>
SPRING HUNTERS
ANIMALS

- STARLING
- CRANE
- WHITE STORK
- LAPWING
- WHITE WAGTAIL
- COOT
- WILD GEESE
- ROBIN
- SWIFT
- COMMON FROG
- COMMON TOAD
SPRING HUNTERS
WEATHER NOTES

- SUN
- RAIN
- COLD
- WARM

School Work Sheets
Attachment S6/A/5

Publikacja  została  zrealizowana  przy  wsparciu  finansowym  Komisji  Europejskiej.
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PROVERBS

Questions and tasks:

1. Read the following proverbs about birds.
   • Cé gur beag díol dreoilín caithfidh sé a sholáthar. *Little as a wren needs, it must gather it.*
   • Má labhríonn an chuach ar chrann gan duiliúr díol do bhó agus ceanna igh arbharr. *If the cuckoo calls from a tree without leaves, sell your cow and buy corn.*
   • One swallow does not a Summer make.
   • Swallows and bees on the wing are sure signs of spring.

2. Check whether your observations match the proverbs

Think about:
*Where do these proverbs come from?*
*Why are they not always true?*
I. IS SHAPE IMPORTANT?

What you’ll need
• 3 identical sized pieces of paper (A4)

Questions and tasks:
1. How to prepare the paper for the experiment
   a. Tightly screw up 1 piece of paper into a ball
   b. Crumple 1 piece of paper
   c. Leave 1 piece of paper untouched
2. Before you throw the pieces of paper, guess which will fall to the ground last..............

3. How to conduct the experiment:
   a. Three children stand side by side with each holding one piece of paper
   b. It is important that each child holds their piece of paper at the same height
   c. When the instructor gives the word the children let their pieces of paper fall
   d. The remaining children note which piece of paper is the last to reach the ground.

Think about:
• Why did that particular piece of paper take the longest to fall?
• Do birds use a similar phenomenon in order to fly?
• What sort of object could you make in order to take advantage of this phenomenon?

II. FLYING OBJECTS
In this experience you’ll build various flying objects. Your goal is to build yourself an entry to win a flying competition.

What you’ll need
Different sized pieces of paper, pieces of material, pieces of plastic, Styrofoam, etc.

• Plasticine
• Scissors
• Double sided tape
WHICH NATURAL PHENOMENON DO STORKS USE IN FLIGHT?

What you'll need
• A spiral cut from paper (use the template provided)
• String
• A stick (e.g. a wooden skewer)
• Heat source— a lamp with a bulb pointed upwards, an electric oven or a candle
• A fragment of the film Flight of the Stork. The Secrets of Nature) [from 4 minutes 55 seconds, until 5 minutes 12 seconds.] The film can be found at: https://www.youtube.com/watch?v=_SQej8At9Jk

WARNING! DO NOT ATTEMPT THIS EXPERIMENT WITHOUT THE SUPERVISION OF AN ADULT!

Questions and tasks:
1. Cut out the spiral
2. Fix the string to the designated end
3. Attach the other end of the string to the stick
4. Hold the spiral above the heat source and observe what happens.
5. Discuss the results of the experiment.
6. Formulate a theory and write it down:

7. Watch a fragment of the film FLIGHT OF THE STORK.

Think about:
• Why were you asked to carry out this experiment?
• What does this experiment have in common with the flight of a stork?
WANTED POSTER

Questions and tasks:
1. Prepare a WANTED poster for a bird returning from its spring migration include the following information.
2. Pin the poster on the notice board.

wanted

Who are you looking for?

WANTED POSTER FOR………………..
(name of bird)

BRIEF DESCRIPTION OF THE BIRD WHICH INCLUDES A DESCRIPTION OF ITS CHARACTERISTICS, ITS APPEARANCE (SIZE – REMEMBER ITS GOOD TO COMPARE THIS INFORMATION TO OTHER WELL KNOWN BIRDS FOR EXAMPLE; THE BIRD IS SPARROW-SIZED, DOMINANT PLUMAGE COLOUR, OTHER CHARACTERISTICS – LIKE. GREY HEAD CAP, SHAPE OF WINGS IN FLIGHT.)

An explanation as to why the bird is wanted. Who to contact and how with any information concerning the wanted bird.
# CALENDAR OF RETURNING MIGRATORY BIRDS

Spring is the time migratory birds return from their winter vacations. Some return in squawking loudly, others return largely unnoticed. Watch carefully and record your observations.

<table>
<thead>
<tr>
<th>DATE OF OBSERVATION</th>
<th>BIRD</th>
<th>WHERE SEEN?</th>
<th>BEHAVIOUR</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**Example observation:**

<table>
<thead>
<tr>
<th>DATE OF OBSERVATION</th>
<th>BIRD</th>
<th>WHERE SEEN?</th>
<th>BEHAVIOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st march</td>
<td>Wild geese</td>
<td>Whilst out walking</td>
<td>Flying in a V and honking</td>
</tr>
</tbody>
</table>

Publikacja została zrealizowana przy wsparciu finansowym Komisji Europejskiej.
Publikacja odzwierciedla jedynie stanowisko jej autorów i Komisji Europejskiej oraz Narodową Agencję Programu Erasmus+ nie ponoszą odpowiedzialności za jej zawartość merytoryczną. PUBLIKACJA BEZPŁATNA.
FIND DIFFERENCES BETWEEN SIMILAR SPECIES

Find 3 differences between the pictures:

(jv)
FIND DIFFERENCES BETWEEN SIMILAR SPECIES

Find 5 differences between the pictures:

Find 3 differences between the pictures:
FIND DIFFERENCES BETWEEN SIMILAR SPECIES

Find 5 differences between the pictures:

(jv)

(jv)

Find 5 differences between the pictures:

(jv)

(jv)
APPLICATION - MIGRATION OF BIRDS

Use the smartphone app to talk to children about bird migration and draw their attention to the dangers that are waiting for migrating birds. The whole application is in English.

Step by step instructions:
1. Search on Google Play for Android phones or on the AppStore for IOS phones - Migration of Birds - application and install it.
2. 5 species of birds are visible on the start screen. You should choose one of them.
3. After selecting the genre, a window with instructions will appear. The game consists of setting them in the right sequence, consecutive stages in the life of the selected bird species. The life cycle has been divided into what happens during the bird’s migration and what happens during the breeding season.
4. The player is tasked with arranging 9 stages of life of the selected species.

You can start with matching circles, of birds with their habitats, place the danger circle where there is danger that threatens the species.
This material has been prepared as part of the project „We live in harmony with nature. Educational program for teachers of preschool and primary education.”

The project involved selected non-governmental organizations involved in the protection of birds associated as part of the international BirdLife International federation. In addition to the National Society for Bird Protection, which ran the project, he was involved in the Spanish Ornithological Society (SEO), the Slovak Ornithological Society (SOS), the Macedonian Ecological Society (MES), the Czech Ornithological Society (CSO) and BirdWatch Ireland (BWI). The University of Gdańsk became the substantive partner of the project responsible for creating materials for teachers.

BirdWatch Ireland is a non-governmental organization with a public benefit status, dealing with the protection of wild birds and the places where they live. The aim of the organisation is to preserve the natural heritage for the benefit of present and future generations. BWI is the Irish partner of the global federation of bird protection societies - BirdLife International.

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