

The Migration of Trumpeter Swans

A lesson in support of Grade 1 Science and Physical Health Education
(BC/Yukon Curriculum)



Photo Credit: Jukka Jantunen

Summary

1. Subject(s): Kindergarten and Grade 1 Science, Physical Education and Health
2. Topic or Unit of Study: Avian Migration, Seasonal Changes, Food and Needs
3. Grade/Level: K/1
4. Curriculum Connections:
 - Science K- Big Ideas: Daily and seasonal changes affect all living things.
 - Science K- Content: living things make changes to accommodate daily and seasonal cycles
 - Science 1- Big Ideas: Living things have features and behaviours that help them survive in their environment.

- Science 1 Content: names of local plants and animals
 - Science 1 Content: behavioural adaptations of animals in the local environment
 - Physical and Health Education 1- Content: relationships between food, hydration, and health
5. Objectives: What is migration and why do animals migrate? Introduce students to the subject of migration by assigning them the role of swans and setting up the classroom into four seasons. Incorporate healthy snacks for the 'swans' to find as you journey together through the seasons discussing what is happening in the environment and why the swans need to keep moving on, and conclude with what our responsibilities are if we want to protect migrating wildlife.
 6. Time Allotment: Approximately 30-35 minutes
 7. **Allergy Considerations:** For this activity, it is essential to communicate your intentions with parents and guardians in advance, in case there is anything you need to know about your students and their relationship with food. Things to look out for are allergies first and foremost, but also sensory concerns. In the spirit of nurturing a supportive environment and modeling healthy habits, let the decision to touch or try anything new be entirely up to the child with your full endorsement no matter what they decide.

Description

In this lesson, students will be actively moving through the classroom on a quest to find food throughout the seasons as swans. This lesson will support and enhance future classroom visits to Swan Haven Interpretive Centre, and is inspired by the fun energy of scavenger hunts (and the real-life journeys that Trumpeter and Tundra Swans make each year). This lesson also involves giving students the chance to try healthy snacks that may not be typical to their regular diet as part of their 'swan role'. The intention of the lesson is to help students develop their understanding of the various reasons for seasonal migration and explore seasonal changes and how species adapt to survive. Instead of presenting this information as a set of facts, students will be learning via play as they go through the activity, hunting the information and interacting while moving and finding the 'swan food'. Quick fact-cards will share important information, and the fun spirit of questing for food will keep the energy and engagement strong. This lesson concludes with what our responsibilities are if we want to protect migrating wildlife.

As you guide: Migration is a survival adaptation that allows many animals, including the swans out at Swan Haven, to find food and habitat throughout the year, including finding safe spaces to raise their young until they are ready to join the long journeys. Have any of your students ever moved with their family, or had to make a change in

their diet? Keeping the conversation open will help to make connections between how migratory species survive and how we currently live.

Purpose:

The goal of this activity is to help students learn that migration is a necessary part of survival for many species, and explore some of the reasons why. Using Trumpeter and Tundra Swans as the example, the class will go on a migration journey together. The teacher will act as the guide, and ask questions along the way. As the students travel along their journey, they will do what swans do and try to find food. This is an opportunity to share healthy snacks and discuss different kinds of foods, talking about what they are and how they help you to grow.

Preparation:

Getting the room ready: This activity requires some prep!

1. The classroom will need to be divided into the four seasons, indicated with either visuals (a possible art project) and/or clear signs of seasons that the students can identify.
2. Teachers will need to have prepared four simple, healthy snacks and these need to be in four containers, one hidden in each 'season' of the classroom (for example, dried apples in the summer corner of the room, sunflower seeds in the fall, dried seaweed in the spring, etc). The goal of this activity is to help students learn that migration is a necessary part of survival for many species, and explore some of the reasons why (climate, food, habitat, reproduction).
3. Tech or book: Either have a swan video linked up, for example ([*https://www.cbc.ca/kidscbc2/the-feed/honking-swans-noisily-return-to-yukon](https://www.cbc.ca/kidscbc2/the-feed/honking-swans-noisily-return-to-yukon)) and ready to deploy, or the book (SPRING! Time to Build a Nest, A Story about Trumpeter Swans" by Barbara Renner) handy for your intro.
4. The teacher's role: Using Trumpeter and/or Tundra Swans as the example, the class will go on a migration journey together. The teacher will act as the guide along the way, or "lead swan". As the students arrive in new places along their journey, they will discover new foods hidden somewhere in that area, along with three swan facts (see below for the facts). No moving to the next area until the facts are found and shared!

See "Materials and Resources" below for a list of possible snack ideas. *Important: check with parents regarding food allergies, sensitivities, and any sensory triggers you may need to know about before offering anything edible to your students..*

Implementation

Engaging the room: From calm, seated greetings to vibrant, loud invitations, there are many ways to begin this lesson. “Welcome to a survival quest! Do you have what it takes to live a year in the life of a swan?” is a possibility, or starting with a read-aloud of “SPRING! Time to Build a Nest, A Story about Trumpeter Swans” by Barbara Renner before diving into the activity, there are options. The best choice is the one that feels most genuine to your teaching style

1. Begin with what we already know. Gather where the students can be comfortable and where you can write visibly. “Today, we are going to experience a year in the life of a swan. We’ve all seen swans before, yes? Let’s quickly refresh our minds with a look at the swans who come to the Yukon in the Spring!”
[*https://www.cbc.ca/kidscbc2/the-feed/honking-swans-noisily-return-to-yukon](https://www.cbc.ca/kidscbc2/the-feed/honking-swans-noisily-return-to-yukon)
2. How will this go? “To go through a full year in the life of a swan today, we are going to go through four seasons! There is only one way to do this swan-style. We’ll need to migrate! Who can remind us what migration means?” Find out what your students already know. This is an opportunity for some modelled writing and idea generation.
3. What will we do? Explain that because you have never been a swan before, you will need to find the hidden facts in each season before moving on to the next, and that the facts are all going to be taped up on the wall or stuck to the board. Explain also that as swans migrate, they get hungry but because they are travelling so far, sometimes the food tastes differently in different places. “We will be sampling a different food in each season as we migrate through the year.”
4. Time to Migrate! Ask the class which season it is, and explain that swans need to migrate in groups to survive the long journey, so you’ll need to stick together. “I will lead us to the right location because young swans learn the way from older ones. Your job is to find the facts!” Head to the section of the classroom that matches whatever the current season is, and invite students to look for the swan facts and snacks. When they find the facts, read them and hang on to them. Offer each swan a taste of the swan food of that season and lead the way to the next season until you have migrated through all of them. Try to go in the correct order (spring then summer, not fall and then spring).
5. If it works for your group, talk about the V formation swans fly in and practice it as you go. After going through the seasons, gather back together (where the

students can sit) and tape up your facts (let the students do this). Talk to the class about what they liked, and what they remember. “We have tried it the swan way, and look at all of this info! Wow! Do you remember where we can go in the Spring in the Yukon to visit swans? Yes, Swan Haven! Maybe you will go there with your families this year. Maybe we will even go there together. Now that we know that swans have to fly a very long way, we know that they are very tired and hungry when they get to the Yukon. What can we do to make sure they are safe when they are here? (Give them space, let them rest and eat, try not to let them be scared or chased by people or dogs.)” Share any extra snacks with interested students, and if possible to do so with hygiene and safety in mind, have them try eating like swans, with their hands folded as wings and not touching their food except to bob for it.

Deeper Connections: As the activity ends, it is a good time to make personal connections. “Have any of you ever had to move? How come?” Make links between needing a bigger/smaller house (safe environment, right climate conditions, place to raise young) or a parent’s new job or living situation (ability to get food and shelter, raise young) with how animals use migration to meet their needs. What is the common ground? We try to meet our needs so that we can survive.

Materials & Resources

- a. Instructional Materials and Technology:
 - Whiteboard or Flipchart and Marker
 - Swan Facts by Season **see below**
 - CBC Kids page featuring a great video of the swans at Swan Haven: <https://www.cbc.ca/kidscbc2/the-feed/honking-swans-noisily-return-to-yukon>
 - Visuals on the walls or on display to indicate that the room has been divided into seasons: Summer, Fall/Autumn, Winter, Spring.
 - Four clean containers with a variety of different foods for students to try as they migrate. *It is essential to communicate with parents about this plan, and be sure of any potential allergies in the classroom.* Some food possibilities are kiwis, gooseberries and dried green apples, rice crackers and dried seaweed, sunflower seeds, dates, and perhaps even dried edible crickets or mealworms or insects if your supermarket is carrying them. Do not prepare any snacks that you yourself are not comfortable with eating.
- b. Optional Supports:

- If needed for giving students a sense of place, link to the Yukon Wildlife Preserve's 360 video at Swan Haven:
https://yukonwildlife.ca/experience/swan-haven-school-programs/?et_fb=1&PageSpeed=off
- More detailed Trumpeter Swan information:
<https://www.audubon.org/field-guide/bird/trumpeter-swan>
- Consider having books available in your reading corner (or classroom library) on the subjects of migration and winter adaptations. Some suggestions:
 - i. Renner, B. 2019. SPRING! Time to Build a Nest, A Story about Trumpeter Swans. Renner Writes, 2019.
 - ii. The Magic of Migration (website contains guided reading lessons and supplementary activities): <https://www.readinga-z.com/book.php?id=848>
 - iii. Unwin, M. and Desmond, J. 2018. Migration: Incredible Animal Journeys. Bloomsbury Children's Books.
 - iv. Dunphy, M. and Kest, K. 2008. The Peregrine's Journey: A Story of Migration. Web of Life Children's Books.

Assessment

At the end of this activity, students should have an increased understanding of migration, why swans need to migrate and how food is a part of this journey. This lesson is intended to support future visits to Swan Haven Interpretive Centre as well, and to allow students to develop both curiosity (How do swans know when to go? Where are they going to and why?) and understanding of our responsibilities (the swans really need to be left alone to eat because they have flown a long way, and they might be very tired and hungry). Students will have received exposure to healthy snacks and had the opportunity to take part in an informative hunt for facts. This is a great time to ask for a journal entry or for students to describe this experience using text and pictures.

Extensions:

Now that you have had a discussion about swans and made some memories, you might want to use the topic to branch into other areas. Discuss the words we have for swans in English and French (*cygne*), but also discuss how for many, many years, swans who came to the Yukon had (and still have) other names. Share that in some Yukon First Nations Languages, swans are also known as:

Southern Tutchone: dägay

Gwich' in (Fort McPherson dialect): daazrai i

Kaska: degaye

Northern Tutchone: Togok

Tlingit: gúkl'

Source: Yukon Native Language Centre search, 2020

<http://ynlc.ca/languages/index.html>.

This is not a complete list, and the input of your school's Language Keeper or Teacher is important to respectfully seek if pursuing this path.

Differentiated Instruction

Open to anything, up for everything: You know all too well that students learn in different ways. By consciously thinking about this, you'll be able to use different teaching techniques to reach as many children as possible in your classroom. Use what you know of your students to apply any augmentations you see fit.

- a. Visual Learners: In this activity, having the “swan food” or snacks hidden may engage the visual learners as the challenge will involve looking for swan facts. Having images and words displayed to indicate which season each section of the classroom represents may provide visual stimulation and support interest as well.
- b. Auditory Learners: Listening to the clues and facts being read will help engage auditory listeners, as well as listening to the swans when the recorded footage of them at Swan Haven is played.
- c. Kinesthetic Learners: This one's for movers and shakers! Actively ‘migrating’ around the room will involve consistent action, as well as having the opportunity to look for the clues and taste the snacks.
- d. EAL and Language Learning Students: Due to the active and multi-sensory nature of the activity, no one will be left behind, but to incorporate language learning opportunities you may wish to stress the visuals you are seeing in each season/section of the room, and be sure to have sight words on hand and use consistent language as you guide. For example, it may help to indicate with swan hats or headbands or masks that you are all in the role of swans, though this would require a bit of extra prep, and it

may help as you go through the seasons to always say “In Spring, swans ..., In summer, swans ...” to allow students to follow more easily.

- e. Student needs and comfort: There is a lot of stimulation in this activity. If you have students who would find themselves stressed, triggered, or overstimulated by this, consider some special roles for them. Could they be the narrator of what the swans are doing? Could they be responsible for staying at the board or using the teacher’s desk and checking off a special chart of where the swans go and what they find? Could they capture the swans in an art piece/photograph, or have a timer and time how long it takes the class to find each swan fact? There are many ways to absorb information and the more alternatives available, the better.
- f. Extra bits for those who benefit from extra challenges: If you have students who love extra challenges and need more, consider a “bonus points” question on each fact or ask them to think up a non-verbal action for the swans to do for each season. Offer roles like timing and logging, writing and narrating, and give responsibilities like “if we are clumsy swans and tip over any chairs, can you be the swan that knows how to keep the route clear behind us?” Extending the lesson in the direction of languages is also a fun possibility.

Swan Facts for students to hunt for:

Spring:

1. Where can we go in the Yukon to see swans in Springtime? A: Swan Haven at M’Clintock Bay on Marsh Lake, Tagish bridge, and Johnson’s Crossing.
2. What do the swans need in order to get to their food and do their take-offs? A: Open water! At least 100 feet for a good take off and comfortable landing, though they can work without this if they have to. The plants swans eat are growing under the water, and if there is too much ice, the swans cannot eat.
3. It is freezing cold when the swans come to the Yukon in Spring, and there is still ice all over the place. How do the swans survive? A: They are tough, but also they have a thick layer of feathers that insulates their body by trapping warm air around them, keeping them warm even if it is freezing cold.
4. Swans do not stay in the Yukon all year, but how do they know it is time to keep going north? A: The weather gives them clues, with warmer temperatures and longer days coming. When they have eaten enough and rested enough, and maybe even found a mate, the swans are also paying attention to each other. The older swans have learned to recognize when it is time to move on, and they lead the way. Time to head further north!

5. Bonus Questions: In April and May, we see two kinds of swans in the Yukon, what are they called? Trumpeter and Tundra Swans! Super Mega Bonus: How are they different? Trumpeter Swans are a bit bigger, and have lower voices. How low can you make your voice go?

Summer:

1. In the summer, the swans have gone even further north and they are nesting! How many eggs does a Trumpeter Swan lay? A: A female will lay one egg every two days until she has laid about five or six in total.
2. Both the female and the male help keep the eggs safe. The female keeps them warm, and the male defends the nest. What are the names for the female and male? A: The female is a pen, and the male is a cob.
3. In the summer we know the swans are nesting. When do their eggs hatch? A: They hatch after about 35 days of incubating. Within 1 day of hatching, they can already swim!
4. As summer ends, it is time to move on. This time, the swans are headed south. Let's go south!

Fall:

1. The swans spent the summer raising their young. How old are the swans before they are ready to go on a long flight? A: The new swans can fly when they are about 100 days old!
2. How do the swans know where to go? A: Their parents and the older swans will show them the way. Swans are very good at reading the land and travel by remembering. No GPS needed!
3. What happens in the fall that might tell the swans it is time to keep going? A: It is getting colder, and the days are getting shorter. If they don't leave before the water freezes, they won't have any open water which they need for getting food. Time to keep heading south!

Winter:

1. In the winter, the swans are south of the Yukon. Some of them are in the United States in the areas where it is warmer and the water is not frozen, and some are on Vancouver Island and in coastal areas.
2. What are swans eating in the winter? A: Water plants and tubers (the roots of water plants), as well as tiny bugs and fish that are living in the water plants. They eat this all

year, but the plants are different depending on where they are. What are you eating in winter?

3. How come swans do not stay in the same place all year? A: If they eat in the same place all year, they will run out of food. Also, in some places it is too hot in the summers for them to be comfortable. And, if they stay in the same place all year, it would make it easier for predators like coyotes to find them and eat them. Migrating lets them find open water in many places, where they can eat fresh plants, and it keeps them moving through safe temperatures for them. It also allows them to travel!
4. As winter ends and spring nears, what might the swans notice that tells them it is time to migrate soon? A: The days are getting longer (more light), and it is starting to get warmer. At the end of winter, it is time to start heading north!

All done! Which snack was your favourite?



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