

Animal Survival

Overall Expectations

- 2s1 Demonstrate an understanding of the similarities and differences among various types of animals and the ways in which animals adapt to different environmental conditions
- 2s2 Investigate physical and behavioural characteristics and the process of growth of different types of animals
- 2s3 Identify ways in which humans can affect other animals.

Specific Expectations

- 2s5 Identify and describe behavioural characteristics that enable animals to survive (e.g... migration, dormancy, hibernation)
- 2s13 Ask questions about and identify some needs of different animals with which they are familiar and explore possible answers to these questions and ways of meeting those needs)
- 2s14 Plan investigations to answer some of these questions or find ways of meeting these needs, and describe the steps involved
- 2s20 Describe ways in which humans can help or harm other living things

TEACHER NOTES/PRIOR LEARNING ASSESSMENT

Prior learning: rudimentary knowledge of the seasons

TEACHING/LEARNING STRATEGIES

Review the seasons with the pupils. Discuss weather, temperature and habitat conditions in each of the seasons. Possible questions include:

- "What do you like about spring? ... summer? ... autumn? ... winter? Why?"
- "What don't you like about each season? Give a reason."
- "In which season would you think animals would find the most food?"
Why? "In which season would you think would be the most comfortable for a bird ... a deer?...a furry bear? ... an insect? Why?"

Brainstorm the conditions in the four seasons. List these conditions on the blackboard under the heading for each season. (much food available ... little food around ... freezing temperatures ... heavy snowfall ... much shelter available ... etc.)

Ask the pupils if animals live in homes like ours with heating in winter and air conditioning in summer. (They may respond that, yes, pets live in our homes! They will agree that most animals do not live in our homes and must get along on their own.)

To find out the prior knowledge of the class, ask the students how animals in the wild get along when the temperature becomes very cold in winter. "What do animals do in winter to survive?" Accept all responses on chart paper. (some sleep ... some bury themselves under the snow...some grow thicker coats of fur ... some travel to a warmer location ... etc.)

Ask:

- "Do all animals travel south where it is warmer?"
- "Why can't all animals travel south?" (they cannot travel quickly enough)
- "Which animals do you think travel far distances to find warmer weather? Why?"
- "Do all birds travel south?"

Explain that, yes, one way many animals "adapt" to the seasons is by moving far away. This is called **MIGRATION**. Birds are one kind of animal that migrates. **BUT ...** the trip is never safe! Have the children try to reason why this trip can be dangerous for birds. Birds often use the stars to help navigate (help them find their way). Big cities have been built that have office towers and buildings with many lights that are left on at night. Scientists believe the lights confuse the birds who think they are stars in the sky. Often the birds fly right into the sides of the lighted buildings. Today many cities are shutting off the lights to help the birds. This then presents problems for other species of bird who do not see the building at all and fly directly into the side of the tower.

In the past, birds faced many hunters who would line up near migration routes and shoot hundreds and thousands of birds. Today there are fewer hunters but they are still around. Birds need wetland to rest along their journey where they can find shelter, food and water. As cities are spreading out over the countryside and large superhighways are being built, many of these wetlands are vanishing.

Challenge: To gain a greater understanding of the hardships facing birds along their migration route today and to compare these hardships with migration long ago.

Initial Steps: The teacher paints ten small pond shaped objects approximately 20 cm in diameter. They are then laminated. These will act as wetland symbols.

A ten-cell hopscotch game is drawn with chalk on the playground. Each square is approximately 70 cm wide. This hopscotch game represents a migration route with each square representing a distance of 80 km. Place a wetland symbol in the top right-hand corner of each hopscotch square.

Plan: Explain to the students that they will be "Migrating" south as they travel down the hopscotch game. See Blackline Masters 42, 3. They must land on a square with a wetland in order to survive. There will be three attempts.

1. All wetlands in place on hopscotch board representing a few hundred years ago.
2. Two wetlands removed (3rd and 7th squares) representing 100 years ago when cities were beginning to spread.
3. Four wetlands removed (3rd, 4th, 7th and 8th squares) representing the larger cities and highways of today impinging on the wetlands.

*NOTE ... The third attempt will be very difficult for the students and many will not survive the migration as the "jump" over two full squares without a wetland will be daunting.

Performing and Recording:

Have each student perform their first attempt. Chart the results on a class list. Ask the pupils how they felt along their migration route. (Most will have found this first attempt to be rather easy.)

As you remove two wetland symbols for the second attempt explain to the children that as cities sprung up wetlands began to disappear. Chart and ask the pupils as per level of difficulty. (Some may not have made the jump over the squares that had no wetland.) Explain that stronger birds may survive the greater distances without wetlands but weaker and/or younger birds may not. Complete the third (and difficult) migration attempt. Chart and ask pupils to respond as to how they felt along the third migration route.

Analysis and Interpretation:

This is on-going throughout the activity. After each attempt the pupils are questioned as to how successful they were and how they felt during the activity. A follow-up discussion in the classroom will assist students to empathize with the plight of migrating birds. Brainstorm pupil suggestions on ways to improve habitats or ways to stop habitat loss.

Communicating Results:

Have pupils design a pamphlet which illustrates the dangers birds face along the migration route. Each pamphlet can be distributed to another classroom and the pupils could visit each class in the school to share their newfound knowledge.

ASSESSMENT TOOLS AND STRATEGIES

- Quality of pamphlet produced.
- Is it colourful? Does it get its message across?
- Does it promote awareness of habitat loss?
- Does it indicate human intervention along the migration route?
- Blackline Master 1

LEARNING RESOURCES AND MATERIALS/BLACKLINE MASTERS

- chalk, paint or magic markers, Bristol board or paper
- Blackline Masters 1, 2, 3

EXTENSIONS

1. Perform the same "wetland" lesson this time including the challenge birds face when they encounter building lights. Select one or two pupils to be the buildings and have them stand on either side of the hopscotch area at a marked distance where their reach will just be able to touch a passing pupil (bird). Roll some dice. If the sum is EVEN then it is daytime and the students who are portraying the building(s) stand still. If the sum is ODD then it is nighttime. The student portraying the city buildings attempts to touch the passing students along the migration route. If they are successful in touching the passing student then the bird has "crashed" into the building side and has not succeeded along the route.
2. Create a "classroom prayer" for migrating animals. It could be recited in the fall and the spring of the year during the peak migration periods.

3. For the students to become more aware of the effect of habitat loss have them all sit on the carpet or at the seating area in the classroom. Pretend a new subdivision has been built and it has encroached on a wetland or field leaving half of the available space for nature by asking all the pupils to now huddle in half of the seating area. Explain that as a bird they now have to find food and live in half the available space. Ask them how they feel being in such close quarters with each other.
4. Select a video from your school library or Board Resource Centre to show to the students. Possible topics: Migration, Habitat Loss, Animals and Seasons.
5. Buddy up with a grade six class. Have the grade six pupils design a migration board game that they can share with their buddies in grade two.
6. Create an acrostic poem with any of these words: migration ... habitat ... season
7. Post a laminated map of North America. Research the migration route of a particular bird. Share this information with your pupils by drawing the migration route on the map.