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| Subject: | Birds | Grade: | 4 | Duration: | 2 hours |

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| Big Ideas: | Summative Assessment: |
| All living things sense and respond to their environment (Science) | **Students will ask and answer questions by observing birds and their habitat in the local environment.**   1. How do humans affect birds? (positively and negatively) 2. How can humans help birds to survive? 3. What could you do to help birds at home? 4. How do birds communicate? 5. What can we learn about birds by using our senses? |

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| Unit Understandings: | | |  | Content: |
| * Use their senses to make observations in the environment. * Connect to place and understand their role and responsibility as stewards of the environment. | | |  | Sensing and responding: humans, other animals, plants  Biomes (are regions grouped by similar temperature and precipitations (e.g., climate: long-term weather patterns) as large regions with similar environmental features |
| Transfer: | | |  | Essential Questions: |
| * Using your senses to make observations in the environment * Connect to place and understand their role and responsibility as stewards of the environment. | | |  | * How do living things sense and respond to their environment? |
|  | Concepts: |  |  | Curricular Competencies: |
|  | * Senses * Interactions |  |  | * Demonstrate curiosity about the natural world * Observe objects and events in familiar contexts * Safely use appropriate tools to make observations and measurements, using formal measurements and digital technology as appropriate * Make simple inferences based on their results and prior knowledge * Express and reflect on personal or shared experiences of place |
| First People’s Principles of Learning: | | |  |
| Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).  **Cheakamus Centre Principles:**  Students will use patience and take time to learn about bird behavior and they will learn about how they are connected to their ecosystem. | | |  |
| Core Competencies: | | | |
| **Communication:**   * I ask and respond to simple, direct questions I am an active listener; I support and encourage the person speaking * I can recount simple experiences and activities and tell something I learned   **Thinking:**   * I can ask open-ended questions and gather information * I get ideas when I use my senses to explore   **Personal and Social Emotional Learning:**   * I can participate in classroom and group activities to improve the classroom school, * community, or natural world * I can identify how my actions and the actions of others affect my community and the natural environment and can work to make positive change | | | |
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Field Study Planning:

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| Pre-visit connections: | Resources: |
| **Five Senses Mind-map:**  Ask students to think about their senses and the important information they provide. The following sequence of questions and discussion is a guide:   * What senses do you have? * What sense organs do you use for each one? * Why is it important to have these senses? * Living things use their senses to survive. * What are some examples of animals using their senses? * Do all these animals use their senses in the same way? * How do birds’ senses compare with your own senses? | **Websites**:  The Cornell lab of ornithology: <https://www.birds.cornell.edu/home/>  Audubon Guide to North American Birds: <https://www.audubon.org/bird-guide>)  Vancouver Urban Bird Program:  <https://www.bsc-eoc.org/education/urbanvan/index.jsp>  **Books:**  Birds of British Columbia – Lone Pine |
| **Leading questions to discuss with class prior to visit:**   * What do we see when we observe birds? * What are some of their features? * What do they have in common? * What do you think they eat? * How do they fly? * What makes a bird a bird? |  |
| **Please see ‘during visit connections’ below for more ideas to explore before your students visit ODS** |  |

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| During visit connections: | Resources: |
| **Introducing the Activity:**   1. “Step into the circle if”: Gather students in a circle and step into the circle if the statement applies to them, then step back out.   *You can name three species (ask them to define term) of birds found in B.C.*  *You can name three things birds eat and which birds eat them.*  *You* have every used binoculars.  *You have seen a live eagle or hummingbird depending on the season* | **Books:**  “The Great Blue Heron” in “People of the Land: Legends of the Four Host First Nations”.  **Apps to help identify birds (includes bird calls):**  [Merlin Bird ID by Cornell Lab of Ornithology](https://itunes.apple.com/us/app/merlin-bird-id-by-cornell-lab/id773457673?mt=8)  [Audubon Bird Guide: North America](https://www.audubon.org/app)  **Resources at Cheakamus Centre:**  Bird ID cards  Binoculars  Taxidermy birds  Bird nests (Crow, Robin...)  Bird Guide Book  Portable blue tooth speaker to play birdcalls from your phone.  Laminated birds of the Salish Sea Cards |
| 1. **Play a round of Eye Spy** (Game is used to help students identify field marks in birds) Put students into pairs, have partners describe each other using hair colour, size, clothing type and colour, eye colour, footwear. Compare these characteristics to how field guides identify birds (colour, size, distinguishing features,). Would all features of their partners be the same in different seasons? Note birds change plumage sometimes with the seasons (or with age!). 2. Explain that they will be discovering the amazing world of birds today. |  |
| Possible topics covered (taken from Cornell Lab of Ornithology):  •Birds need air, water, and food in order to survive.  •You must be quiet and still to observe birds.  •Birds share common physical adaptations.  •Birds have many unique physical and behavioral traits that help them to survive in their particular environment.  •Birds make sounds to communicate about territory, danger, food, and to locate one another.  •Birds’ beaks come in many sizes and shapes.  •Beaks are different because of the different jobs they do. Beaks are similar to simple machines.  •Wing shape and structure helps a bird to fly.  •Feathers have different functions and are a physical feature unique to birds.  •Some birds migrate when the weather changes and their energy source decreases.  After your opening activities, go to the Forest Lab. Prior to entering, let students know that there are many stuffed birds that have been preserved in inside. These birds have been donated to the Outdoor School over the years and they are all representations of birds that live in this local habitat. It is very important that the students DO NOT TOUCH the stuffed birds. See below at the bottom of this section for a list and description of the Forest Lab stuffed birds. |  |
| Have students work in pairs or as a group to create a list of all the different types of birds they can think of. Then hand out the Cheakamus Centre double-sided seasonal field guides. Students can look around the Forest Lab to see if any of the stuffed birds are on the field guides. They can also see if any of the birds they know are there. Students can share stories they have about their interactions with bird with their partners or as a group.  Optional Extension: Introduce the concept of a **habitat** (the place where a plant or animal normally lives and grows). Explain that ODS has several habitats (farm, forest, river, & pond) Ask what birds you would find at the farm? You can also introduce the idea of “**biodiversity**” (the number and variety of living things found within a habitat). |  |
| Discuss the following questions as a group (adapted from Cornell Lab of Ornithology):   * What do we see when we observe birds? * What are some of their features? * What do they have in common? * What do you think they eat? * How do they fly? * What makes a bird a bird?   Remind students that birds, along with all animals, need air, water, and food in order to survive. Begin a discussion with students about ways to observe birds.  Most students have had experience chasing birds only to watch them fly away. Discuss how it is important to be very quiet and still while watching birds. A bird feeder is a great way to bring the birds closer. We do have a bird feeder by the Art Lab at the Cheakamus Centre. You can ask staff to help you fill it up with seeds to attract birds. Explain to students that Aboriginal people believed that animals were on the earth before humans and they believe they can learn from animals. They observe animals very carefully because they have been here longer and we can learn from them. Ask: what can you learn from watching birds? Teach students the Squamish words for a variety of birds:   * **Eagle:** spa-coe-s (Phonetic pronunciation of Squamish word for the different birds) * **Owl (horned):** chee-it-mayo * **Owl:** shut-you * **Raven:** scow-c * **Thunderbird:** ain-in-yah-hxa-in * **Hummingbird:** touch-touch-nais   **What makes a bird a bird?** There are more than 9,000 different kinds of birds in the world. Each bird has different structures that serve different functions in growth, survival, and reproduction. Some birds are very colourful to attract mates, while others are drab, which helps protect or hide them. Some are very big, and others are very small. Birds’ external physical features can enable them to carry out life’s functions in their particular environments. For example, some birds have very long wings that help them soar through the air, while some cannot fly at all. The differences are endless, but there are a few adaptations or traits that all birds have in common. All birds have beaks, two legs, and feathers.  **Why do birds sing?** Birds have special body parts similar to a person’s vocal cords that allow them to sing. Birds use songs (which are longer) and calls (which are shorter) to communicate about territory (space), danger, food, to attract mates, and to locate family members or other birds of the same species. Each species of bird has its own song. Some birds are born knowing how to sing (inherited) and some learn their songs from their parents. Birds that live in different Habitats have different kinds of songs and places to sing their songs. We have a collection of CD’s and a CD player to use if you would like to share some bird calls with your students. |  |
| **Time to get outside**! It is easier to understand why birds are making the sounds they are if you can also see their behaviors. Take your class outside and listen quietly for as many bird songs or calls as possible. Upon returning to the classroom, make a list of birds heard and compare them to the songs on the CD’s. If time or weather doesn’t permit this, you may also wish to show a few different examples for some general categories of why birds communicate (alarm, contact, territoriality or attracting mates).  Go outside to observe birds and observe their behavior and listen for their sounds (eating, flight, walking…) Binoculars – go over rules for use and demonstrate how to focus (use “Binocular Basics” sheet in lab) Leave all cases and lens covers on table if possible (some are attached to binoculars) Follow bird map to see what you can find!  **Return to lab:**  Have students share observations as they walk. Leave binoculars on table to dry. Group discussion of observations. Walk and talk debrief on your way back to the patio or the ELC. What did you learn today about birds that you did not know already? What did you see that you had not observed before? |  |
| **Optional:**  **Build a bird nest:** Using natural objects found on the ground, have students build a bird nests. You may want to show the students the crow and robin nest located in the forest lab before doing this activity. How have the birds used natural materials to make their nests? Extension: Turn this into a math activity. How many pebbles/small rocks can the nest hold?  **Spring Birds Scavenger Hunt:** This is a fun hook to get kids interested in bird watching. Quiet bird watchers see more birds! Write these on the board omitting the information in the brackets. Have field study groups compete against each other for score. Record the highest score. No points earned until you are back in lab. Bonus birds must be pointed out to teacher or counsellor. To equalize the group scores, groups can gain bonus points with recall of bird facts learned. More than one point can be earned, e.g. duck (species, gender, interesting fact learned about species = 3 points.   * BC’s provincial bird (Steller’s Jay) * Backwards flying bird (Hummingbird) * Duck * Hawk * Owl * Woodpecker * Nest * Feather * Scat * Bird that eats scat (mother Robin cleans nest for babies)Bonus: other birds ID and facts learned   Share the Squamish story “The Great Blue Heron” in “People of the Land: Legends of the Four Host First Nations” |  |

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| Post-visit connections: | Resources: |
| * Discuss ways to support bird health (bird decals on windows, birdhouse) * Complete a bird count activity/schoolyard bird blitz * Create a birdbath for your school/community * Take part in project feeder watch * Get involved in the Vancouver Window Collision Project | **Websites:**  Bird count: [Gbbc.birdcount.org](http://Gbbc.birdcount.org)  Schoolyard Bird blitz: <https://www.bsc-eoc.org/education/school/birdblitz/index.jsp>  Project Feeder watch: <https://www.birdscanada.org/volunteer/pfw/teacher/index.html>  Window Collision project: <https://www.birdscanada.org/volunteer/pfw/teacher/index.html> |