THE MIGRATION CHALLENGE

AGES 11-14

Curriculum resource pack for migration

WWT is one of the UK's leading providers of outdoor learning. We welcome over 50,000 learners per year to our Wetland Centres where we provide unique opportunities for learners of all ages and abilities to interact with wetland wildlife from the UK and across the world.

We are open all year round with sessions for every season. Whether you're looking for curriculum-linked learning or simply a fun day out, there really is something for everyone. To find out more about our school visits programme please visit **learningzone.wwt.org.uk.**

Why wetlands?

WWT works across the UK to save, restore and build wetlands for wildlife and people. Wetlands are one of the most important habitats on earth – storing huge amounts of CO_2, providing a natural way of stopping flooding and serving as a home for huge numbers of different creatures. Spending time in wetlands is also proven to improve mental health and wellbeing!

Using this resource pack

This resource pack contains classroom activities designed to cover key curriculum content as well as outdoor activities designed to promote nature connection and a love of the natural world. This is accompanied by supporting resources that can be printed or used on screen with your pupils.

CURRICULUM LINKS

England

KS3: Geography

- Extend locational knowledge and deepen their spatial awareness of the world's countries using maps of the world to focus on Africa, Russia, Asia (including China and India), and the Middle East, focusing on their environmental regions, including polar and hot deserts, key physical and human characteristics, countries and major cities

Northern Ireland

KS3: Science

- Explore the importance of biodiversity, how it impacts on our lives and how it is affected by human activity
- Investigate what can be done to conserve and promote biodiversity

Wales

KS3: Science and Technology

- I can explain how the impact of our actions contribute to the changes in the environment and biodiversity
- I can evaluate the factors which affect the development and health of organisms

KS3: Humanities

- I can describe and explain the distinctive features of places, spaces and landscapes at a variety of scales, in my locality and in Wales, as well as in the wider world, along with the processes at work in them
- I can analyse and explain the impact of decisions made by individuals, local, national or global governance, and non-governmental organisations on people, their rights and the environment
- I can evaluate the extent to which economic, social, political, cultural, religious and non-religious beliefs, practices and actions have led to changes to the natural world

Scotland

Sciences

- Third: I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution
- Fourth: Through investigation, I can explain how changes in learned behaviour due to internal and external stimuli are of benefit to the survival of species

Social studies

- Third: I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact
- Third: I can investigate the climate, physical features and living things of a natural environment different from my own and explain their interrelationship
- Third: I can use a range of maps and geographical information systems to gather, interpret and present conclusions and can locate a range of features within Scotland, UK, Europe and the wider world
- Fourth: I can develop my understanding of the interaction between humans and the environment by describing and assessing the impact of human activity on an area

Explore migration at our sites

We have a range of sessions focusing on migration at KS3. Visit our Learning Zone to find out more **learningzone.wwt.org.uk**

INDOOR ACTIVITIES

YOU WILL NEED:

Migration map (see the end of this pack)
Rulers
Red and blue colouring pencils/pens

NOTE: **Where you see a Q this indicates a question to ask your pupils.**

Activity 1: Mapping Migration

Q **What do we mean by migration?**

- Introduce the concept of migration.

Key word
MIGRATION

When an animal travels to find food or better living conditions, usually as the seasons change.

- Give out one copy of the migration map per group.
- Ask each group to label:
  > the seven continents and five oceans
  > the equator
  > the northern and southern hemipspheres
- Look at the following information on the follow pages together with your class:

Bewick's swan

Location during UK summer
Ust-Kara, Arctic Russia

Location during UK winter
WWT Slimbridge Wetland Centre, Gloucestershire

Migration dates
Oct / Nov and Feb / March

Route
Via Estonia, Latvia, Lithuania, Poland, Germany, Netherlands

Whooper swan

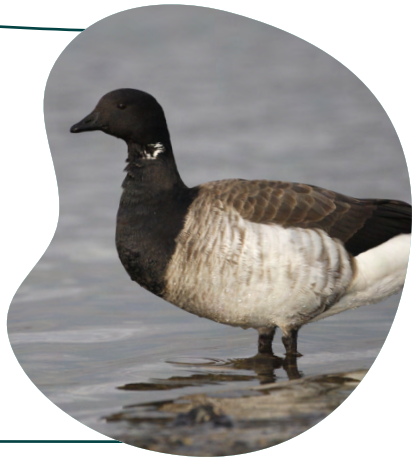
Location during UK summer
Iceland

Location during UK winter
WWT Martin Mere Wetland Centre, Lancashire

Migration dates
Oct / Nov and Feb / March

Route
Via Scotland

Light-bellied brent goose



Location during UK summer
Ellesmere, Arctic Canada

Location during UK winter
WWT Castle Espie Wetland Centre, Northern Ireland

Migration dates
Sept / Oct and Feb / March

Route
Via Greenland and Iceland

Osprey

Location during UK summer
Near WWT Caerlaverock Wetland Centre, Scotland

Location during UK winter
Senegal/Gambia border, Africa

Migration dates
March / April and Aug / Sept

Route
Via France, Spain, Morocco, Western Sahara and Mauritania

Sand Martin

Location during UK summer
WWT London Wetland Centre, Barnes

Location during UK winter
Niger, Africa

Migration dates
March and Oct

Route
Via France and Algeria

- Allocate each group one of the birds above (more than one group can focus on each bird - Bewick's swan and osprey are slightly more difficult than the others).
- Ask each group to look at the information for that bird.

Q **Where does the bird spend our summer?**

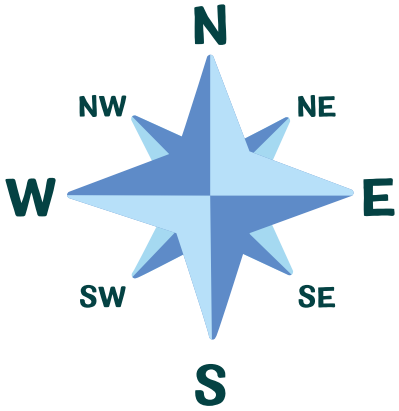
- Get each group to mark this with a red dot on their map.

Q **Where does the bird spend our winter?**

- Get each group to mark this with a blue dot on their map.
- Give instructions for each group to:
  - Look at the route listed on the card
  - Plot the bird's migration journey linking the middle of each country visited with straight lines using a ruler.
  - List the continents and oceans over which the bird travels
  - List the countries over which the bird travels
  - List the counties within the UK over which the bird travels

Q **Does this bird stay within the northern/southern hemisphere or do they travel from one hemisphere to the other?**

- If you haven't previously introduced an eight point compass to your class, draw/display one on the board.
- Use this talk through the eight points of the compass.
- Get each group to mark on the direction the bird flies (in each direction) using an eight point compass direction (N, NE, E, SE, S, SW, W, NW).



Activity 2: What is it like where they go?

- Each group should now research the area where the bird spends our summer and the area where it spends our winter. How do these two areas compare? How does the weather compare in these two different areas? Which is colder? What is it about these areas that provides the things these birds need to survive?
- Each group to report back to the rest of the class, describing the journey the bird takes and what they have found out about the two countries they've researched.

Q **Why do you think these birds go to the trouble of migrating?**
Why do they migrate when they do?

- Birds usually migrate to find a more suitable climate and better supplies of food.

Activity 3: The Migration Challenge

- These birds face lots of challenges on their migrations. There is a risk of starvation if they can't find enough food and many birds become exhausted. There is also a danger that they fly into tall objects such as pylons and telephone masts. Some of these birds are even hunted.

Q **Can you imagine what the journey must be like for these amazing animals?**
What might they have seen and experienced? What would it have felt like?

Q **Imagine if you were one of the birds – what would you think when you first took off?**
What would it feel like when you arrived after such a long journey?
You might want to think about any long journeys you've taken.

- Often the arrival of certain birds holds a lot of meaning for some people – can you think of something that happens each year that holds lots of meaning for you?
- These ideas can then be used to produce a piece of creative writing from the bird's perspective.

OUTDOOR ACTIVITIES

Activity 4: Migration run

- Print a copy of the migration map at A3 size.
- Cut out each continent separately.
- Take this outside along with the bird migration information.
- Pin up each continent in a different location.
- Call out a bird, the time of year and which continent it travels from and to (e.g. 'in March and April, ospreys travel from Africa to Europe').
- Pupils should run from the appropriate continent to the other.

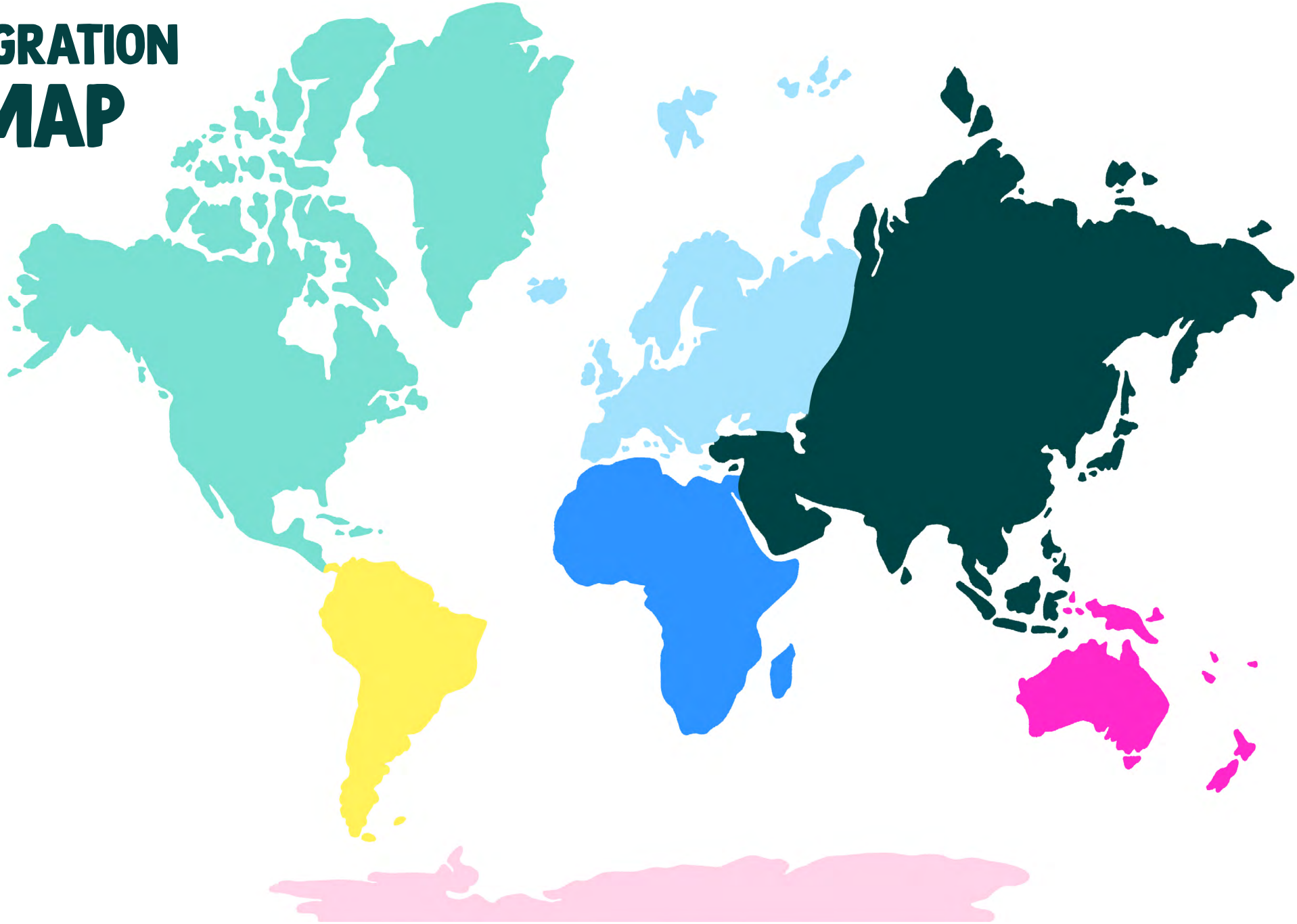
NOTE: **Iceland is in Europe so whooper swans travel from one country in Europe to another country also in Europe - see if the children can work this out. Russia is in both Europe and Asia so either is correct.**

- This activity can be extended by calling out the country rather than the continent - can the children remember which continent it is in?
- This activity can then be further extended by simply calling out the bird and time of year - can the children remember its journey?

Activity 5: Migration Story

- Take learners to an area outside. They will need some equipment that they can safely use as 'obstacles' (e.g. hoops, PE markers/cones, small blocks, chairs etc.).
- Working in groups, ask learners to set up fictional migration routes around the outdoor area. Each route must include two or three 'obstacles'; these are objects that represent real life challenges that a migrating bird might encounter (e.g. electricity pylons, hunters, storms, wildfires, lack of suitable habitat / food).
- At each obstacle, they must decide on an action they must take that helps tell the story of the migration. Once completed, with one person as 'storyteller', they should act out their migration route with its obstacles. Each group can then show their migration route story to another group.

MIGRATION MAP



QUIZ: THE MIGRATION CHALLENGE

Round 1: Picture round

The following birds all migrate.

Q Can you name them?

1 .....

2 .....

CLUE: The yellow comes further down the beak of a whooper swan than a Bewick's swan.

3 .....

4 .....

5 .....

Round 2: Where do I travel?

Q Can you match each **Bird** to the **Country** it migrates to from the UK?

Draw lines to match them up.

6	Bewick's Swan	Niger
7	Whooper Swan	Senegal/Gambia
8	Light Bellied Brent Goose	Russia
9	Sand Martin	Iceland
10	Osprey	Canada

Round 3: Geography round

11 Which ocean does the light-bellied brent goose travel over during its migration?

12 Name a bird shown in the pictures above whose migration takes it more East to West (and vice versa) than North to South (and vice versa)?

13 Do the migrations of the birds shown in the pictures take place in the northern or southern hemisphere?

14 Which continent do both the osprey and sand martin migrate to from the UK?

15 Which of the birds in the pictures above has the migration that involves the most travel over sea?

Round 4: Amazing migration round

Complete the missing parts of each of the following life cycles.

16 **I'm a fish.** I live in UK rivers but travel all the way back to the Sargasso Sea to lay my eggs.

17 **I'm a turtle.** I have the longest migration of all the sea turtles. I'm named after the appearance of my shell.

18 **I'm a butterfly.** I travel over 3,000km between Canada and Mexico.

19 **I'm a mammal that lives in the sea.** I have the longest migration of any mammal. I'm named after the shape of my back.

20 **I'm a bird.** I have the longest migration of any animal, travelling between the Arctic and Antarctic.

ANSWERS: THE MIGRATION CHALLENGE

Round 1: Picture round

The following birds all migrate.

Q Can you name them?

1 Bewick's Swan

2 Whooper Swan

CLUE: The yellow comes further down the beak of a whooper swan than a Bewick's swan.

3 Sand Martin

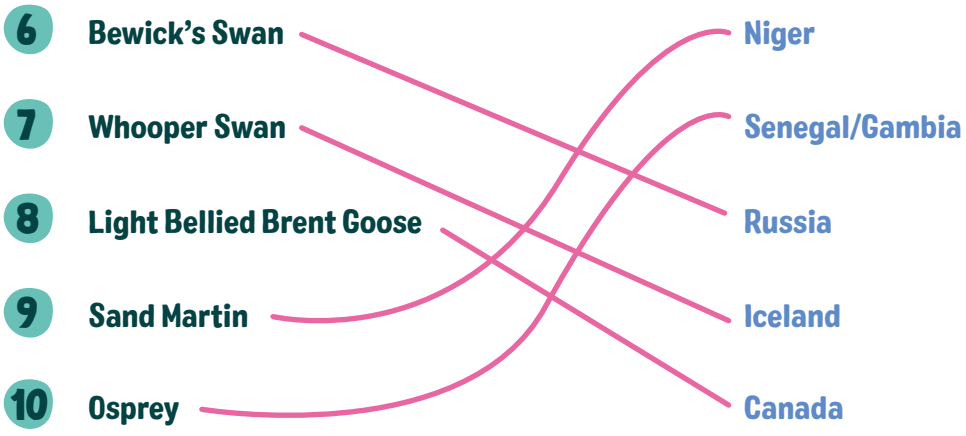
4 (Light-bellied) Brent Goose

5 Osprey

Round 2: Where do I travel?

Q Can you match each **Bird** to the **Country** it migrates to from the UK?

Draw lines to match them up.



Round 3: Geography round

11 Which ocean does the light-bellied brent goose travel over during its migration?

Atlantic Ocean

12 Name a bird shown in the pictures above whose migration takes it more East to West (and vice versa) than North to South (and vice versa)?

Bewick's swan or light bellied brent goose

13 Do the migrations of the birds shown in the pictures take place in the northern or southern hemisphere?

Northern hemisphere

14 Which continent do both the osprey and sand martin migrate to from the UK?

Africa

15 Which of the birds in the pictures above has the migration that involves the most travel over sea?

Light-bellied brent goose

Round 4: Amazing migration round

Complete the missing parts of each of the following life cycles.

16 **I'm a fish.** I live in UK rivers but travel all the way back to the Sargasso Sea to lay my eggs.

Eel

17 **I'm a turtle.** I have the longest migration of all the sea turtles. I'm named after the appearance of my shell.

Leatherback turtle

18 **I'm a butterfly.** I travel over 3,000km between Canada and Mexico.

Monarch butterfly

19 **I'm a mammal that lives in the sea.** I have the longest migration of any mammal. I'm named after the shape of my back.

Humpback whale

20 **I'm a bird.** I have the longest migration of any animal, travelling between the Arctic and Antarctic.

Arctic tern