



FortWhyte Alive
HUMAN. NATURE.

Naturescape for Educators

bringing biodiversity into the schoolyard

Creating Bird Habitat



Natural Plantings

Schools with a mix of trees, shrubs and open areas can attract a variety of birds, by providing many types of nesting materials and locations. Not all schools are lucky enough to have ideal bird habitat, but installing a bird nesting box is a great way to provide for cavity-nesting birds in any neighbourhood. With the decline of dead-standing trees, nesting boxes are becoming even more valuable.

Did You Know?

- Long before European settlement in North America, indigenous groups, including the Chippewa, hung hollowed gourds to attract purple martins. Purple martins will now only nest close to humans.
- Tree swallows use feathers from other birds as nesting material. Feathers keep the nest warm and help their young grow quickly.
- House wrens pile twigs into their nest to block the entrance from the cold or predators.
- House sparrows and European starlings are the enemies of many native birds. These invasive birds will steal nest sites. To prevent house sparrows taking over a nestbox, plug the nest holes until native nesting birds return in May.

Short summers bring a great variety of nesting birds to our province. The diversity of bird behavior is most noticeable when observing nest building and parenting strategies. Most song birds work as a pair to collect nesting materials such as grasses, twigs and even dog hair and spider silk. By creating suitable nesting habitat in your schoolyard, this frenzied activity could happen in front of your students' eyes!



Creating Bird Habitat

Bird Nest Design Tips

- 1. Have Ventilation.** Ensure your bird box has a breathing hole no more than 1/4 inch diameter between the entrance hole and the roof.
- 2. Drainage.** A 3/4 inch diameter hole in the bird box floor will allow any moisture to drain.
- 3. Detachable Top or Side Panel.** Easy access for cleaning is essential. Cleaning the box each year to remove old nesting material will ensure a good home for next years' nesters.
- 4. Texture.** Grooves or wire mesh under the entrance hole will allow young birds to climb out for their first flight.
- 5. Overhanging Roof.** Extra protection from rain and sun will improve the health of the nestlings.

Bird House Measurements

Bird Species	Entrance Hole		Interior Floor Dimensions (length x width)	Height of Bird Box	Height to Install
	Diameter	Height Above Floor			
Eastern bluebird	1.5	6-7	4x4	11-12	48-72
Black-capped chickadee	1.5	6-8	4x4 - 5x5	8-12	48-180
Wood duck	3-4	3-4	10x10 - 12x12	24-25	120 (water) - 240 (ground)
Hooded merganser	3-4	3-4	10x10 - 12x12	24-25	120 (water) - 240 (ground)
House finch	1.5-2	5-7	4x4 - 5x5	9-12	96-144
American kestrel	3	10-12	8x8 - 9x9	14-16	10-360
Purple martin	2-2.5	1	6x6	6	120-180
White-breasted nuthatch	1.5	6-7	4x4 - 5x5	9-12	60-180
Eastern screech owl	2.5-4	10-12	6x6 - 8x8	15-18	120-140
Northern saw-whet owl	2.5-4	10-12	6x6 - 8x8	15-18	120-140
Tree swallow	1.5	6-7	4x4 - 5x5	9-12	48-180
Downy woodpecker	1.5	8-12	3x3 - 4x4	10-14	60-180
Hairy woodpecker	1.5-2.5	10-14	5x5 - 6x6	14-16	96-240
Northern flicker	2-3	10-20	6x6 - 8x8	14-24	72-240
House wren	1.5	6-7	4x4 - 5x5	9-12	60-120

For more information:

Purple Martin Conservation Association: www.purplemartin.org/main/mgt.html

Cornell Lab of Ornithology Nest Cams: www.watch.birds.cornell.edu/nestcams/home/index

CBC Manitoba Falcon Cam - View the endangered peregrine falcons nesting on top of the Radisson Hotel in downtown Winnipeg (late May-June): www.cbc.ca/manitoba/features/falcon/

Ducks Unlimited: www.ducks.ca/what-we-do/

Hinterland Who's Who Nest Boxes for Birds: www.hww.ca/en/issues-and-topics/nest-boxes-for-birds.html

Do's and Don'ts

- **Do** keep track of which birds use your nestbox each year. You can submit information to citizen science, such as Project NestWatch.
- **Do** clean your nest box every year to prevent disease and encourage successful nesting.
- **Do** place your bird box in a location with nearby sources of food and water. You can even help the birds by placing nesting material such as leaving bits of hair, string and feathers nearby.
- **Don't** paint or treat the inside of your bird house. Lead-based paint, creosote, and pressure treated wood are harmful to birds.
- **Don't** paint your box with bright colours as that may limit the number of birds that chose to nest in your box. Instead, paint your boxes with muted tones.
- **Don't** disturb the nest once birds have taken residence.



Birding with the Curriculum

Pre-school and Kindergarten

COLOURFUL BIRDS

In the bird world, males use their songs and colours to attract females. Dress a few students up as male and female birds to illustrate the difference. Have students look at birds outside. Ask them to guess whether they are looking at a male or female bird based on colour. Have them create their own male bird that looks as attractive as possible to the female.

Science: Colours; **Social Studies:** Active Democratic Citizenship, Managing Information and Ideas, Critical and Creative Thinking, Communication, The People Around Me, The World Around Me; **Art:** Art Language and Tools, Creative Expressions in Art, Valuing Artistic Experience.

Grade 1

INCREDIBLE SENSES

Sit students in an interesting spot in the school yard, such as near a bird feeder or bird box. Have them close their eyes and listen for one minute. On a blank piece of paper, have students draw and label a picture of the objects they heard as a map with them in the centre.

Science: The Senses; **Social Studies:** Active Democratic Citizenship, Managing Information and Ideas, Communication, My Environment; **English:** Discover and Explore, Clarify and Extend, Use Strategies and Cues; Organize, Record and Assess Art: Art Language and Tools, Creative Expression in Art, Valuing Artistic Experience.

Grade 2

BIRD CAMS

Birds have an interesting lifecycle. If possible, place a camera in or near a bird box to watch the hidden activity. If not, there are many online bird cams such as Cornell Lab of Ornithology's Nest Cams and CBC Manitoba's Falcon Cam (see links on page 2). Have students build a pictorial timeline as the young develop.

Science: Growth and Changes in Animals; **Social Studies:** Managing Information and Ideas, Communication, Our Local Community.

Grade 3

BUILD AN EDIBLE NEST

Have students coat a muffin tin with cooking spray or butter. Ask students to select nesting material (for example, chow mein noodles, coconut, broken shredded wheat or any other edible foods that might give a nest-like appearance). In a large pan, melt marshmallows, butter and nesting material. Shape the mixture into the muffin tins. Place the tin in the refrigerator for 20 minutes then remove nests. Have students add chocolate eggs or other candies as birds' eggs. Choose appropriate egg colours for the bird you would like to represent. Discuss why birds choose certain materials for their nests.

Science: Materials and Structures; **Social Studies:** Active Democratic Citizenship, Managing Information and Ideas, Critical and Creative Thinking, Communication.



Grade 4

BIRD MONITORING PROJECT

Have students research the birds in your neighbourhood that adapt to use nest boxes. Some good examples are chickadees, wrens, sparrows and tree swallows. What are their natural nesting places when nest boxes are not available? How has the habitat around your school changed over time because of human activity? Put a bird house up and monitor it for visitors. Keep track of who uses the nest and track this information from year to year.

Science: Habitats and Communities; **Social Studies:** Active Democratic Citizenship, Managing Information and Ideas, Living in Manitoba, History of Manitoba.

Grade 5

PULLEYS FOR THE BIRDS

Bird houses and bird feeders need to be accessible for cleaning and refilling. Unfortunately, most boxes and feeders need to stay up out of our reach for the birds. Have students design a simple machine that will facilitate getting the bird feeders and boxes up and down without the use of a ladder. Use the effective machines in the schoolyard.

Science: Forces and Simple Machines; **Social Studies:** Active Democratic Citizenship, Managing Information and Ideas, Critical and Creative Thinking.

Grade 6

BIRDS ARE FOR THE DINOSAURS

Birds are the closest relatives to dinosaurs. By studying birds, scientists can better understand how dinosaurs may have lived. Bring students outside to watch the birds. Have them record bird behavior such as group number, walking motion and feeding behavior. Once they've collected enough data, have students write a story about a "day in the life" of a dinosaur based on the bird information they've collected. Discuss how habitats would be different then and now.

Science: Diversity of Living Things; **Social Studies:** Managing Information and Ideas, Critical and Creative Thinking, Communication; **English Language Arts:** Discover and Explore, Clarify and Extend, Use Strategies and Cues, Plan and Focus, Select and Process; Organize, Record and Assess; Attend to Conventions.