

Field Study Planner

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| **Overview** | | | | |
| **Field Study:** | Amazing Birds | **Conceptual Lens:** | | Senses |
| **Overview:** | In this field study, students explore the ways that birds sense and respond to their environment. Students will examine the structures and functions of the body parts associated with each of the five senses. They will also investigate how birds respond to changes in their habitat. Students will explore the Indigenous worldview with respect to the symbolism for many of the common birds we will study as will as the recognition of the interconnectedness of all things and the responsibility to care for them Students will also go into the field and make observations of birds, using their own senses to see and hear the birds around them. | | | |
| **Grade:** | 4 | | | |
| **Duration:** | 1.5-2 hours | **Season:** | Spring | |

| ***Stage 1 – Desired Results*** | | | | |
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| ***Big Ideas*** | | | | |
| *What will students understand? Copy from ODS Curriculum Map.*  **All living things sense and respond to their environment (Science 4)** | | | | |
| *Core Competencies* | | | | |
| Communication: Students will use scientific language to exchange ideas with peers.  Thinking: Creative & Critical Thinking: Students will make observations about birds and their habitat in the local environment.  Social Responsibility: Students will explore some simple environmental implications of their and others’ actions and how those affect birds. | | | | |
| Concepts | Field Study Understandings | | Transfer Goals | Essential Questions |
| **Systems**  Interactions  Environment  Survival  Stewardship  Interdependence  Ecosystems  Adaptation | **Students will understand that…**  Living things have senses that detect changes in their environment.  Living things respond to changes in their environment.  Anything that causes a living thing to react is called a stimulus.  Response to a stimulus is important for its survival. | | **By the end of the field study, students will be able to independently use their learning to…**  Use their sense to make observations in the environment  Connect to place and understand their role and responsibility as stewards of the environment  Discover and compare their senses to a variety of organisms, both aquatic and terrestrial.  Develop a plan of action to address a selected problem or issue in school or community. | **Students will keep considering…**  How do birds communicate with each other?  What interactions do you observe --between birds, and between birds and their environment?  How do human impact birds and how can negative impacts be mitigated?  How do living things sense and respond to their environment?  What does using my senses in nature look, sound, feel, taste and smell like?  How do my senses compare to the senses of other plants and animals?  How is sensing and responding related to interdependence within ecosystems?  **How have I experienced ‘Senses’ at ODS? (e.g.** how birds interact with each other and their environment)  **How am I connected to ‘Senses’ in my everyday life?** |
| Cheakamus Centre Principles | | | | |
| **How does the field study reflect Cheakamus Centre Principles (Place, Community, Inquiry, Personal Connections, and First Peoples’ Perspectives)?**  **Place**: Students will explore and make observations of birds in the forest and along the waterways.  **Inquiry:** Students will use their senses and explore different habitats for different species and observe bird activities over time.  **FPP**: Students will use patience and take time to learn about bird behavior and they will learn about how they are connected to their ecosystem.  **Personal Connections**: Students will discuss the consequences of human actions on birds and how to mitigate those impacts | | | | |
| **Alignment Check:**  Are your concepts, unit understandings, transfer goals, and essential questions connected and supportive of your Big Idea? | | | | |
| Curricular Competencies | | Content | | |
| Students will be skilled at…  Students will demonstrate their knowledge, skills & understanding by:  -Demonstrating the proper use of binoculars  -Pair-sharing observations  -Sharing in small groups  -Sharing with the large group  -Demonstrate curiosity about a scientific topic or problem  -Make observations about living and non-living things in the local environment  -Collect simple data  -Experience & interpret the local environment  -Identify First Peoples perspectives & knowledge as sources of information  -Identify some simple environmental implications of their and others’ actions  -Contribute to care for self, others, & community through personal or collaborative approaches | | Students will know that…  Birds can communicate through bird calls, songs and movement.  The characteristics of different local birds can help you understand more about them  Human activities impact birds and their behavior.  Indigenous Peoples have legends about how certain birds came to be and how birds interact with other animals and their ecosystem. | | |
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| **Stage 2 – Evidence: Assessing for Understanding** | |
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| **Assess: Field Study** | |
| **Formative:**  **Checkpoints for students to show their knowledge and skills during the field study** | **Summative:**  **Final assessments of knowledge and skills at the end of the Field Study** |
| Teachers should consider how formative assessment in outdoor learning is informal, varied, and ongoing throughout the field study. | Teachers should consider how summative assessments revisit essential questions, involve self-reflection, and builds towards Final Task. |
| Assessing prior knowledge:  **“Step into the circle if…” birds. Gather students in a circle and tell them to step into the circle if the statement applies to them, then step back out.**   * **You can name three species (ask them to define) of birds found in BC** * **You can name three things birds eat** * **You have ever used binoculars** * **You have seen a live eagle**   Students will demonstrate their knowledge, skills & understanding by:  -demonstrating proper use of binoculars  - recognizing different bird behaviours  - working with a partner to use a field guide to identify birds  - sharing observations on birds and how those observations aid in identification of species, or age (for bald eagles)  - Walk and talk with a partner to share prior knowledge about birds and what they learned | Students will be able to demonstrate their understanding by:  Walk & Talk or group discussion:   1. How do humans impact 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? |

| **Stage 3 – Executing the Learning Plan** |
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| These learning events/activities are suggested activities. Teachers should add, revise, and adapt based on the needs of their students, their own personal preferences for resources, and a variety of instructional techniques. |
| **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*   1. Play a round of Eye Spy- used to learn what field marks in birds are.   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!).   1. Explain that they will be discovering the amazing world of birds today. Concepts you can include in your field study (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.   1. 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. Tell them to walk around and take a good look at all of the birds and then sit down at table when they are done. See below at the bottom of this section for a list and description of the Forest Lab stuffed birds.   1. Activity 1: 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).     1. Activity 2: Discuss the following questions as a group (adapted from Cornell Lab of Ornithology):   **Q: 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?” In other words - 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 * **Owl (horned):** chee-it-mayo * **Owl:** shut-you * **Raven:** scow-c * **Thunderbird:** ain-in-yah-hxa-in * **Hummingbird:** touch-touch-nais   Background:  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.  **Q: Why do birds sing?**  Background:  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.     1. Activity 3: 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…)   * 1. Binoculars – go over rules for use and demonstrate how to focus (use “Binocular Basics” sheet in lab)      1. Leave all cases and lens covers on table if possible (some are attached to binoculars)      2. Follow bird map to see what you can find!  1. Return to lab – share observations as you walk 2. Leave binoculars on table to dry. Group discussion of observations. 3. 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: 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 (there are plastic owls outside dining hall at fireside lounge)  Woodpecker  Nest  Feather  Scat  Bird that eats scat (mother Robin cleans nest for babies)  Bonus: other birds ID and facts learned  **Optional**: CanShare the Squamish story “The Great Blue Heron” in “People of the Land: Legends of the Four Host First Nations”  **Forest Lab Birds**   1. Great horned owl – raptor – eats meat (has most diverse diet of all North American raptors – mammals, reptiles, birds, insects, …) 2. Barred owl – raptor – eats meat (small mammals, birds, amphibians, reptiles) 3. Red breasted sap sucker – woodpecker – eats sap, insects & fruit 4. Blue grouse – ground feeder (like a chicken) pecks at ground - eats leaves, conifer needles, small invertebrates 5. Male mallard – sieves food out of water, wide bill, strainer – dappler – eats aquatic plants, seeds, aquatic insect larvae, earthworms, shrimp 6. Crow (top) and Raven (bottom) – not forehead and how raven beak goes as a shallow angle to head whereas crow has more of a definitive forehead. Raven also has a spade (wedge) shaped tail when flying, crows have squared off tails – eat everything!! 7. Belted Kingfisher (male on top, female on bottom) – strong shortish beak for jabbing and grabbing food – eat mostly fish, will eat snails, amphibians, crayfish) 8. Male bufflehead – note back of head is going bald from being touched – dive for food – aquatic invertebrates, snails, invertebrate larvae, clams… |
| **Resources:**  The Cornell Lab of Ornithology “Amazing Birds”  Binoculars – ideally one pair per student  Binocular Basics sheet  Cheakamus Centre Bird Study map  Laminated Cheakamus Centre Seasonal Field guides to birds  Laminated Indigenous Ways of Knowing Bird Cards  Legends**:** Keepers of the Earth – How Turtle Flew South for the Winter (p.157)  People of the Land: Legends of the Four Host First Nations – Smekw’á7 – The Great Blue Heron (p.75)  Squamish Legends: Seagull Raven and the Daylight Box  How the Robin Got Its Red Breast: A Legend of the Sechelt People – illustrated by Charlie Craigan.  [Beetles: I notice, I wonder, It reminds me of](http://beetlesproject.org/resources/for-field-instructors/notice-wonder-reminds/)  [Beetles: Walk and Talk](http://beetlesproject.org/resources/for-field-instructors/walk-and-talk/) |
| **Teacher: Field Study Reflection** |
| **What aspects of the field study went well?**  **What did students struggle with?**  **What did you struggle with?**  **What would you add/revise the next time you taught this field study?**  **What connections can I make back to my school learning community?**  Please see the Extension list with websites. |