

Vertebrate Race



Image from <http://provinceroyalpark.ca>.

Specific Learning Outcomes

6-1-01: Use appropriate vocabulary related to their investigations of the diversity of living things.

6-1-09: Recognize that the animal kingdom is divided into two groups, vertebrates and invertebrates, and differentiate between the two.

6-1-12: Classify vertebrates as fishes, amphibians, reptiles, birds, and mammals, and provide examples to illustrate the diversity within each group.

6-1-13: Compare and contrast the adaptations of closely related vertebrates living in different habitats, and suggest reasons that explain these adaptations.

General Learning Outcomes

6-0-3a: Formulate a prediction/hypothesis that identifies a cause and effect relationship.

6-0-5a: Make observations that are relevant to a specific question.

6-0-7f: Reflect on prior knowledge and experiences to construct new understanding, and apply this new knowledge in other contexts.

6-0-8b: Identify examples of scientific knowledge that have developed as a result of the gradual accumulation of evidence.

Vocabulary

wetland, vertebrate, invertebrate, adaptations, reptile, amphibian, mammal, fish, bird, classification system

Summary

Students continue their exploration of wetlands by learning about vertebrates, racing to see if they can classify wetland vertebrates as fish, amphibians, reptiles, mammals and birds correctly before the other team! Students will also compare and contrast vertebrate adaptations within their taxonomic classes and suggest reasons to explain these adaptations.

Materials

- Computer and projector to present slideshow
- Five containers or small buckets (to put cards in)
- Print and cut out vertebrate cards (recommend laminating for future use)

Procedure

Warm Up

Begin by reminding students about their visit to Wetland Discovery Centre, briefly reviewing the day's activities. Remind students of the word 'wetland' and ask them what they think it means now that they have visited one.

Present the provided slideshow presentation, which discusses the diversity, classification, and adaptations of vertebrates, providing brief descriptions and examples from taxonomic classes Mammalia, Amphibia, Reptilis, Aves, and Osteichthyes.

The Activity

The slideshow will lead into the activity, which allows students to practice classifying vertebrates. Through a relay race, students will aim to properly classify the animals on the cards they are given by placing each card into the correct bucket. The team who is the fastest gets five points, then each card who was classified in the correct bucket receives two points. The team with the most points wins!

To play, the class will be divided into two or more teams (see slide show for game set up), each student receiving one card. The two teams will have a moment to look at their cards and discuss which card belongs in which bucket. The buckets will be labelled with pictures of specific adaptations belonging to a specific animal class.

The two teams will line up behind the start line.

When the teacher says ‘Go’ the first student in line from each team will run to the buckets and put their card into the bucket they think best describes their animal. When the students run back, they tag the next person in line from their team who then runs to the buckets. Once all students have put their cards in the buckets the game is finished.

Wrap Up

Wrap up this activity with a class discussion. Go through each bucket and make any corrections needed, putting cards in their correct bucket (class). Referencing the cards in each bucket, have students compare and contrast the adaptations of the animals in each taxonomic class.

Ask students to identify some of the structural adaptations of animals in each class, comparing these adaptations with others within their class. Ask students to then identify some behavioural adaptations of each class, comparing those adaptations with others within their class. Finally, end with a discussion about how these adaptations help each animal live in their habitat(s), like a wetland.

Conclude by reiterating that wetland habitats, like Oak Hammock Marsh, house many kinds of vertebrates. Learning about the adaptations of vertebrates enable us to better understand the diversity of living things and how they relate to their habitat(s).

Animal Highlight — the Monarch Butterfly

*On the cover of this section and in the insets you will see pictures of the Monarch Butterfly. The Monarch Butterfly is found in open woodlands, fields, meadows, marshes and gardens in the southern region of Canada and throughout the United States. The Monarch has distinctive orange wings outlined in black with white spots on the edge of each wing and along the body. The Viceroy (*Limenitis archippus*) is often confused with the Monarch, although it is smaller and has a distinctive black line on its wing patterns that helps differentiate the two.*

As a caterpillar, the Monarch butterfly eats the leaves of the Milkweed plant. Eggs are laid on the milkweed’s leaves allowing caterpillars to begin feeding immediately after hatching. As adults, they drink the nectar from flowers, such as Echinacea, Black-eyed Susan, and Goldenrod.

Monarchs have the longest and largest insect migration in North America, traveling up to 4800 kms. The migration takes place over four generations.

To learn more, visit: <http://cwj-fcf.org/en/resources/encyclopedias/fauna/insects/monarch-butterfly-sp.html>

Teacher's Vertebrate Answer Key

Mammal:

- White-tailed Deer
- Coyote
- Muskrat
- Eastern Cottontail
- Richard's Ground Squirrel
- Short-tailed Weasel
- Human
- Raccoon
- River Otter
- Platypus (not found in Canada, found in Australian wetlands)

Bird:

- Red-winged Blackbird
- Marsh Wren
- Killdeer
- Mallard
- Canada Goose
- Northern Harrier
- Great Blue Heron
- Barn Swallow
- American White Pelican
- Yellow Warbler

Fish:

- Fathead Minnow
- Stickleback Minnow
- Northern Pike

Reptile:

- Painted Turtle
- Snapping Turtle
- Western Plains Snake
- Prairie Skink (not found at Oak Hammock Marsh, but in Manitoba's Carberry Sandhills)

Amphibian:

- Northern Leopard Frog
- Yellow Spotted Salamander (not found in Manitoba, found in Eastern Canada)
- Boreal Chorus Frog
- Eastern Tiger Salamander (not found at Oak Hammock Marsh, but in Western Manitoba)
- Canadian Toad

***All animals found at Oak Hammock Marsh unless noted.

Yellow Spotted Salamander



Northern Leopard Frog



Northern Pike



Fathead Minnow



Muskrat



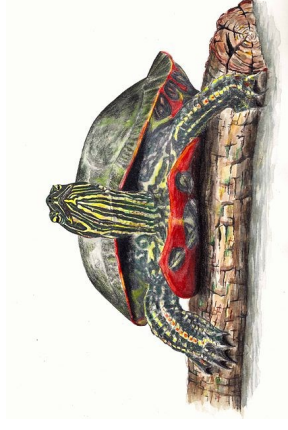
Coyote



White-tailed Deer



Painted Turtle



Snapping Turtle



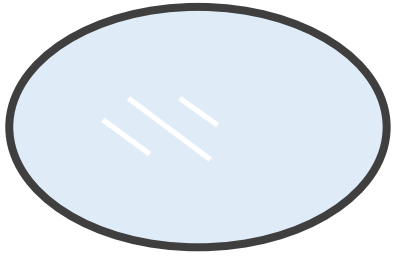
Short-tailed Weasel



Eastern Cottontail



Human



Prairie Skink



Richardson's Ground Squirrel



Stickleback Minnow



Boreal Chorus Frog



Mallard



Killdeer



Marsh Wren



**Red-winged
Blackbird**



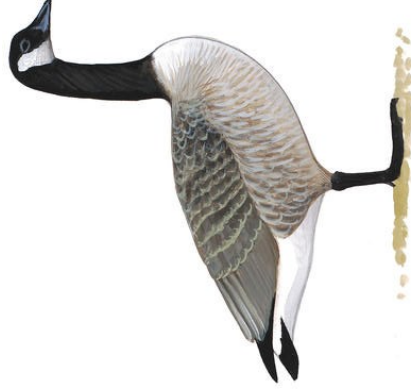
**Great Blue
Heron**



**Northern
Harrier**



Canada Goose



Raccoon



River Otter



Platypus



Eastern Tiger Salamander



Western Plains Garter Snake



Canadian Toad



Yellow Warbler



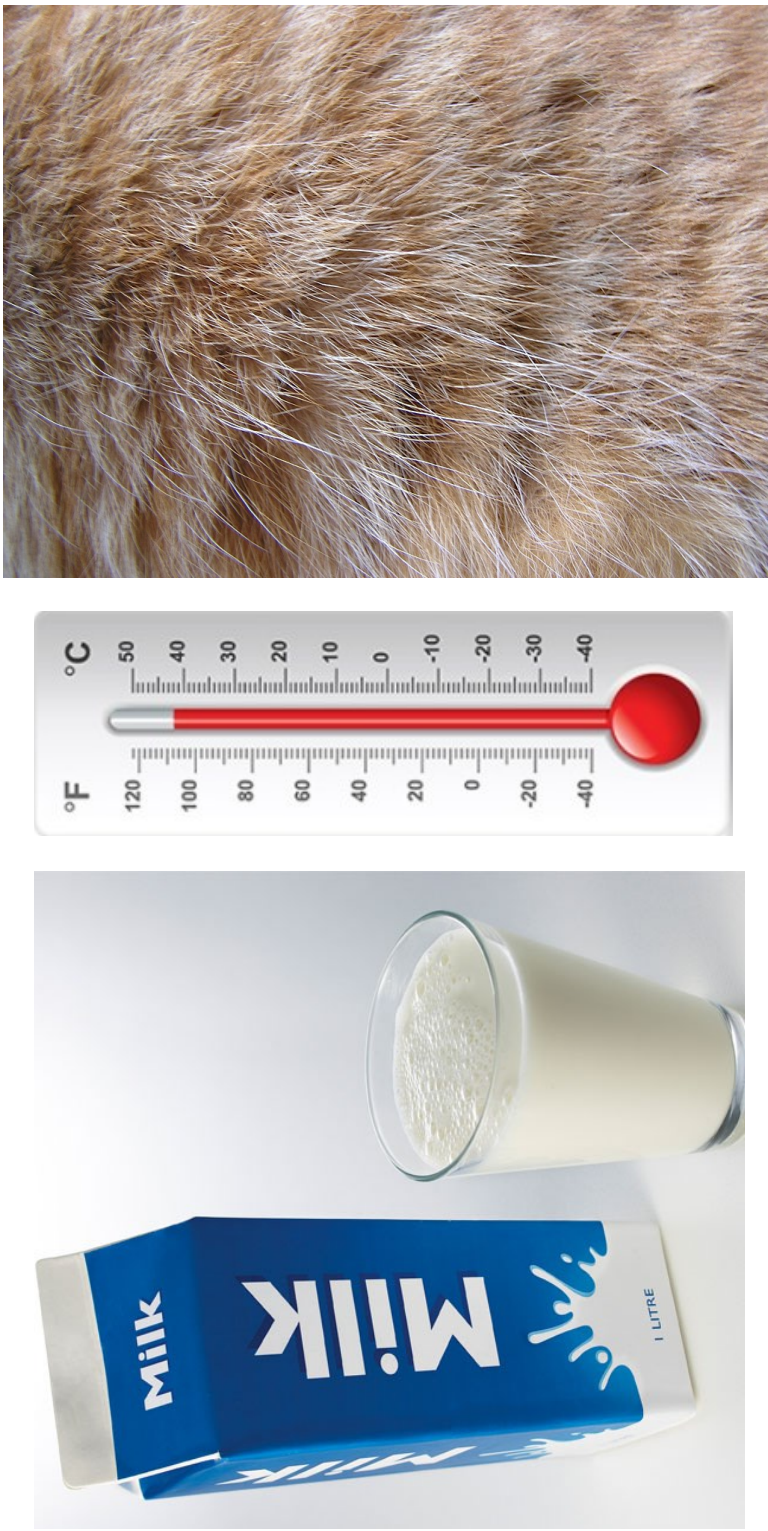
American White Pelican



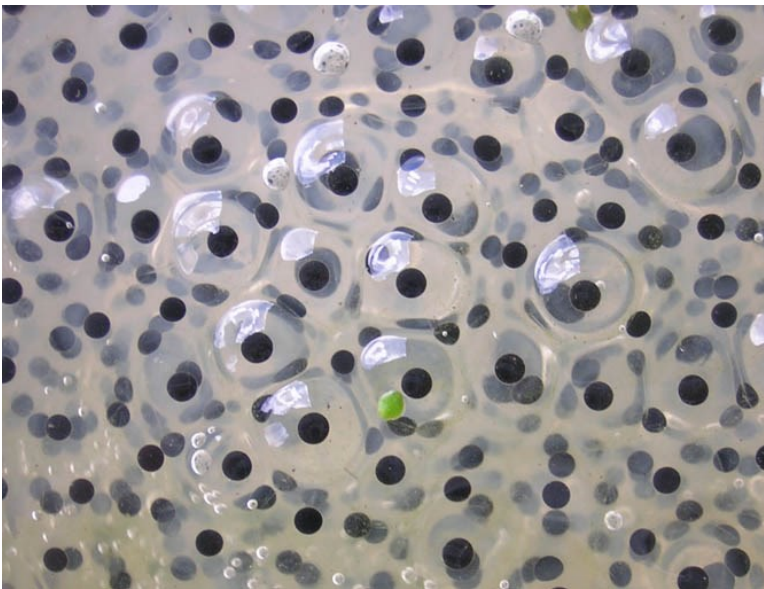
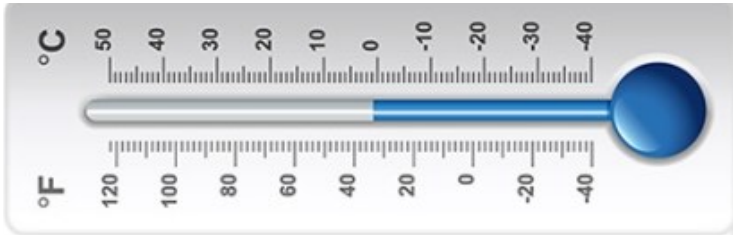
Barn Swallow



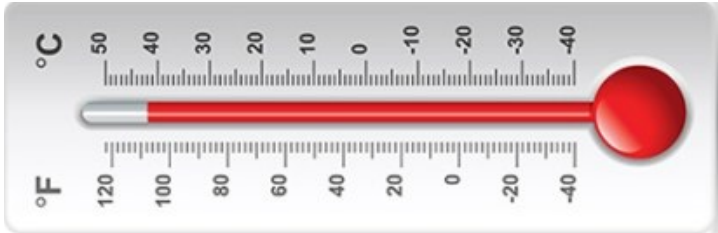
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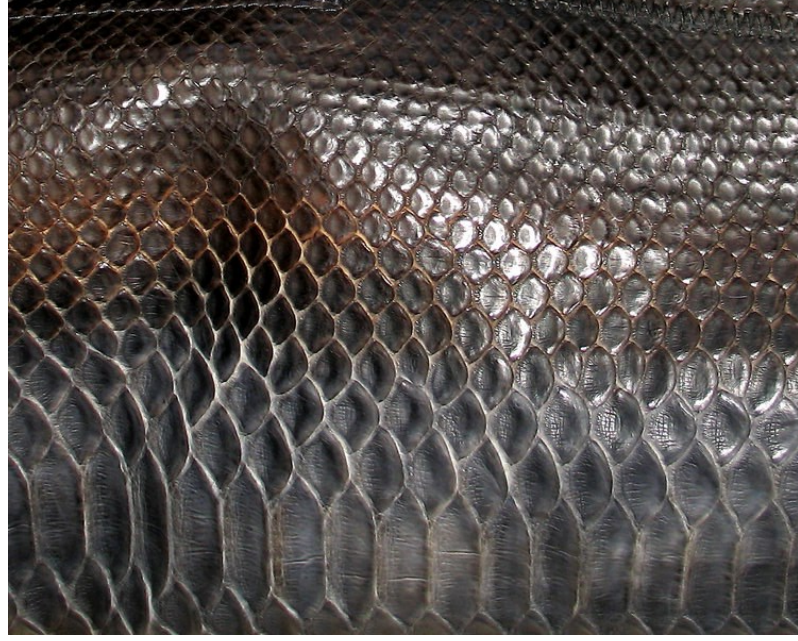
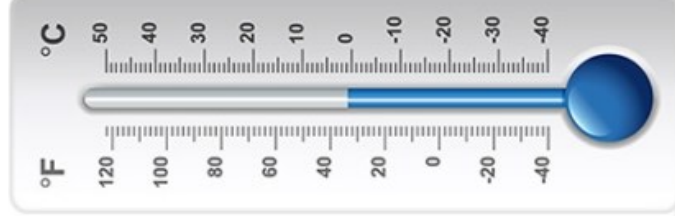
Amphibian Bin Label:



Bird Bin Label:



Reptile Bin Label:



Bony Fish Bin Label:

