

Capturing Kids' Attentions in the Pollinator Garden

How do you to get kids excited about pollinators? Engage them in activities, ask thought provoking questions and wow them with cool facts.

The pollinator garden at Ivy Creek is a demonstration garden designed to educate the public about the important role of pollinators and native plants in our ecosystem. We encourage parents to explore the pollinator garden with kids. Educating and engaging kids in the pollinator garden will encourage them to become environmental stewards.

How do Flowers Attract Pollinators?

Pollination is the process of moving pollen from the male part of the flower to the female part of the flower. Pollinators are animals that transport pollen. Without animal pollinators many plants cannot reproduce. Much of the world's food supply depends upon pollinators. Plant species compete with each other for pollinators and have evolved elaborate ways to attract them. Below are some "tricks" plants use to attract pollinators.

Advertising with color: Most pollinators have excellent eyesight and can spot colors from a long distance. Bees can see ultraviolet colors, which we cannot see. Hummingbirds are attracted to red flowers, bees like bright colors and flies prefer green or white flowers.

Advertising with scents: After color, the second-best advertisement for a flower is scent. Most pollinators have an excellent sense of smell and can detect scents from long distances. Sweet smells attract bees and butterflies. Stinky smells such as rotting flesh or feces, attract flies and certain beetles. A few orchids smell like female insects and lure in attentive males.



Bribery with food: Nectar contains a high concentration of sugar and provides instant energy for the pollinator. Pollen is also an excellent food source that contains proteins, vitamins and other essential nutrients. Plants produce excess pollen to attract hungry pollinators such as bumblebees.

Using nectar guides: Some plants have stripes, spots and other markings on the petals to guide pollinators to the nectar. As the pollinator follows the nectar guides, pollen is released on the animal.

Flower shape: Bowl-shaped flowers attract many insects, especially short-tongued bees and hover flies. Trumpet-shaped flowers attract long-tongued species such as butterflies and hummingbirds. Some flowers have long lower petals that act like a landing platform for bees.

Who are the Pollinators?

Bees

Bees are the major pollinators of native plants and agricultural crops. Pollen readily collects on their hairy bodies and some bees store pollen in tiny sacks on their hind legs. There are 4,000 different species of native bees in the United States; the honey bee is a nonnative bee brought over from Europe to help pollinate agricultural crops.



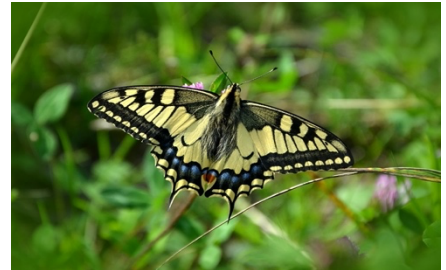
Hover Flies (Flower Flies)

Hover flies are harmless flies that look like small bees. By looking like a bee, hover flies avoid being eaten by predators. Hover flies frequently hover above flowers and dart rapidly from plant to plant. When the fly drops down on the flower to sip nectar its body is dusted with pollen. Hover flies come in second to bees as pollinators.



Butterflies and Moths

Butterflies and moths are the jewels of the flower garden. Butterflies lack a mouth, instead they extend a long tube, called a proboscis, to suck up nectar. Butterflies are poor pollinators because their long legs keep their body above the pollen structures on the flower.



Hummingbirds

The beautiful hummingbird has excellent eye sight, but a poor sense of smell. When hummingbirds thrust their beak deep into the flower for nectar, pollen lands on their head.



Beetles

Beetles were the first insects to use flowers for food. Most beetles pick up pollen on their bodies while crawling around the flower looking for food.



Ten Engaging Kid Activities

Parents, we encourage you to explore the garden with your kids. Observing flowers and pollinators up close is fascinating. Please respect the pollinators and give them space. Pollinators rarely sting or bite unless they feel threatened. Pollinators are more active in warm weather and may be frightened by loud noises and rapid movement.

Bee curious. Act like a bee and take a close up look at a flower. What attracts bees to that flower? Quietly watch the pollinators and observe if they have a favorite flower.

Name that pollinator or flower. Be creative, give a pollinator or flower a name: yellow stripe bee, black spotted beetle, stinky plant, statue of liberty plant.

Choose a favorite flower in the garden. Find a favorite flower in the garden. Ask what makes this flower attractive to you? What pollinators might be attracted to this flower? Why? Flowers use a variety of colors, sizes, shapes and scents to attract different pollinators.



Do a Pollinator dance. Carefully observe a pollinator's behavior. Try to follow the pollinator as it moves from flower to flower. After closely observing the pollinator, do a pollinator dance imitating the pollinator. See if another person can identify the pollinator you are imitating.

Take pictures of a pollinator or flower. Sneak up on a pollinator and take its picture. Use the iNaturalist app to identify the pollinator or plant.

Make Binoculars. Create binoculars by taping together 2 empty toilet paper rolls. Decorate the binoculars with flowers and pollinators. Add string so the binoculars can hang around the neck. Using the binoculars, have kids focus on a flower or pollinator up close. Ask what do you see? By narrowing the field of view, kids will notice more details.

Look for signs of caterpillars. Butterfly and moth eggs hatch into larva called caterpillars. Caterpillars are eating machines and can eat 5 times their weight each day. Look for leaves with holes or chewed edges of leaves. Look for tiny black spots that look like someone sprinkled black pepper on a leaf this is probably caterpillar poop. If you see poop, a caterpillar or two may be close by. Search for tiny eggs under leaves, or rolled up leaves hiding caterpillars and look for a cocoon or chrysalis. Be gentle as you search, the garden is home to many creatures and we don't want to disturb or harm them.



Make a pollinator log book. Decorate the log book with pollinator and flower pictures. In the log book, draw sketches of favorite pollinators or flowers. Keep a list of pollinators seen or flowers in bloom. Give a bug or flower a name and write a description of it. See if another person can find the bug or plant described in the log book.



Do a pollinator tally. Be a scientist and collect data on pollinator activity. Scientists ask questions and then collect data to answer the questions. Some questions to research could be: Do bees prefer red or blue flowers? Which pollinator is the most common in the garden? Do hover flies like smelly flowers? Are pollinators more active on sunny or cloudy days? Encourage kids to think like a scientist and ask their own questions. Go a step further and keep a log book showing data tables with their observations.

Do bees prefer red or blue flowers?	Red flowers	Blue flowers
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Create a pollinator field guide or a native plant field guide Sketch the pollinator and label unique features like long antenna, hairy body, or purple spots on back. See if another person can find the pollinator or flower described in the field guide.

Ask Thought-provoking Questions

Why are pollinators important? Why should you thank a pollinator for a blueberry or a piece of chocolate?

The first step in plant reproduction is pollination. Approximately seventy-five percent of the world's food crops and most flowering plants depend upon animal pollinators to reproduce.

Some days you won't see many pollinators in the garden. Why?

- Pollinators prefer warmer temperatures to fly and are more active later in the day.
- Pollinators are timid and may hide when a loud group of people approach the garden. If you are quiet and still, you may soon notice tiny pollinators buzzing around.
- Pollinator populations are declining worldwide for a variety of reasons including: the use of pesticides, decline in native plant populations, climate change and habitat destruction.



Pollinators are declining worldwide. How can we help pollinators?

- Avoid using pesticides. Pesticides kill both good bugs and bad bugs.
- Add native plants to your yard. Most plants around our homes came from other countries and cannot be eaten by native pollinators. Our native plants support pollinators that have evolved locally and are best suited to interact in the local ecosystem.
- Remove invasive species which can outcompete native plants.

Which pollinator: bees, butterflies, beetles, hover flies or hummingbirds pollinate the most plants?

Bees pollinate most of the world's plants. On a single foraging trip, a female bee will visit hundreds of the flowers of the same species, collecting huge quantities of pollen. Pollen readily collects on the hairy bodies of bees and some bees store pollen in tiny sacks on their hind legs.



Can you name the 4 phases in the butterfly life cycle? What is a host plant and which phase eats host plants?

Egg, larva, pupa and adult are the four phases of the butterfly life cycle. The larva phase of a butterfly is called a caterpillar. Caterpillars are eating machines; they can eat 5 times their weight each day. Caterpillars are picky eaters and will eat only certain plants, called host plants. It is important to provide native plant food for both the adult butterflies and their larval, caterpillar stage.

Plant species compete with each other to attract pollinators. How do flowers attract pollinators?

Plants use a variety of colors, shapes, scents and food to attract different pollinators.

Why do bees in the pollinator garden rarely sting?

Most bees around flowers are not aggressive and are so busy finding food they ignore people. Bees may sting if they feel threatened or need to protect their nests.

Where do bees and other pollinators go during the winter?

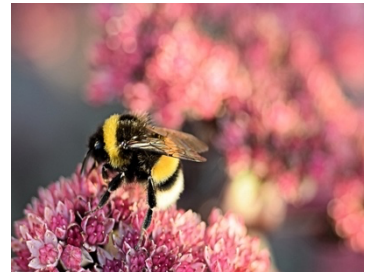
A few pollinators, like monarchs and hummingbirds migrate, but most pollinators spend the winter here. If you were a pollinator, where in the garden would you go for shelter? Pollinators shelter in a variety of places, including stems, soil, logs and leaf litter. At Ivy Creek, the garden vegetation is not removed until spring to avoid disturbing sheltering pollinators.



Cool Pollinator Facts

Bees:

- Some bees can fly 7 miles per hour and can beat their wings 190 times per second.
- The fuzzy bumble bee is one of the first bees to come out of hibernation in spring. Its fuzzy coat keeps it warm.
- Bees have a straw-like tongue to slurp up nectar. Some bees have long tongues and others have short tongues.



Butterflies and Moths:

- Butterflies are picky about which plants they use to raise their young. To determine if a leaf is good for laying eggs and rearing caterpillars, the butterfly “tastes” the leaf with their feet. Watch for butterflies prancing on leaves; if the leaf tastes good, the butterfly might deposit an egg.
- The beautiful Luna moth, lacks a mouth, it never eats anything as an adult. They live only a few days, long enough to mate and lay eggs.
- A group of butterflies huddling around a puddle are males absorbing salts and minerals needed for reproduction. This process is called puddling

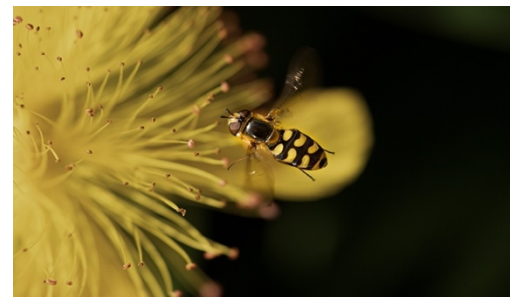


Hummingbirds

- When active, a hummingbird’s heart can beat 1200 times per minute.
- To survive, hummingbirds must eat several times their weight in nectar each day.
- Hummingbirds can flap their wings 70 times per minute.

Hover flies (Flower Flies)

- Hover flies can hover, fly backwards and can reach speeds up to 24 miles per hour.



Beetles

- The first pollinators to evolve were beetles.
- Beetles are clumsy fliers and prefer flowers with a wide opening.