



SCIENTIST IN RESIDENCE PROGRAM™

Science Unit **Bird Diversity** Lesson 1 *How do birds move?*

Summary In this lesson, students practice their observation skills and tickle their curiosity by looking closely at and emulating how birds move both on-line and outside.

Authors	Lea Elliott (scientist), Linda Andrews (teacher) and Jill Beeman (teacher)
Grade level	2–3
Class time needed	1 hour and 20 minutes
Delivery date	March 29 th , 2017

LEARNING OBJECTIVES

1	Observe how birds move.
2	Emulate bird movements.
3	Speculate about what a bird is able to do because of how it moves.

SUPPLIES

Short video clips of indigenous birds gliding, flapping, flitting, paddling, hop-hop-stopping, and hovering (see references).

BACKGROUND INFORMATION

An ornithologist, that's a bird scientist, studies bird movements to help her identify bird species and to better understand bird behaviour.

Birds move in many different ways. In this lesson, we'll study six different ways movements:

- **Glide:** flying forward without flapping wings. Our example bird is the herring gull.
- **Flap:** large up and down wing movements that allow a bird to take off, move forward and keep themselves aloft. Our example bird is the great blue heron.
- **Flit:** flitting allows birds to move swiftly and lightly in short bursts. Typically used by songbirds to make short flights between locations. Our example bird is the black-capped chickadee
- **Pond Paddle:** movement used by floating birds, such as ducks and other waterfowl, to propel themselves along the surface of the water by paddling their feet underwater. Our example bird is the mallard duck.
- **Hop-Hop-Stop:** when a bird does a few hops and then stops to, usually, look and listen for food. Our example bird is the American robin.
- **Hover:** rapid, figure-eight wing movements that allows a hummingbird to remain stationary, typically, while they feed on flower nectar. Our example bird is the rufous hummingbird.



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By drawing our attention to how birds move we hone our observation and wondering skills. We start to wonder: why birds move, how they move, and what does moving like that let a bird do?

THE LESSON

The Hook	Watch videos of six birds indigenous to the Vancouver-area move in six different ways. After each video emulate how that bird species moves. What did you notice about how that bird moves?
Hands-on Activity 1	Head outside to observe birds move <ul style="list-style-type: none">Walk to Queen Elizabeth Park (or another local park in your neighbourhood) to watch birds move.
Wrap Up	<ul style="list-style-type: none">Discuss: Which type of movement was your favourite? What does this type of movement allow a bird to do?Complete work sheet attached below now or later for review.

VOCABULARY

Glide	Flying forward without flapping wings or expending energy.
Hop-hop-stop	When a bird does a few hops and then stops usually to look and listen for food.
Hover	Rapid, figure-eight wing movements that allows a hummingbird to remain stationary.
Flap	Large up and down wing movements that allows a bird to take off, move forward and keep themselves aloft.
Flit	To move swiftly and lightly in short bursts.
Pond Paddle	Movement used by floating birds, such as ducks and other waterfowl, to propel themselves along the surface of the water by paddling their feet underwater.
Emulate	To act like or imitate (in our case to imitate the movement of different bird species).

VIDEOS:

- Rufous hummingbird – hover
<http://www.arkive.org/rufous-hummingbird/selasphorus-rufus/video-08a.html>
- American robin - hop, hop, stop (start at 3:42)
<http://www.arkive.org/american-robin/turdus-migratorius/video-00.html>
- Herring gull - glide (turn off volume, watch from 0sec to 15 sec)
https://www.allaboutbirds.org/guide/Herring_Gull/videos
- Mallard - pond paddle
<https://www.allaboutbirds.org/guide/Mallard/videos>
- Great blue heron - flap (two videos)
<https://www.youtube.com/watch?v=kei8lvT70zl>
<https://www.youtube.com/watch?v=tJM9IAfyoSU>



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REFERENCES

Activities modified from: The Cornell Lab of Ornithology and Pennington. Feathered Friends.
<http://www.birdsleuth.org/pennington/> (downloaded November 2016)

Ehrlich, P.R., D.S. Dobkin, D. Wheye. 1988. Hovering Flight.
https://web.stanford.edu/group/stanfordbirds/text/essays/Hovering_Flight.html (Accessed May 2017)

EXTENSION

Visit another location to observe birds moving a second time. In Metro Vancouver, the Reifel Bird Sanctuary on Westham Island in Ladner is a great option.

ADD BIRD MOVEMENT RECORDING SHEET