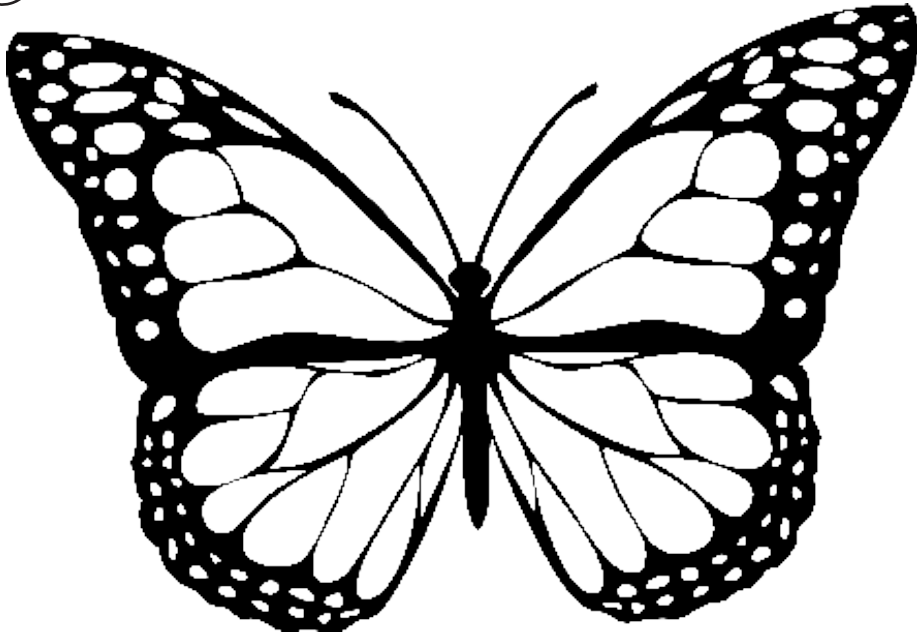


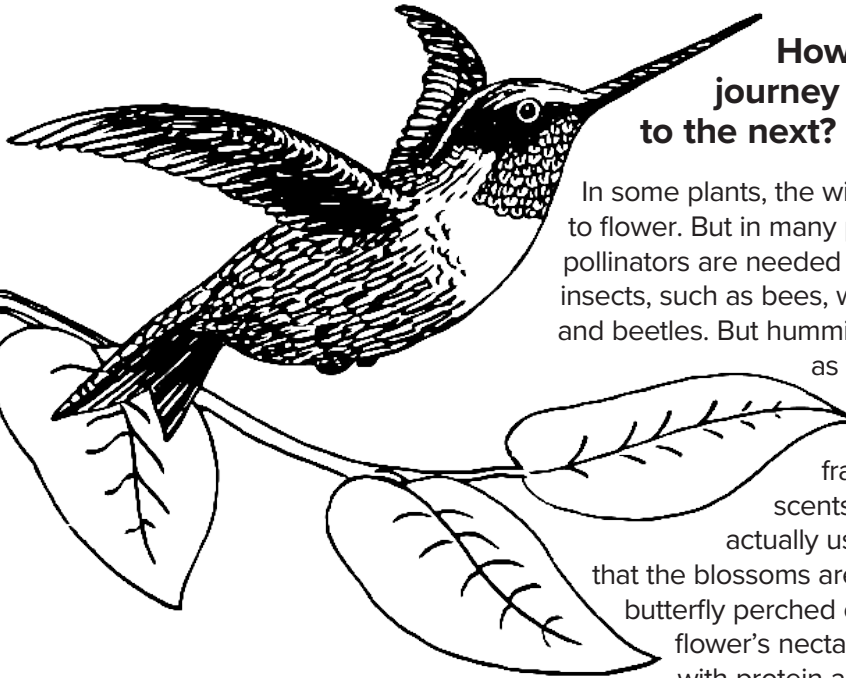
My Pollinator Journal



NAME

It Takes Two – What are Pollinators?

A garden full of flowers is a beautiful sight! You might think that flowers exist just to please our eyes, but their real goal in life is to create more plants. In order for many plants to produce the seeds that grow into new plants, pollen from the male parts of one flower needs to be carried to the female parts of another flower. This transfer of pollen is called **pollination**.

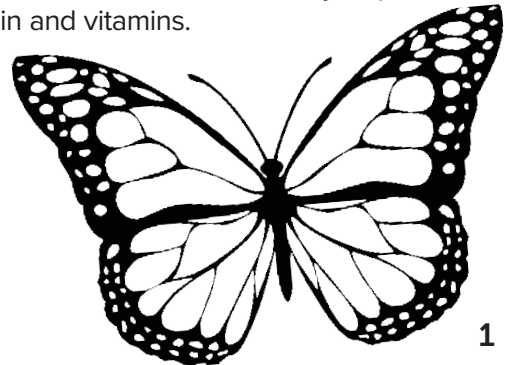


How does the pollen make its journey from one flower to the next?

In some plants, the wind helps move pollen from flower to flower. But in many plants, living creatures called pollinators are needed to do the job. Many pollinators are insects, such as bees, wasps, flies, butterflies, moths, ants, and beetles. But hummingbirds and even bats act as pollinators for some plants!

While we enjoy the beauty and fragrance of flowers, their strong scents and brightly colored petals are actually used to attract pollinators, signaling that the blossoms are a source of food. When you see a butterfly perched on flower, it's there to sip from the flower's nectar – a sweet substance jam-packed with protein and vitamins.

A bee foraging on a flower may be eating nectar or protein-rich pollen, or collecting it to feed to developing baby bees back in the hive.





As they move about on flowers, pollinators pick up some of the powdery pollen on their bodies and carry it with them to the next flower they visit, in the process helping the plants as the plants help them. It's a win-win situation!

Pollinators are also important to us, for without their help we wouldn't be able to enjoy many of the foods we eat. Without pollinators, we'd miss out on foods like apples, cucumbers, almonds, and strawberries, which come from plants after they've been pollinated. We'd also lose many

food plants that are grown from seed, like beans, melons, cabbage, and carrots, since without pollination they can't produce seeds to grow more plants. And that cotton shirt you're wearing would have to go too – cotton plants need pollination to produce the fibers used to make cloth.

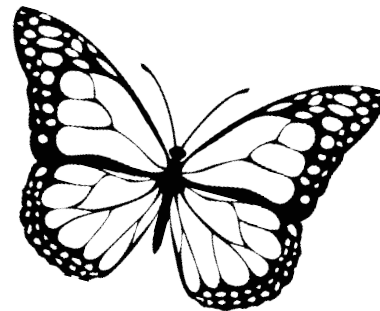
This is why it's so important to learn about and protect all kinds of pollinators – and we need plants!



Types of Pollinators

BUTTERFLIES

- Brightly colored wings
- Fly during the day
- Attracted to flowers with bright red, orange, yellow, pink, or blue petals
- Attracted to flowers with petals arranged to form a flat “landing pad” they can sit on to feed



MOTHS

- Wings not colorful
- Most fly at night
- Attracted to flowers with white or light-colored petals

Both butterflies and moths have a mouthpart called a proboscis. It looks like a coiled up drinking straw. When these insects eat, the proboscis uncoils, allowing them to reach nectar deep within flowers to sip up. As they reach for the nectar, butterflies and moths collect pollen on their bodies, carrying it to a different part of same flower or to a new flower, pollinating the flower in the process.

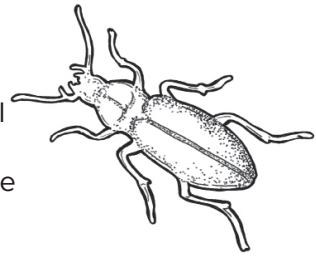
BEES

- Most important pollinators
- A single “busy bee” can visit up to 240 flowers in one trip
- Collect nectar and pollen from sweet-smelling, brightly colored flowers
- Nectar and pollen are carried back to nest to feed the next generation of bees
- Nectar also used to make honey that’s stored in the nest



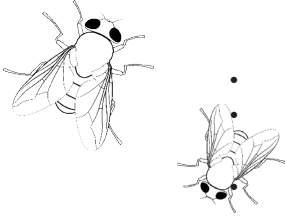
BEETLES

- Usually visit white or green flowers with a strong, fruity odor
- These clumsy flyers typically pollinate flowers with an open bowl shape, like magnolia blossoms
- Beetles may feed on petals or other flower parts as they pollinate blossoms



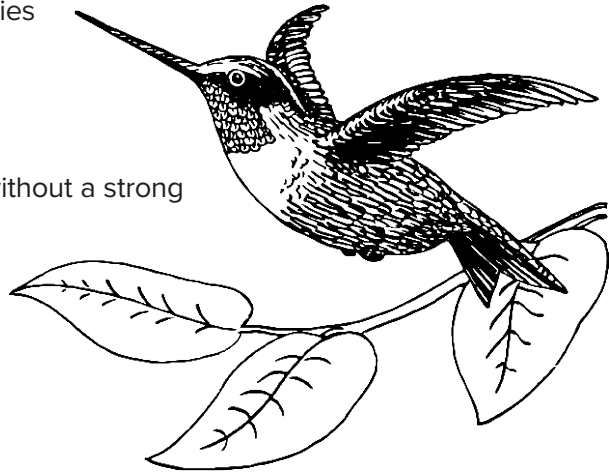
FLIES

- Attracted to odors that don't appeal to human noses
- Pollinate flowers that have brown, purple, or green flowers that smell like decaying meat or "poop" (yuck!), like skunk cabbage
- Pollen sticks to flies hairy bodies



HUMMINGBIRDS

- Most common bird pollinator in the United States
- Able to hover in one place to feed on a flower
- Attracted to long, tube-like, red or orange flowers without a strong scent, like bee balm
- Feed by inserting long beak and brush-like tongue deep into flower to sip nectar
- Hummingbird collects pollen on its forehead as it feeds, transferring pollen as it moves from flower to flower



BATS

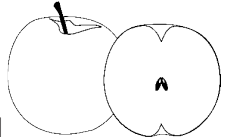
- Most pollinating bats live in tropical areas and pollinate crops such as figs, guava, avocados, and wild bananas
- Night-flying bats are attracted to white or light colored flowers with a strong smell
- Pollinating bats have long snouts and bristly tongues that help them collect nectar to eat
- Bats get dusted with pollen as they feed on flower nectar, transferring it as they move from flower to flower



Pollinators Need Our Help!



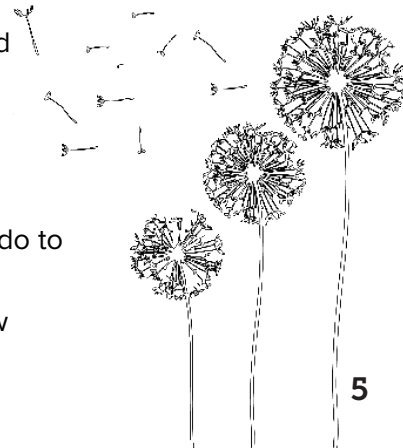
Imagine a world without apples for snacks or pumpkins at Halloween time. Imagine not having any carrot seeds to grow new carrots. These are just a few of things you'd have to live without if pollinators didn't exist. Plants depend on pollinators and humans depend on plants. In fact, it's estimated that about one-third of the crops we rely on for food depend on pollinators!



Now here's the scary part: many pollinators are in danger of disappearing! How is this possible? Throughout history, humans have changed the way the land is used. Our activities, from building to modern farming practices, have disturbed the habitat that pollinators depend on for survival. One way to help pollinators is to protect and restore the land that can be used to grow the plants that pollinators depend on for food. You've heard the saying, "Think globally, act locally." Well, here's your chance! Listed below are a few things you can do to help the pollinators in your part of the world.



- Create a pollinator-friendly garden. Pollinators use plants as food sources and nesting sites. Make sure the garden has plenty of native plants that will support the pollinators that are found in your area. Also remember to include some plants that will be in flower from spring to fall to feed pollinators all season long. Also include plants that will feed every stage of their life cycle. For example, while monarch butterfly adults will sip nectar from many kinds of flowers, their caterpillars will feed only on milkweed plants.
- Fill a birdbath or other shallow container with water and place it in the garden. In addition to water, pollinators need water to survive.
- Create a bulletin board or newsletter at school to educate other students about the importance of pollinators and what people can do to help them survive.
- Encourage your parents to allow dandelions and red clover to grow in your yard.



What's Buzzing in My Garden?

Spend 30 minutes in your garden keeping track of the number of pollinators that visit different colored flowers. Record your observations in this chart.

	Red	Orange	Yellow	Green	Blue	Purple	Pink	White
Bee								
Butterfly								
Beetle								
Fly								
Hummingbird								

What can you learn from your observations?

What pollinator did you see the most? _____

The least? _____

Did some pollinators visit only flowers of one color? _____

Which pollinators? _____

Which colors? _____

Did some pollinators visit many different colored flowers? _____

Which pollinators? _____

What colors? _____

Pollinator Observation

Observe and record the pollinators that you see in your school garden or backyard!

Date: _____ **Time:** _____ **Place:** _____

Weather: _____

Observations: _____

Draw what you see

Date: _____ **Time:** _____ **Place:** _____

Weather: _____

Observations: _____

Draw what you see

Date: _____ **Time:** _____ **Place:** _____

Weather: _____

Observations: _____

Draw what you see

Date: _____ Time: _____ Place: _____

Weather: _____

Observations: _____

Draw what you see



Pollinator Word Search



BEE
 BUTTERFLY
 BAT
 MOTH
 BEETLE
 FLY

HUMMINGBIRD
 FLOWER
 POLLEN
 POLLINATION
 MONARCH

