

Ithaca Children's Garden

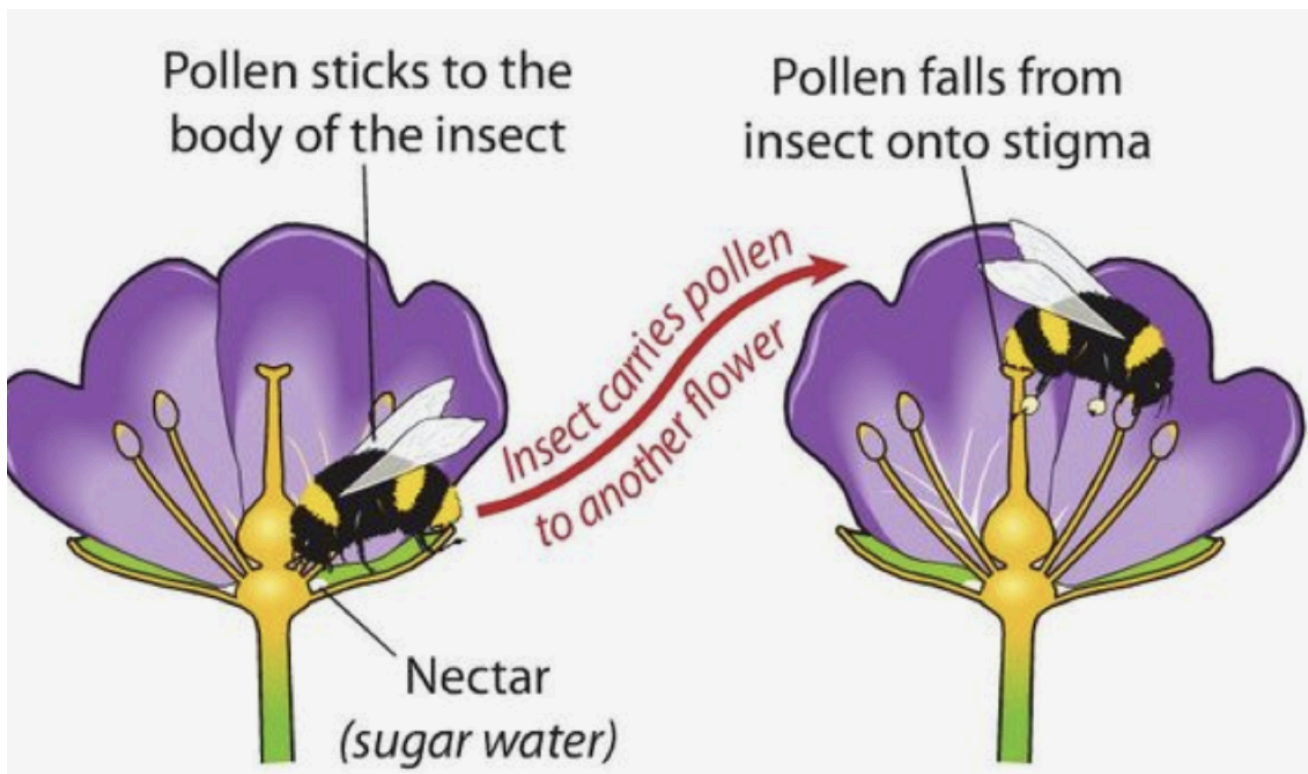
Bees, Bats, and Butterflies...Oh My!

Meet Your Resident Pollinators And Learn How You Can Protect Them

Pollinators like bees, butterflies, and bats are essential for over 90% of flowering plants to survive and reproduce, and over 1/3 of human food crops!

By visiting flowers in search of food (nectar and pollen), pollinators support the energy of a garden. Pollinators are essential for plants' life cycles. When a pollinator takes pollen between flowering plants, this allows those plants to reproduce and make seeds and fruit.

No pollination = not as many plants for us to use as food, clothing, and shelter.



Make your own Pollinator Seed Balls

At this station, you can create a pollinator seed ball with many pollinator-friendly plants inside. Once planted, you can watch your pollinator garden grow and support our pollinators from your own backyard.

- Make two seed balls, plant one in your garden, and give the other to a friend or neighbor to spread the pollinator party around!

What you need:

- 5 parts clay soil
- 1 part compost
- 1 part flower seeds
- A small amount of water to hold the balls together

Mix the clay, compost, and flower seeds in a large container. Once well combined, add a small amount of water, just enough to hold the balls together. The balls should be the consistency of cookie dough. Roll a piece of the mixture using your hands to make a 1-2 inch ball. These can be dried or used right away.

At the right time of year, you can throw these seed bombs into your garden in the area where you would like them to grow, providing a safe habitat for pollinators to thrive!

Included Supplies



Bees – the master pollinator!

Bees are vital pollinators of crops and wildflowers across the country and are essential for a healthy environment. They will fly from flower to flower for sweet-smelling nectar and pollen. Bees are attracted to bright, sweet-smelling flowers. While eating some pollen and nectar at a flower, some pollen will rub off and get stuck to the bee. Then, when that bee flies to the next flower, the pollen from the first flower will fall off to fertilize the second flower, which will be able to reproduce and make seeds.

Protect our Bees!

Bee populations are declining at an alarming rate. Bee biologists have discovered that several previously common species are now absent from much of their former territory. Creating, protecting, and restoring habitat is a very important way to conserve the remaining populations of bees.

One bee here in New York State that needs help is the Rusty Patched Bumble Bee. The rusty-patched bumble bee has declined by 87% in the last 20 years. The species is likely to be present in only 0.1% of its historical range, which includes New York State.

Many reasons for the rusty-patched bumble bee's decline include habitat loss, intensive farming, disease, pesticide use, and climate change.

How Can You Help the Bees?

Your actions can help protect and support pollinators like the rusty-patched bumble bee.

- Provide a habitat: Plant a mix of flowering trees, shrubs, and herbaceous plants so that something always blooms during that time. Native plants are a great choice.
- Don't mow or rake: many pollinators need a safe place to build their nests and overwinter. During spring and summer, leave some areas of your yard unmowed. In Autumn, leave some areas of your yard unraked and plant stems in your flower beds.
- Be Pesticide Free: Pesticides, especially insecticides, can harm pollinators. Herbicides reduce food sources by removing flowers from the landscape.
- Be a citizen scientist! Document bumble bees in your backyard and report your findings (<https://www.bumblebeewatch.org/>). By supporting scientific awareness, you can have a direct impact on protecting our pollinators.

Bats – The nocturnal pollinator!

Over 500 plant species rely on bats to pollinate their flowers, including mango, banana, cocoa, durian, guava, and agave species. The next time you eat some chocolate, thank a bat!

Plants pollinated by bats often have pale nocturnal flowers (in contrast, bees are primarily attracted to bright, daytime flowers). These flowers are usually large and bell-shaped; some bats have evolved specifically to reach the nectar at their bottom.

Bats also play an important role in insect control, specifically eating mosquitoes. Bats can eat up to half their body weight in insects a night, so there is yet another reason to protect these nocturnal pollinators.

Threats to Bats

Sadly, many bat species around the world are vulnerable or endangered. The Indiana Bat and Northern Long-eared bat are two species within New York State that are in decline due to factors including habitat loss and fragmentation, diminished food supply, destruction of roosts, hunting or killing of bats, and a disease called White-Nose Syndrome.

White-nose syndrome has been associated with the deaths of millions of bats in the USA and Canada, according to figures from the US Fish and Wildlife Service. In some hibernation sites, numbers have declined by 80-100% since 2006, when the condition was first identified. Currently, there is no known effective treatment, making this crisis all the more critical.

How You Can Support Bats!

- Build a pond – Bats love water, as it usually indicates yummy insects to eat.
- Plant night-scented flowers, such as *Brugmansia arborea* or “Angle’s Trumpet,” *Ipomoea alba* or “Moon Flower,” *Datura stramonium*, or “Jimsonweed.”
- Let your garden go a little wild—again, this increases habitat and the variety of insects that can be eaten.
- Create linear features like hedgerows or treelines in your backyard – good for perching and taking cover from predators.
- Reduce or remove artificial lighting – bats are nocturnal and don’t like excessive light.
- Keeping cats indoors at night can help reduce the bat’s risk of being attacked or killed.
- Put up a bat box! – This can provide a safe habitat for bats to raise their pups.

Build Your Own Bat House

Bats are very particular about where they'll live, and their houses must be constructed in a specific way that encourages them to nest. The space where they go inside the house and roost is only about ¾ inch thick (with a small gap for air circulation). Still, dozens of bats can live in this box and raise their pups.

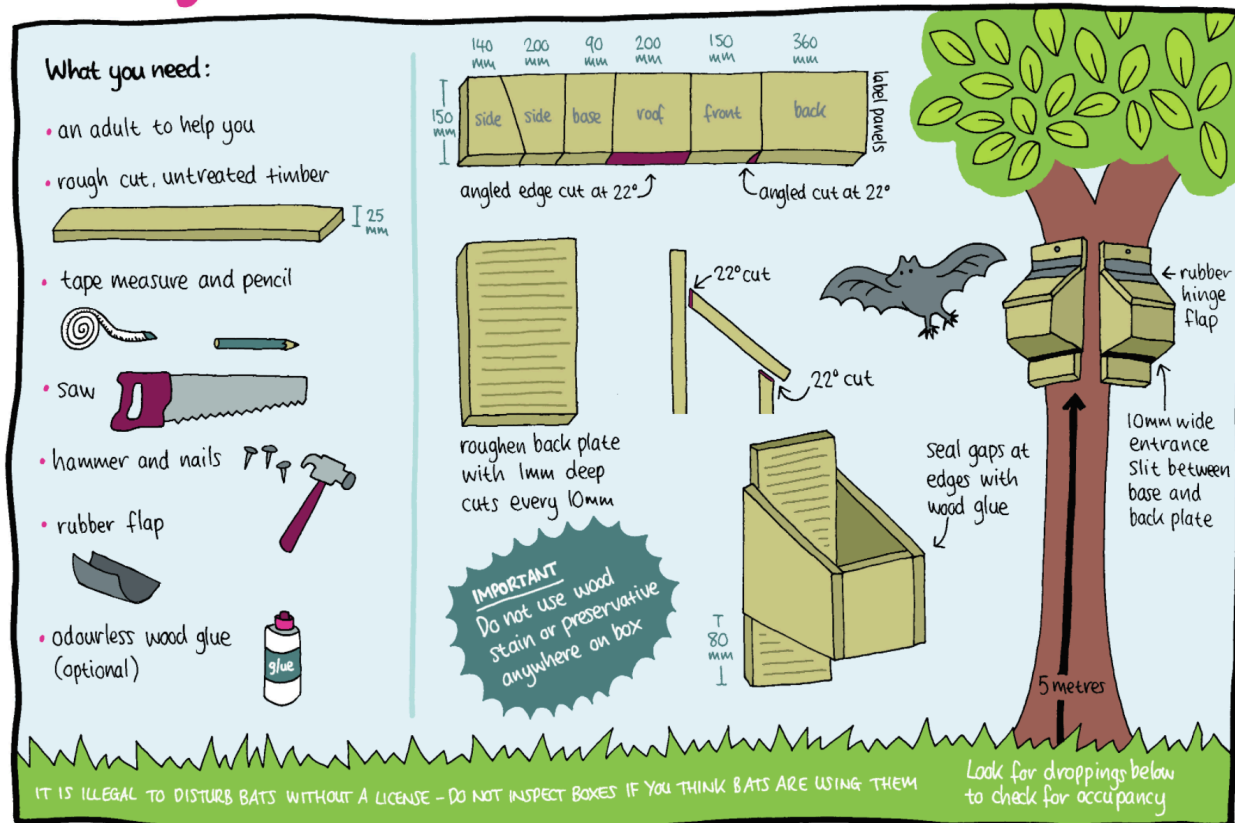
If you paint your box, only paint the outside with a nontoxic, latex, outdoor, water-based paint. **Do not use an oil-based paint.**

Do not paint the inside of the bat house. If you paint the outside, choose darker colors like browns and blacks, which can help increase the warmth of the house.

When deciding on where to put up your bat house, keep these recommendations in mind:

- The bat house should be at least 12-15 feet high
- The bat house should be free from obstructions with at least 20 feet of open space
- The bat house should face southeast to gain sunlight exposure (bats are happiest when there are at least 6-8 hours of direct sunlight).
- The bat house should be mounted on a pole or building, not on a tree (this helps protect the bats from predators like raccoons and cats)

Make your own bat box



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To Build Your Bat House

First step: Attach the front piece to the side pieces. The front piece will sit inside the side pieces. Please see the handout. The side pieces and front pieces will slant towards the front.

Second step: Attach the bottom piece to the bat house. This piece will also be set inside the side pieces. It will sit flush with the front piece, leaving a 10 cm gap in the back for the bats to enter.

Third step: You need to rough up the back piece. You can do this by using a sharp nail and pressure. Then, attach the bat house to the back piece.

Last step: Attach the rubber flap to the top piece. The angled portion will go towards the back. Then, attach the top to the back piece.

Butterflies – the far-travelling pollinator

Butterflies are very active during the day and will visit various flowers. They are less efficient than bees at moving pollen between plants, but they serve a very important pollination role: They can cross-pollinate! Butterflies can fly great distances and transport pollen to other plants that are far away from each other. This process of cross-pollination ensures a good mixing of genes between different plants, increasing genetic diversity.

Butterflies pollinate more in tropical regions than in temperate ones. Butterflies and hummingbirds are good at finding nectar inside long-necked or trumpet-shaped flowers. Red flowers attract them, which are relatively common in the tropics. Bees are color-blind to red and prefer yellow and blue or purple. Butterflies, like hummingbirds, have a good vision for the red color. Butterflies are also very diverse and can be found on every continent except Antarctica.

Butterflies typically visit flowers that are...

- Wide, flat, and in clusters providing a good landing platform
- Brightly colored (red, yellow, orange)
- Open during the day
- Lots of nectar with deeply hidden nectar within the flower

Butterfly Species Highlight: Karner Blue Butterfly

The Karner Blue Butterfly is a small butterfly that lives in oak savannas and pine barren ecosystems from eastern Minnesota and eastward to the Atlantic seaboard. Historically, it was found in a continuous band throughout its range, but today, it is found in portions of New Hampshire, New York, Michigan, Wisconsin, Ohio, Indiana, and Minnesota. The wild blue lupine flower (*Lupinus perennis*) is the only food plant for the Karner caterpillar.



In New York State, the Karner Blue Butterfly is found in Albany, Saratoga, Schenectady, and Warren counties. The biggest threats to the Karner Blue Butterfly are habitat loss or destruction, habitat succession, invasive plants, and extreme weather events. Support pollinators like the Karner Blue Butterfly by making your own backyard pollinator-friendly with flowers and shrubs that pollinators love!