

“There is nothing in a caterpillar that tells you it’s going to be a butterfly.”

Anonymous



FortWhyte Alive
HUMAN. NATURE.

Naturescape for Educators

bringing biodiversity into the schoolyard

Welcoming Butterflies Into Your Schoolyard



Providing insect habitat is an essential part of schoolyard biodiversity. Insects are vital to our natural ecosystem and are required for human survival – they regenerate soil, pollinate crops, and are a food source for many different species. Planting a butterfly garden is a simple, fun and beautiful way to provide food and shelter for these colourful insects.

Plant Food for Caterpillars

Did you know that most caterpillars are picky eaters and are partial to feasting on particular plant species? These host plants are very important as they provide food and shelter for the voracious caterpillars. Host plants should be planted in a partial sunny section of your yard and sheltered from the wind. Use this chart as a guide to attract some Manitoban species:

- Food for caterpillars
- Food for caterpillars and butterflies
- Food for butterflies

	Aspen	Balsam poplar	Birch	Bur oak	Cottonwood	Maple	Mountain ash	Chokecherries	Dogwood	Saskatoon	Wild rose	Willow	Meadowsweet	Asters	Common pussy-toes	Coneflowers	Golden Ft Heart-leaved Alexanders	Pearly everlasting	Prairie Sage	Sunflowers	Vetch	Violets	Flax	White/Purple Clover	Meadow Blazing Star	Joe-Pye Weed	Goldenrod	Black-eyed Susan
Admirals	●●	●●	●●																					●●	●●	●●	●●	●●
Blues				●				●	●	●		●		●					●		●			●	●	●	●	●
Checkerspots								●	●	●				●●	●●				●●		●			●	●	●	●	●
Crescents														●											●	●	●	●
Fritillaries							●							●					●		●●	●●			●	●	●	●
Hairstreaks				●			●●	●●	●●	●	●													●	●	●	●	●
Monarch																								●	●	●	●	●
Mourning Cloaks	●	●		●						●														●	●	●	●	●
Painted Ladies							●	●	●					●	●		●	●	●	●				●	●	●	●	●
Sulphurs														●							●			●	●	●	●	●
Swallowtails	●●	●●	●●			●●				●						●					●			●	●	●	●	●
Viceroy								●				●		●										●	●	●	●	●
	TREES			SHRUBS				FLOWERS					BUTTERFLY FOODS															

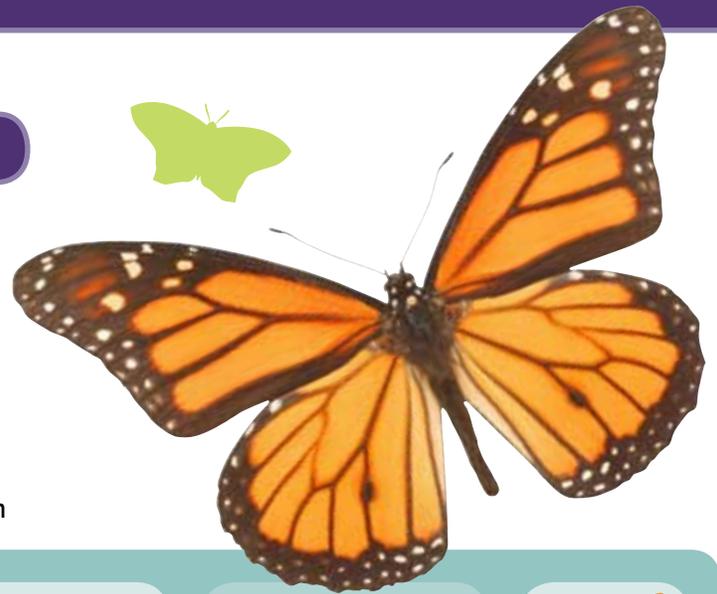
Food for Butterflies

Butterflies are not as picky about their choice of food, as they feed on the sugar-rich nectars produced by plants. A butterfly-friendly yard will have various sources of nectar available throughout the season. Available sugar sources include tree sap, flower nectar and even rotting fruit.



Plant Food for Monarchs

Monarch caterpillars are very selective eaters. Their favorite food is milkweed, which flowers in July. *Milkweed can be toxic if consumed.* Discuss garden safety with students before planting milkweed (Grade 3: Science: Growth and Changes in Plants 3-1-09). For more information and teacher resources surrounding monarch butterflies visit: www.monarchteachernetwork-westerncanada.com



Did you Know?



There are 144 butterfly species in Manitoba!

Butterflies taste with their feet.



Butterfly wings are covered in tiny scales. Avoid touching the wings. Scales are easily rubbed off, making it harder for the butterfly to fly.



Butterflies drink from a long straw-like mouthpart called a proboscis.



Butterflies make up only a fraction of the thousands of pollinator species in Manitoba.



Dos and Don'ts

Do plant large expanses of flowers in bright and sunny areas to attract butterflies.

Do create a soggy puddle: butterflies obtain minerals and water from damp soil and sand.

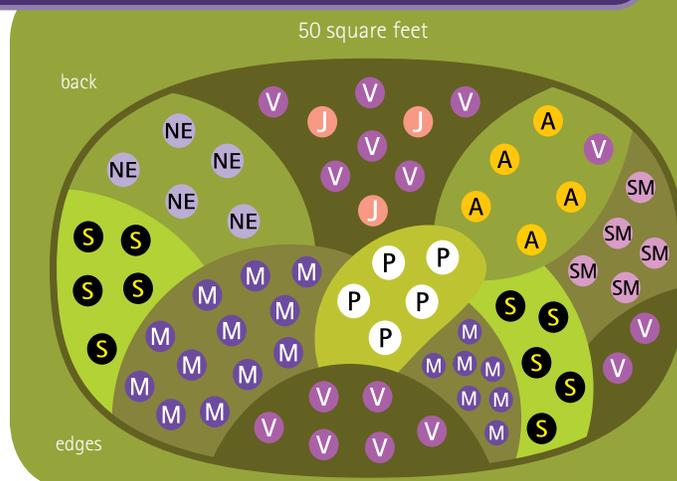
Do leave out some rotting fruit as a food source.

Don't use pesticides. Eggs, caterpillars and butterflies are killed by their usage.

Don't clean up your garden. Leave leaf litter around your trees. It not only returns nutrients to the soil but provides shelter for over-wintering butterfly species.

Don't worry about leaves looking chewed-up. Remember they are the food source for the caterpillars.

A Sample Butterfly Garden



- J** Joe-pye weed—nectar (1' apart)
- NE** New England aster—host & nectar (1' apart)
- A** Golden Alexander—host (1' apart)
- SM** Swamp milkweed—host & nectar (1' apart)
- S** Black-eyed Susan—host & nectar (1' apart)
- P** Pearly everlasting—host (1' apart)
- M** Meadow blazing star—host & nectar (6" apart)
- V** Northern bog violet—host & nectar (1' apart)

This diagram of a butterfly garden was created by Shirley Froehlich, owner of Prairie Originals.

Butterfly Activities



Pre-school, Kindergarten and Grade 1

BUG HUNT

Use bug boxes or clear plastic cups with lids to collect insects and spiders from the school yard. To catch large flying insects like butterflies, it is helpful to have sweep nets. Have students notice differences in: colour, shape, size, number of body parts (ex: legs, wings) and frequency. Try searching for insects in different locations. Compare the differences. Discuss reasons for those differences.

Science: Colours, Characteristics and Needs of Living Things, The Senses

Social Studies: Active Democratic Citizenship, Managing Information and Ideas, Critical and Creative Thinking, Communication, The World Around Me, My Environment

Grade 2

BUILD A BUTTERFLY FOUNTAIN

Find a durable plate. Arrange rocks on the plate that the butterflies can use as landing pads. Mix some water with fertilizer pellets, table salt, fish tank water, pet pellets or manure if you have it. Fill the plate with water and place it in the garden to attract butterflies. Add moss for extra decoration and to create a soggy butterfly hot spot.

Science: Air and Water in the Environment



LIFE CYCLES GAME

Discuss the four stages of a butterfly's lifecycle. Use student suggestions to give every stage a phrase and an action. For example, the caterpillar could be shown by pretending to eat. All students are given the role of an egg to start the game and must repeat the egg phrase and action until they find another student at the same stage as they are. They must then play rock, paper, scissors. The victor moves up a life stage, the defeated either stays an egg or moves down a stage. Discuss the difficulties of achieving adulthood.

Science: Growth and Changes in Animals

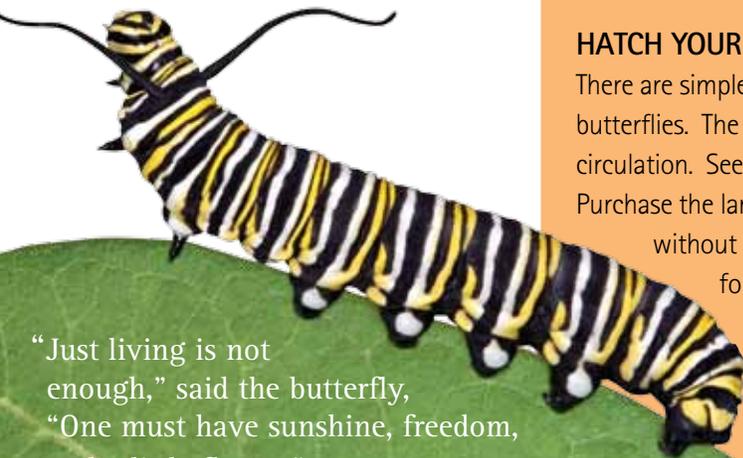
Social Studies: Active Democratic Citizenship, Creative and Critical Thinking, Communication

HATCH YOUR OWN BUTTERFLY

There are simple kits that you can build or purchase to raise your own butterflies. The butterfly box should close tightly while allowing air circulation. See through plastic windows allow for maximum viewing. Purchase the larvae from a provider (ex: Boreal NorthWest, 30 larvae without kit, \$47.00). Ensure the company provides proper food for the caterpillar. Place cotton balls with sugar water in the box once the adult emerges. After two or three days, release the adult into the butterfly garden.

Science: Growth and Changes in Animals

Social Studies: Our Local Community



“Just living is not enough,” said the butterfly,
“One must have sunshine, freedom,
and a little flower.” *Hans Christian Anderson*



Butterfly Activities



Grade 3 and 4

BUILD A BUTTERFLY FEEDER

Attract butterflies to your classroom window by building and hanging a butterfly feeder. Place a wick in sugar water for a few hours. Invert a colourful plastic cup and poke a small hole in the base. String the wick through the hole so that it hangs the length of the cup. Hang the inverted cup outside. Discuss pollination and pollinators' role in the food chain. Have students brainstorm different ways to make the feeder more effective, attractive or functional.

Science: Materials and Structures, Habitats and Communities
Social Studies: Communication

ULTRAVIOLET GUIDES

Many flowers use ultraviolet patterns to attract pollinators and lead them to their nectar. These patterns are called nectar guides. On a cloudy day, bring the students to the garden and give them ultraviolet flashlights. Ask them to try and find flowers with nectar guides (Dandelions are a great, easy-to-find example). If it is not dark enough outside, bring a few clippings inside and use ultraviolet light to show the patterns. Discuss how pollination works. Discuss the adaptive advantages of pollination and the nectar guides. Visit www.dailymail.co.uk/sciencetech/article-473897/A-bees-eye-view-How-insects-flowers-differently-us.html for an interesting article on nectar guides and more nectar guide examples.

Science: Growth and Changes in Plants, Habitats and Communities
Social Studies: Active Democratic Citizenship, Critical and Creative Thinking, Communication, Communities of the World, Living in Manitoba

Grade 5

CLIMATE COMPARISONS

Monarch butterflies are the only migratory butterfly in North America. They travel to Manitoba from Mexico. Have students study Manitoba's climate and the micro-climate of the butterfly garden. Research the climate in Mexico. Compare the results of the two climates. Discuss implications for the migrating monarchs. Visit www.learner.org/jnorth/monarch/ (Monarch Butterfly Tracking Project), for weather charts, and tracking information throughout the migration route. Contact the Monarch Butterfly Tracking Project or the Monarch Teacher's Network to find a school in the Southern United States or Mexico with local climate data to share.

Science: Weather
Social Studies: Active Democratic Citizenship, Managing Information and Ideas, Critical and Creative Thinking, Communication

Grade 6

INSECT TRAP

Have students dig a hole in the dirt large enough for a plastic cup or coffee mug (painted porcelain is quite slippery and works well). Place the mug in the hole and fill in the spaces around it with dirt so that insects or spiders might walk over the edge and fall in. Leave the pitfall trap for a day and night. Make sure this activity is done on a day with little chance of rain (or your critters will drown). Check the traps and collect and sort the creatures you found in the garden. If you have access to a field guide, name some of the insects.

Science: Diversity of Living Things
Social Studies: Communication.

