

Name _____

Date _____

Teacher _____

Bird Counting Checklist



Tally the birds you see on your walk

 SKY	FORAGING/ EATING	SINGING	OTHER
UPPER CANOPY			
LOWER CANOPY			
GROUND / WATER			



📷 SHARE YOUR CHECKLIST WITH US! @NATURECALGARY

Name _____

Date _____

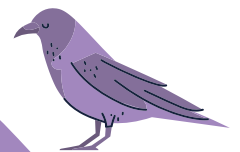
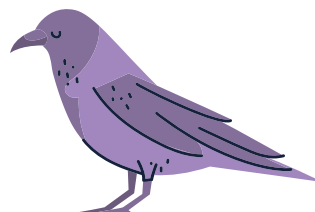
Teacher _____

Bird Scavenger Hunt



Tally the birds you see on your walk

FLOCK	HOPPING DOWN A TREE	EATING AN INSECT	DRUMMING	BEAK SHORTER THAN HEAD
SINGING	BIRD ON GROUND	BLACK FEATHERS	SOARING	SOARING
CALLING	BIRD NEST	DIFFERENT BIRDS TOGETHER	DRINKING WATER	GREY FEATHERS
BABY BIRD	RED FEATHERS	ON THE TOP OF THE TREE	HEARD BUT NOT SEEN	BIRDS CALLING WHILE FLYING
FLYING FROM ONE TREE TO ANOTHER	BIRD NEST	PERCHED ON A BRANCH	BEAK LONGER THAN HEAD	WHITE FEATHERS



SHARE YOUR RESULTS WITH US! @NATURECALGARY

BIRDING 101

JUST THE BASICS!

A step-by-step on how to identify common birds

How big is your bird?

Size is the first clue. Compare the bird to other birds you know. Good comparisons are House Sparrow, Blue Jay, American Crow, and Canada Goose. Is it bigger or smaller than those birds?

Birds that are far away can be harder to size. Look for an object close to the bird you can use to help you.



Where did you find it?

Birds have favourite hangouts - just like people! When you see the bird is it: sitting on a fence or wire? on the ground? in water? in a tree or bush? or soaring high above you?

Habitat is another "where" question. Is it a prairie, river, wetland, dense forest, mountain region, or backyard?

The last "where" is your actual geographic location. Some birds are only found in the Arctic, on a coast, on one side of the mountain range.



Put it together

Once you have all your clues it's time to put it together. Use a guidebook or an app to narrow down the possibilities. Remember it is a process. If you can't get an exact ID, try and put it into a family of birds. Don't get discouraged. Some birds are tricky and even experts have a tough time telling them apart.

1



2

What colour is your bird?

Birds can be plain and brown or bright and multicoloured. Pick out one to three colours that are prominent on the bird. These colours can be just a spot on a bird or the entire bird.

Beware though - colours can change with age, gender, and season! A bird that is bright in the summer can be dull in winter. Or a male can be bright and colourful and a female brown to better camouflage herself.

3



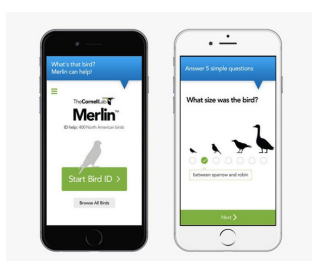
4

What was it doing?

Birds have repetitive behaviours that give clues to who they are. Watch the bird for clues for how it moves. Does it bob its tail, hop back and forth on the ground? Is it always moving or is it still? Is it constantly singing or is it very quiet?

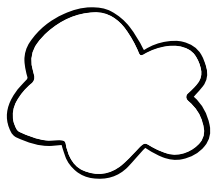
Nuthatches hop facing down on trees, woodpeckers bang their beaks on trees, herons stay very still while stalking prey, and red-winged blackbirds can often be found singing on bulrushes.

5



NATURE CALGARY

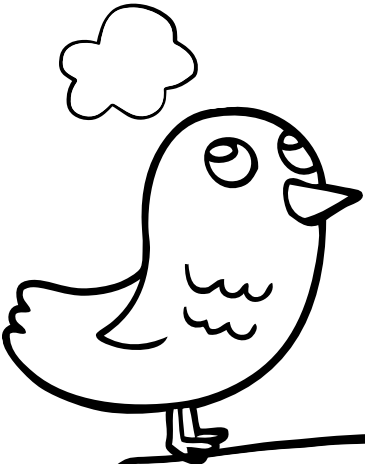
www.naturecalgary.com



Birding by Habitat



As you watch the presentation put at least 2 birds in each of the habitats



What are 3 locations in a habitat you can find a bird



Backyard / Urban

Wetlands

Forest

Why do they like backyards?

Why do they like wetlands?

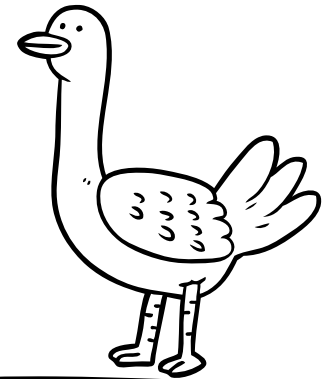
Why do they like forests?



Birding by Behaviour

As you watch the presentation listen for facts about bird behaviour and then pick your favourite 3 birds and write about their behaviour (how they move, what they eat, or their song)!

List 3 reasons why is behaviour important



Bird 1: _____

Bird 2: _____

Bird 2: _____

BIRD CHECKLIST

USE THIS CHECKLIST DURING THE PRESENTATION TO REMEMBER 2 BIRDS IN EACH HABITAT

	Have you seen it before?	Size	Colour(s)	Habitat	Behaviour
Bird 1:					
Bird 2:					
Bird 3:					
Bird 4:					
Bird 5:					
Bird 6:					

MY FAVOURITE BIRD IS A _____
BECAUSE:



SHARE YOUR KNOWLEDGE WITH US!

 @NATURECALGARY

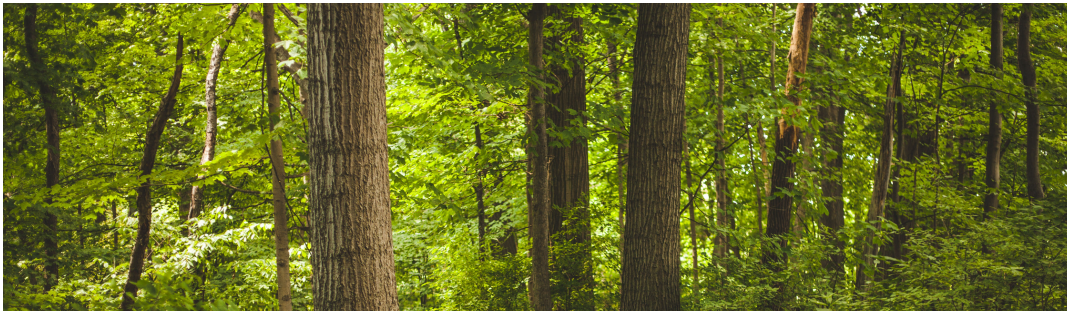
 @NATUREYYC

BIRDS BY LOCATION

What birds do you find in each location



SKY



PERCHING ON TREES / WIRES



ON GROUND / IN WATER



SHARE YOUR KNOWLEDGE WITH US!

 @NATURECALGARY

 @NATUREYYC

BIRDS BY FOOD

What birds eat what foods



INSECTS



OTHER BIRDS / SMALL ANIMALS / FISH



SEEDS / PLANTS

COOL FACTS ABOUT BIRDS

SHARE 3 COOL FACTS ABOUT BIRDS YOU LEARNED DURING THE PRESENTATION:

FACT 1

Blank area for writing Fact 1.

FACT 2

Blank area for writing Fact 2.

FACT 3

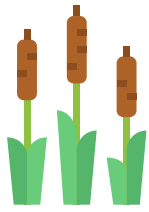
Blank area for writing Fact 3.



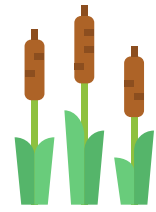
SHARE YOUR KNOWLEDGE WITH US!

 @NATURECALGARY

 @NATUREYYC



MY WETLAND



A planning worksheet to build a bird friendly wetland

I'M GOING TO CREATE A...



Bog

Pond

Fen

Slough

Marsh

BIRDS FOUND IN MY WETLAND



IMPORTANT ELEMENTS IN MY WETLAND



Circle 4 or 5 elements from below

deep water

mudflats

tall trees

decaying peat moss

cattails

logs in water

surface water fed

low bushes

ground water fed

open grassland

forested area

beaver dam

dead trees

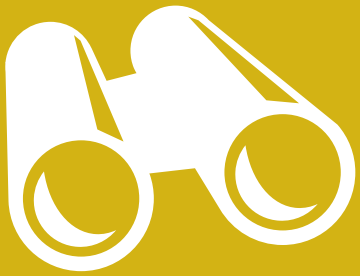
stream

FOODS MY BIRDS WILL EAT



HERE'S A SKETCH OF MY WETLAND:





HERRING GULL

LARUS ARGENTATUS

IMAGES



ANNE & DAVID (FLICKR)



AMANDA BOYS/USFWS

SIZE & SHAPE

- Between Crow & Goose
- Larger than Ring-billed
- 56-66cm
- Gull shaped
- Substantial bill
- Robust body

COLOURS & FIELD MARKS

- Pale pink legs
- Yellow eye. Has red eye-ring in breeding season
- Clean white head & underparts. Head becomes streaked in winter
- Pale gray back
- Pale grey wings
- Black wingtips with white spots

HABITAT & BEHAVIOUR:

- Widespread near water, mudflats, & garbage dumps
- Opportunistic feeder. Feeds walking, swimming and flying. Will steal food

SIMILAR TO:

- Ring-billed Gull (noticeably smaller, brighter yellow legs, black ring on bill)
- California Gull (slightly smaller, dark eye, slightly darker back, pale yellow legs)

Herring Gull vs California Gull

COMPARISON OF THE HERRING AND CALIFORNIA GULLS

HERRING GULL: OVERALL



ANNE & DAVID (FLICKR)

CALIFORNIA GULL: OVERALL



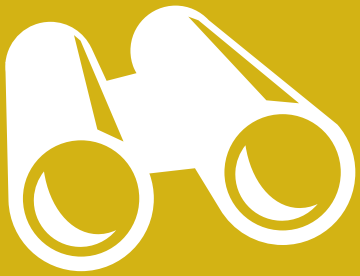
KATRINE KONOPNICKI

HERRING GULL: WHAT TO NOTICE

- PALE EYE
- PALE PINK LEGS
- SLIGHTLY LIGHTER GREY BACK
- SLIGHTLY LARGER THAN CALIFORNIA GULL

CALIFORNIA GULL: WHAT TO NOTICE

- DARK EYE
- PALE YELLOW LEGS
- SLIGHTLY DARKER GREY BACK
- SLIGHTLY SMALLER THAN CALIFORNIA GULL



COMMON NAME

SCIENTIFIC NAME

IMAGES

SIZE & SHAPE

COLOURS & FIELD MARKS

HABITAT & BEHAVIOUR:

SIMILAR TO:

: OVERALL

: OVERALL

: WHAT TO NOTICE

: WHAT TO NOTICE

LOCATION:
DISTANCE:
NUMBER OF OBSERVERS:

DATE: **TIME START:** **TIME END:**
WEATHER:



MON		TOTAL	

DATE: **TIME START:** **TIME END:**
WEATHER:

TUE		TOTAL	

DATE: **TIME START:** **TIME END:**
WEATHER:

WED		TOTAL	

DATE: **TIME START:** **TIME END:**
WEATHER:

THU		TOTAL	

DATE: **TIME START:** **TIME END:**
WEATHER:

FRI		TOTAL	

DAILY BIRD COUNT

SHARE YOUR RESULTS WITH US!  @NATURECALGARY  @NATUREYYC

LOCATION:
DISTANCE:
NUMBER OF OBSERVERS:

DATE: **TIME START:** **TIME END:**
WEATHER:



WEEK 1		TOTAL	
---------------	--	--------------	--

DATE: **TIME START:** **TIME END:**
WEATHER:

WEEK 2		TOTAL	
---------------	--	--------------	--

DATE: **TIME START:** **TIME END:**
WEATHER:

WEEK 3		TOTAL	
---------------	--	--------------	--

DATE: **TIME START:** **TIME END:**
WEATHER:

WEEK 4		TOTAL	
---------------	--	--------------	--

DATE: **TIME START:** **TIME END:**
WEATHER:

WEEK 5		TOTAL	
---------------	--	--------------	--

WEEKLY BIRD COUNT

SHARE YOUR RESULTS WITH US!  @NATURECALGARY  @NATUREYYC



TEACHER'S GUIDE

Birding 101: A Beginner's Guide

Calgary's (un)Common Birds and where to find them.

INTRODUCTION:

Students will learn about the different types of wetlands found in Alberta and their importance. The following PowerPoint and activities will develop skills for identification of various wetlands, the plants and animals that live in them, and the importance of wetland ecosystems to the greater environment.

Students will learn about the different birds found in Alberta and where to find them. The presentation will highlight four ways to identify birds: size, colour, location, and behaviour. Using a variety of pictures and videos the presentation will reinforce the learnings and give students the tools to identify birds in a variety of habitats including: Backyards, Wetlands, and Forests.

While this guide focuses on the Grade 5 curriculum, the worksheets can be adapted for use with any class.

As this is an online presentation, we suggest using either the ***Birding Presentation Worksheets*** or the ***Birding By Worksheets*** for students during the presentation. These worksheets are designed to have students pull information from the presentation and put it in a new format.

LEARNING OBJECTIVES:

By the end of this lesson, students will:

- Describe 4 key ways to identify birds
- Identify birds found in Backyards, Wetlands, and Forests
- Understand how to find birds in Backyards, Wetlands, and Forests using location and behavioural cues
- Understand how birds are adapted to different habitats through habitat and food preferences
- Understand and appreciate the role that birds play in Backyards, Wetlands, and Forests.

LOCATION:

Mayor's Environmental Expo.

Should you want a copy of the presentation for your class please contact communication@naturecalgary.com .



CONNECTION TO GRADE 5 CURRICULUM

The connections that birds have to the Grade 5 curriculum are explained below. Not all connections are explicit in the presentation, but birds can be used as examples in other lessons. Worksheets and other resources are provided for both the presentation and as follow-up activities.

Science

Topic D: Weather Watch

11. Understand that climate refers to long term weather trends in a particular region and that climate varies throughout the world.

Birds are affected by both weather and climate and have changed migration patterns based on both weather and long term global climatic patterns. For example, the Yellow-headed blackbird has pushed its range farther north as the global climate has warmed.

13. Appreciate how important it is to be able to forecast weather and to have suitable clothing or shelter to endure various types of weather.

Birds also need to deal with different weather patterns and have various strategies to keep warm (find shelter, shelter in groups, down feathers, find open water, water birds have special adaptations so that their feet do not freeze)

Topic E: Wetlands

E-2 Recognize interacting living and non-living components of a wetland ecosystem

Birds eat plants, insects, and fish in a wetland. For example, many birds rely on the wetland habitat created by beavers which are sometimes viewed as pests and removed from sites. When this happens the bird populations in those areas drops. Students can identify the critical habitat areas in a wetland for different birds.

Worksheet: Build a Bird Friendly Wetland

E-3 Identify plants and animals found at a wetland site

Different wetlands have a different mix of birds. Wetlands without mudflats or large sections of shallow water will have a smaller population of shorebirds. Wetlands that have larger open bodies of water will have a greater variety of ducks. Wetlands surrounded by forested areas will have more perching birds.

Worksheet: Build your own Field Guide & Similar Species OR My Bird Guide Worksheet

Common wetland birds:

- Ducks
 - Dabbling (do not submerge when foraging)



- Mallard
- Norther Shoveler
- Teals (Blue-winged, Green-winged, Cinnamon)
- Diving (will dive for food)
 - Common Golden-eye
 - Bufflehead
 - Grebes (eared, horned, red-necked, western)
- Perching (will use nest cavities in trees to raise their young)
 - Common Merganser
 - Wood Duck
- Shorebirds
 - Marbled Godwit
 - Long-billed Dowitcher
 - Black-necked Stilts
 - Sora
 - Killdeer
 - American Avocet
 - Willet
- Gulls
 - Franklin's Gull
 - Herring Gull
 - Ring-billed Gull
 - California Gull
- Perching Birds
 - Red-winged Blackbird
 - Yellow-headed Blackbird
 - Belted Kingfisher
 - Eastern Kingbird
 - Warblers (many kinds!)
- Other
 - Great Blue Heron
 - Forester's Tern
 - Common Tern
 - Double-crested Cormorant
 - Birds of Prey (Northern Harrier, Osprey, Bald-Eagle)

E-4 Identify and describe adaptations for wetland plants and animals

Birds are adapted to eat specific types of food either in the water (plants/insects/fish) and their bills can provide clues as to what kind of food they will eat. For example:



- Common Mergansers have a saw-like teeth on their bills to help them catch and eat fish
- Eastern Kingbirds have a hook on the end of their bill which helps them catch insects in the air
- Shorebirds have a wide variety of bills that are either straight, curved upwards, or curved downwards to help them probe for and catch insects in the mud.

Birds' feet are also adapted to either the kinds of food they eat or where they prefer to spend their time

- Osprey talons are backwards facing rough, short spines on the talons (claws) which act as barbs to help hang onto fish
- Sora have wide feet thin feet to spread out their weight on muddy ground
- Ducks have webbed feet to help them swim

Worksheet: Build your own Field Guide & Similar Species OR My Bird Guide Worksheet

E-5 Understand and appreciate that all animals have an important role in a wetland community

Birds are important for a healthy ecosystem. They use the wetland to nest, raise their young, and feed. Wetlands are especially important for migrating birds as they provide a place to shelter, rest, and eat as they migrate north or south.

Worksheet: Build a Bird Friendly Wetland

E-6 Identify the roles of different organisms in a wetland food web

Some birds are specialists and feed on only one type of prey which others have a much wider range of foods they will eat.

- Northern Harriers feed on small rodents that live near marshes
- Belted Kingfishers perch on dead branches above water and feed on fish
- Shorebirds tend to feed on insects in the mud
- Red-winged blackbirds eat mostly insects in the summer but switch to seeds and grains in the winter

Worksheet: My Bird Guide Worksheet

MATH

General Outcome: Develop Number Sense

Activity: Go on a bird walk and count birds

Worksheet: Daily & Weekly Bird Counts OR Bird Count & Scavenger Hunt

Specific Outcomes

1. Represent and describe whole numbers to 1 000 000. [C, CN, V, T] [ICT: C6–2.2]
2. Use estimation strategies in problem-solving contexts. [C, CN, ME, PS, R, V]



Birders often see large groups of birds (i.e., Mallards on a river) and need to quickly and efficiently estimate the number of birds in a group. They count a block and then use the size of that block as a reference to estimate the other the number of birds. They can also use the number of birds passing by per unit of time to estimate huge flocks (i.e., Snow Geese)

- [Bird Counting 101 - eBird](#) (5-8 minute read)
- [Bird Counting 201 - eBird](#) (5-8 minute read)

3. Apply mental mathematics strategies and number properties to understand and recall basic multiplication facts (multiplication tables) to 81 and related division facts. [C, CN, ME, R, V]

Birders in the field need to quickly estimate flock size and they often need to multiply blocks of birds or birds seen / time to get an estimate.

Official counts often use “effort” to get an idea of how many birds were seen per observer or per observer / distance / time. These number can then be used to provide abundance data on the birds, especially if not all an area is covered during a count.

4. Apply mental mathematics strategies for multiplication. [C, CN, ME, R, V]

Birders often keep a running tally of birds in their heads if they see a particularly abundant species and will often add or multiply in their heads.

General Outcome: Use direct and indirect measurement to solve problems.

Activity: Build a Bird House

Resource: [Nest Box Building — Mountain Bluebird Trails Conservation Society](#)

Specific Outcomes

1. Identify 90° angles. [ME, V]

2. Design and construct different rectangles, given either perimeter or area, or both (whole numbers), and make generalizations. [C, CN, PS, R, V]

3. Demonstrate an understanding of measuring length (mm) by:

- selecting and justifying referents for the unit mm
- modelling and describing the relationship between mm and cm units, and between mm and m units. [C, CN, ME, PS, R, V]

4. Demonstrate an understanding of volume by:

- selecting and justifying referents for cm³ or m³ units
- estimating volume, using referents for cm³ or m³
- measuring and recording volume (cm³ or m³) • constructing right rectangular prisms for a given volume. [C, CN, ME, PS, R, V]

5. Demonstrate an understanding of capacity by:

WWW.NATURECALGARY.COM

BIRDING 101: A BEGINNER'S GUIDE. Calgary's (un)common Birds and Where to Find Them.

Teacher's Guide



- describing the relationship between mL and L
- selecting and justifying referents for mL or L units
- estimating capacity, using referents for mL or L
- measuring and recording capacity (mL or L). [C, CN, ME, PS, R, V]
- Look at historical data birds or survey students about their favourite birds

General Outcome: Collect, display and analyze data to solve problems.

Activity: Use historical bird data, survey students on their favourite birds, or go on a bird walk and tally different birds

Historical Bird Data:

[Bird Count Results - Nature Calgary](#)

[Bird Sighting Archives - Nature Calgary](#)

Specific Outcomes

Differentiate between first-hand and second-hand data. [C, R, T, V] [ICT: C1–2.2, P5–2.3]

There are yearly bird counts both in the Calgary area and globally. Some of these counts have been going over 100 years (Audubon Christmas Bird Count). This is a good source for second-hand data.

Students can also see how second-hand data collected by citizen-scientists all over the Americas is used to create migration maps of different birds.

[Observations shared by bird watchers reveal migratory pathways of more than 600 bird species - eBird](#)

[BirdCast - Bird migration forecasts in real-time](#)

Construct and interpret double bar graphs to draw conclusions. [C, PS, R, T, V] [ICT: C6–2.2, P5–2.3]

Birders use both first-hand observations (personal life-lists) and second-hand data (aggregate or count day lists) to check the abundance, migration patterns, and timing of bird arrivals. This data can also be used to see the “productivity” or “health” of certain areas based on the both the diversity and abundance of birds present in an area.

MATERIALS:

Attached worksheets:

- Birding Presentation Worksheets
- Birding By Worksheet



- Build a Bird Friendly Wetland
- Build Your Own Field Guide & Similar Species
- My Bird Guide Worksheet
- Bird Count & Scavenger Hunt
- Daily & Weekly Bird Counts
- Birding 101 – Just the Basics

My Bird Guide

COMMON NAME

BLACK BILLED MAGPIE

SCIENTIFIC NAME

PICA HUDSONICA

IMAGE



SIZE & COLOUR



SIMILAR SPECIES



PREFERRED HABITAT

- BACKYARD
- WETLAND
- FOREST
- OTHER

NOTABLE BEHAVIOUR

They are very social so will often be found in groups.

FAVOURITE FOODS

They eat seeds, insects, fruits, and carrion.

FEATURES

They have thick bills that allow them to efficiently forage for multiple food types.

My Bird Guide

COMMON NAME

BLACK BILLED MAGPIE

SCIENTIFIC NAME

PICA HUDSONICA

IMAGE

SIZE & COLOUR



SIMILAR SPECIES

PREFERRED HABITAT

BACKYARD
WETLAND
FOREST
OTHER

NOTABLE BEHAVIOUR

FAVOURITE FOODS

FEATURES