# Seasonal Changes Circle

**Specific Learning Outcomes**

**1-1-01:** Use appropriate vocabulary related to their investigations of characteristics and needs of living things.
**1-4-16:** Identify physical and behavioural changes that occur seasonally among Manitoba plants and animals, and discuss possible reasons for the changes.

**General Learning Outcomes**

**1-0-1a:** Ask questions that lead to explorations of living things, objects, and events in the immediate environment.
**1-0-4a:** Follow simple directions while undertaking exploration.
**1-0-4e:** Respond to the ideas and actions of others in building their own understandings.
**1-0-4g:** Verbalize questions and ideas during classroom learning experiences.
**1-0-7a:** Propose an answer to the initial questions based on their observations.
**1-0-9b:** Willingly observe, question, and explore.

**Vocabulary**

wetland, seasons, fall, winter, spring, summer, living things, needs

## Summary

Students continue their exploration of wetlands by focusing on one living thing that is dependent on wetlands, creating a visual representation of the physical and behavioural changes of this living thing as it adapts to each season.

## Materials

- *Print 1 'Seasonal Changes Circle' for each student **OR** create large versions of the activity sheet on easel pads so students can work in groups*
- *Gather enough crayons, colouring pencils, etc. for each student or table group*
- *Print picture (included) or set up projection of the living thing you will focus on during this activity*

## Procedure

### *Warm Up*

Begin by reminding students about their visit to Oak Hammock Marsh, briefly reviewing the day's activities. Remind students of the word 'wetland' and ask them what they think it means now that they visited a wetland. Have students identify some living things they saw at Oak Hammock Marsh, and some of the needs of the living things they learned about during their field trip.

### *The Activity*

Introduce the activity by explaining that as a class you will learn more about a particular living thing that needs wetlands, as well as explore what that living thing does during each season. Have students first identify what season it is currently, followed by listing all four seasons. Finally ask what are some things that change during each season, and how it may affect living things.

Use one living thing as the focus of this activity (either the Mallard, Cattail, or Boreal Chorus Frog – see accompanying activity sheets). Show picture of your chosen living thing, and provide a brief description (included). Ask students if/when they have seen this living thing, asking if it changes physically or acts differently during the different seasons.

Connect how the seasons change the living thing's behaviour and how it fulfills it's needs (see description included with picture).

Explain the general changes that occur for this living thing throughout the seasons.

Hand out the activity sheet to each student ***OR*** create large versions of the Seasonal Changes Circle on easel pads so students can work together in groups.

Have students draw the living thing in each season showing what they do during that time of year.

## Wrap Up

Have each student or work group present their drawing in a sharing circle, describing their drawing, including a brief explanation of the changes that occur for the living thing during each season.

### Animal Highlight — the Beaver

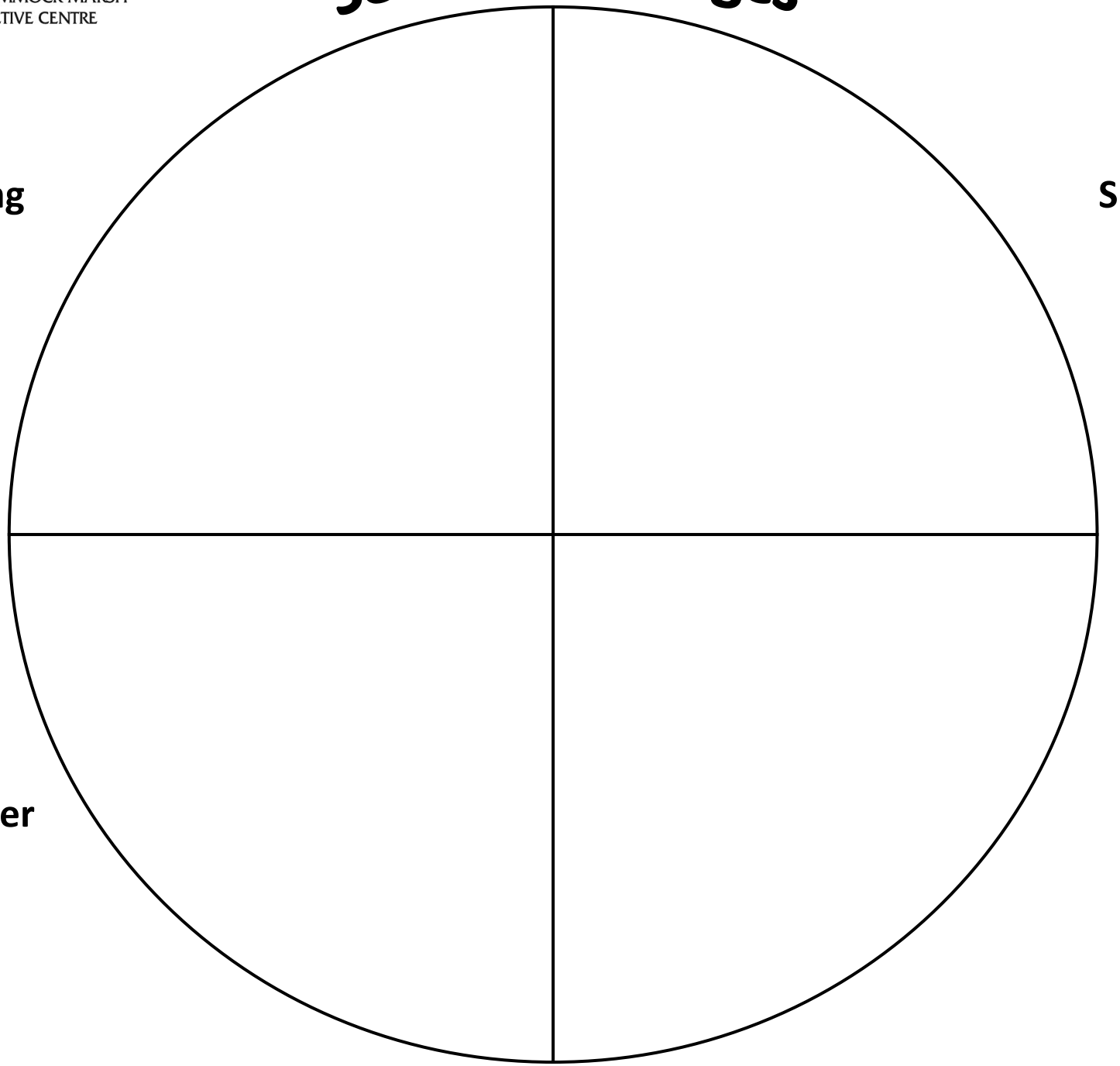
*On the cover of this section, and in the insets you will see pictures of beavers, or structures made by beavers. Beavers are a type of animal known as a rodent, meaning they have teeth that grow continuously and are coated with enamel, which creates that telltale orange hue. Beavers are categorized in the animal kingdom as a mammal because they are born live, drink milk from their mother when they are young, and they have hair on their bodies. A beaver has medium-short brown fur all over its body, with a flat, leathery tale they use for swimming and communication, such as alerting one another of danger.*

*Beavers are well known for their construction abilities. Beavers build dams (which look like a wall built from logs, branches and mud) in small, shallow streams and ponds in order to flood the area and create a deeper water source. This deeper pool of water allows them to move more freely by swimming, using the water depths as a means of protection from predators. Once the water rises to a sufficient height, beavers then build their home, called a lodge (which looks like a pile of logs and branches). For food, beavers eat the bark of trees, gathering twigs and branches for a food pile that they can take from throughout the year.*

*Beavers are known as builders of wetlands, changing the landscape with their dams. Beavers are what scientists call a keystone species, meaning that many other living things depend on beavers in the ecosystem (such as wetlands), and if the beaver is removed, the ecosystem changes drastically. To learn more about beavers, check out the Canadian Encyclopedia:* ***www.thecanadianencyclopedia.ca/en/article/beaver/***

OAK HAMMOCK MARSH
INTERPRETIVE CENTRE

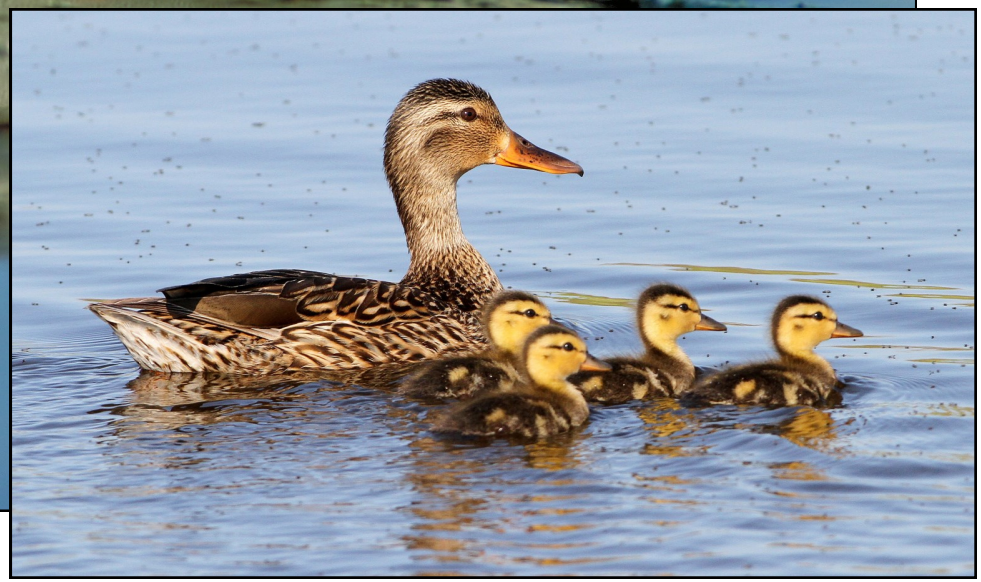
# Seasonal Changes




Conserving Canada's Wetlands

Manitoba

# Mallard



# Mallard

The Mallard is a highly recognizable duck, for they live in many parts of the world, including wetlands around southern Canada. Mallards are great swimmers, moving forward by paddling their webbed feet.

Occasionally, Mallards will walk on land, but they prefer swimming. Mallards eat by skimming their beaks along the surface of the water while swimming, to gather up small floating plants (like Duckweed) and other tiny water creatures, such as pond snails and sideswimmers.

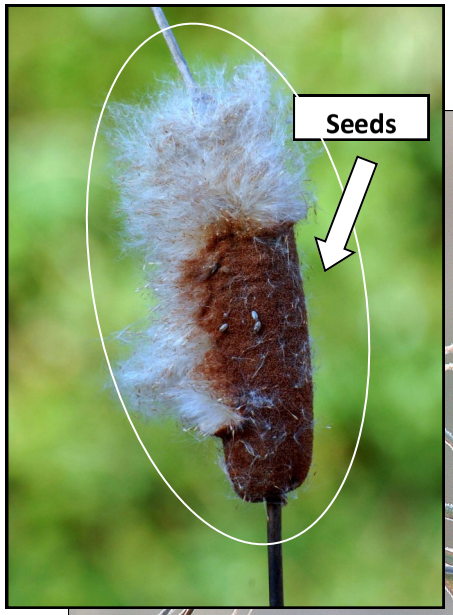
**Spring:** migrate with mate to summer breeding grounds (such as Oak Hammock Marsh), where they breed and nest, resulting in eggs that also hatch during this time of year.

**Summer:** female raises young. Young continue to develop, learning how to fly in the late summer once they lose their downy feathers and grow their adult feathers.

**Fall:** young are now able to feed, swim, and fly independently (with their new feathers). Adults moult (lose colourful feathers and grow fresh new ones) and prepare to migrate (eating to gain enough energy to fly long distances). They then migrate to their winter feeding grounds, where pairing begins to occur, and their breeding plumage (colourful feathers) are fully grown in late fall/beginning of winter.

**Winter:** once on the winter ground, mallards try finding a mate, courtship continuing throughout the winter months.

# Cattail



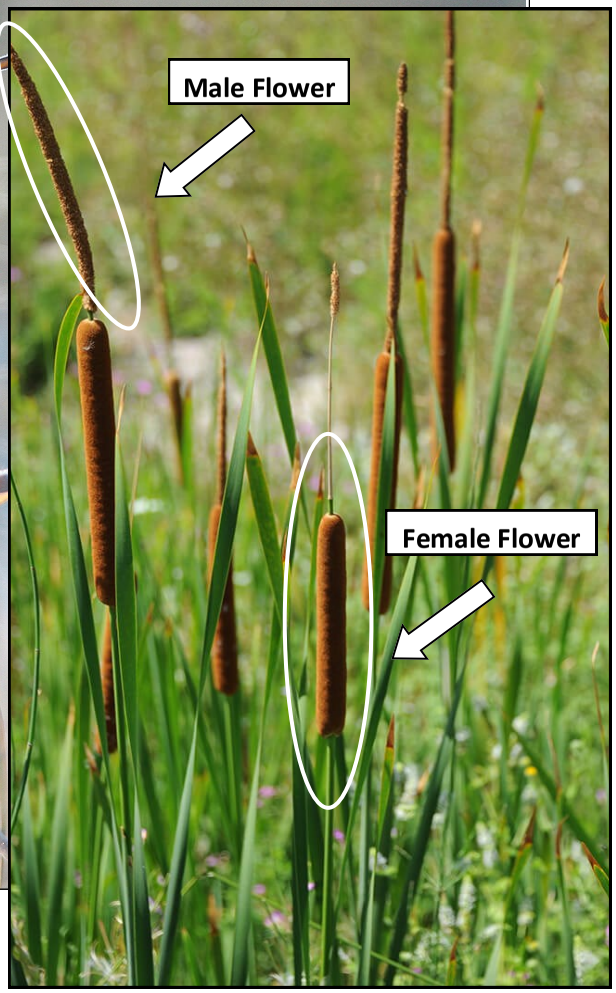




*Image from Wikimedia Commons.*

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# Cattail

Cattails are a popular wetland plant, that have long green leaves and a “flower” that looks like a hotdog on a stick. Cattails are very important plants in wetlands, for they clean the water and help absorb the water in times of flooding. You can find Cattails on the edges of wetlands, in shallow water.

**Spring:** stem begins to grow, leaves appearing; “hotdog on a stick” part of plant develops, starting off green, with the stamen (male flower) above pollinating the green “hotdog” (female flower) with bright yellow pollen

**Summer:** rich with green leaves, “hotdog on a stick” becomes brown (which is where the seeds are developing)

**Fall:** “hotdog on a stick,” now covered in seeds, softens until the seeds “explode” (like a Dandelion), the Cattail leaves and stem begin to turn light brown as the temperature gets colder and the days get shorter (less sunlight).

**Winter:** plant dormant during this season. It is no longer green because the plant can no longer produce food (which happens in the leaves, making sun energy into energy the plant can use/”eat”) because it is too cold for this process to occur. Plant stores energy in its roots, so it has food for the spring.

# Boreal Chorus Frog

*Frog egg image from Wikimedia Commons. Tadpole image from gov.bc.ca/gov/. Boreal Chorus Frog image by Sam Brinkler, ontarionature.org.*

# Boreal Chorus Frog

Boreal Chorus Frogs are one of the most common frogs in Manitoba. They can be between 3 to 3.5cm in length (about the size of two thumbs beside each other). This frog may be small, but has a loud call that sounds like a fingernail running along the teeth of a comb.

Like all frogs, Boreal Chorus Frogs have very sensitive skin. They help show when a water body is polluted for the frogs will no longer live there, so if you see or hear frogs in a water body it is a sign that it is healthy.

**Spring:** awake from hibernation, breed (singing songs to attract a mate - one of the first sounds of Spring), eggs laid in pond attached to a plant, eggs hatch late spring (tadpoles emerge)

**Summer:** tadpoles go through transformation becoming adult frogs (grow back legs first, then front legs, then lose their tail) and may leave the wetland.

**Fall:** migrate to nearest wetland, find place for hibernation

**Winter:** hibernate beneath objects or leaf litter, or in mud, and even have the ability to freeze solid! Once the temperatures rise in the spring, the frog can thaw and begin to move once again.

*To hear the Boreal Chorus Frog's call, visit: youtube.com/watch?v=UmW_hSc4M18*