

A black and white photograph of a hand holding a leaf with a hole, set against a background of many other leaves and wood chips. The hand is in the foreground, holding the leaf. The leaf has a distinct hole in the center. The background is filled with many other leaves, some of which also have holes, and a layer of wood chips or mulch at the bottom right.

High Tech Elementary North County  
2nd Grade 2017-2018

Garden Field Guide

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# From Soil to Garden

## Project Overview

*How do we, as gardeners, create and maintain a healthy and beautiful garden?*

This project was designed to get our students' hands dirty in the school garden, to provide a hands-on learning experience in an authentic environment while utilizing and beautifying a school community space. We began by studying components of soil, and figuring out what makes soil healthy. We conducted several soil experiments, and recorded our discoveries in our science notebooks. In addition, we began preparing the soil in our garden beds, and planted various fruits, vegetables, and flowers to eat and attract pollinators.

After a general class study, students researched individual topics, and wrote their findings into informational paragraphs. In science, they learned about seeds and pollination, and created models to explain these natural processes. We used peer critique and multiple drafts to revise our writing and our models. You can find these paragraphs and models in this field guide.

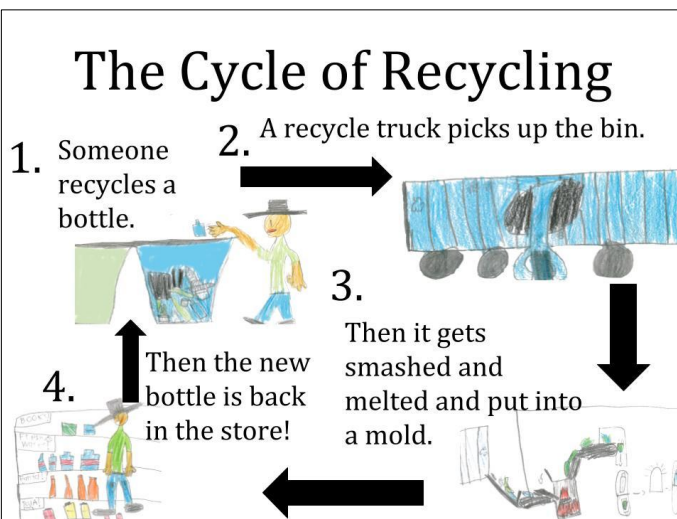
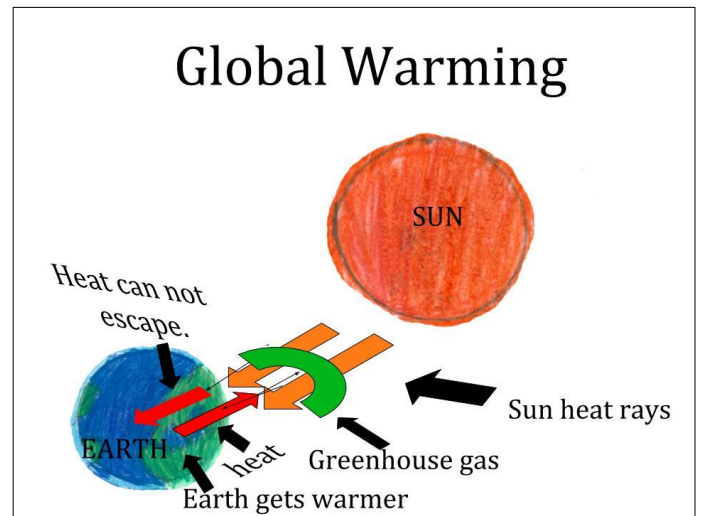
We hope that by sharing our learning with you, you can create and maintain a healthy and beautiful garden too!



# The Healthy World

Global warming is bad because large parts of land mass were covered by ice and snow, and now it's melting. Greenhouse gasses is a bad part of it. A greenhouse gas is made by cars, airplanes, and trains. A greenhouse gas they make is CO<sub>2</sub>. People are making global warming. Global warming makes animals leave their homes. Global warming makes animal starve. Global warming makes wildfires.

We can help by not using cars, airplanes, and trains. Please plant gardens which absorb greenhouse gases! - Holden Livesay



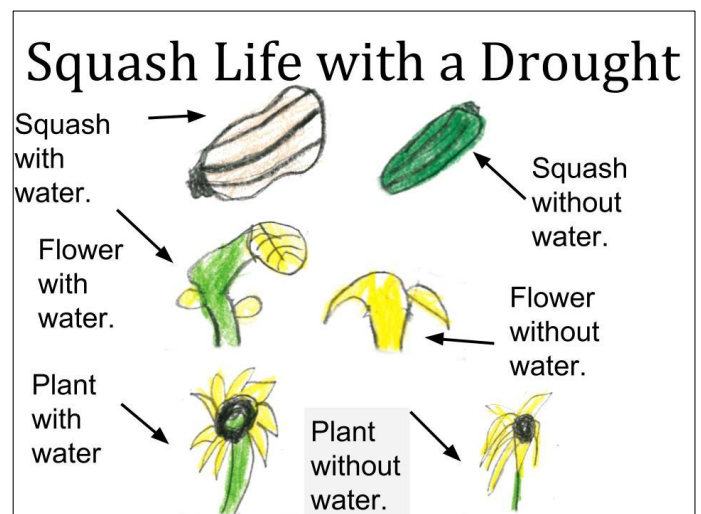
Did you know that instead of putting the trash or recycle in there bins you can reuse it? Reusing is taking almost anything and making it into something else. Here are some ideas, take a bottle cut of the top, fill it with dirt, then plant something, like a flower in it. Take an old shoe and fill it with dirt and then plant something in it.

In the world people waste four pounds of trash a day. Fun fact that's the same amount of weight as a baby polar bear!!! And that all goes to the landfill. They pile it up then cover it in dirt over and over again and again.

Did you know, WE CAN HELP!!!!!!!!!!!!!!!!!!!!!!!!!!!! by recycling!!! Recycling is taking old things like paper, metal, plastic and glass and turning it into new things. - Tucker Shelton

Did you know that cows farts produce gas that add to global warming? I learned that global warming or climate change is the process of our planet heating up. Over the past 150 years our gas has changed. Life cannot exist without the greenhouse effect. Climate can be affected by earth's atmosphere.

It's important to learn about global warming because It will affect us. Global warming will change the weather. One example is how the Arctic sea ice is melting by 9% every 10 years! Polar animals are losing their homes because their icy natural habitat is melting in the warmer temperatures. Climate change won't just affect animals it's already having an impact on people too because it affects their weather. - Kole Swedo

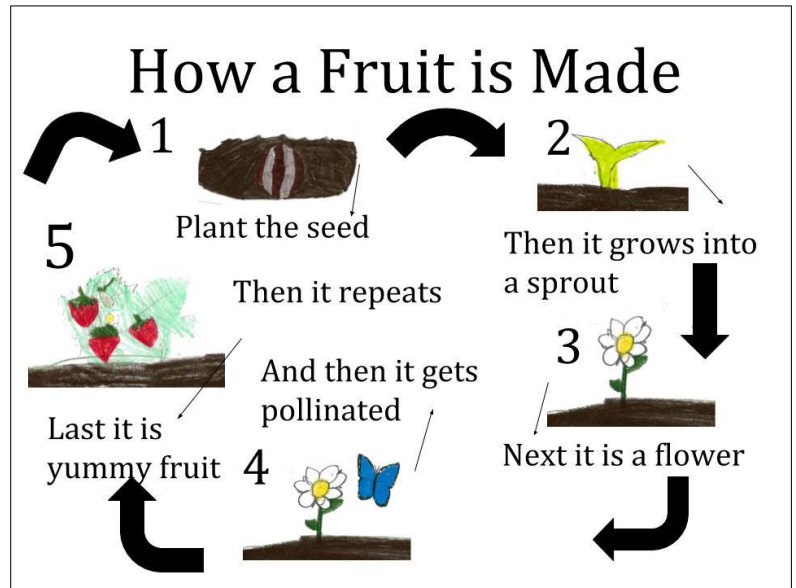




# Healthy Fruits

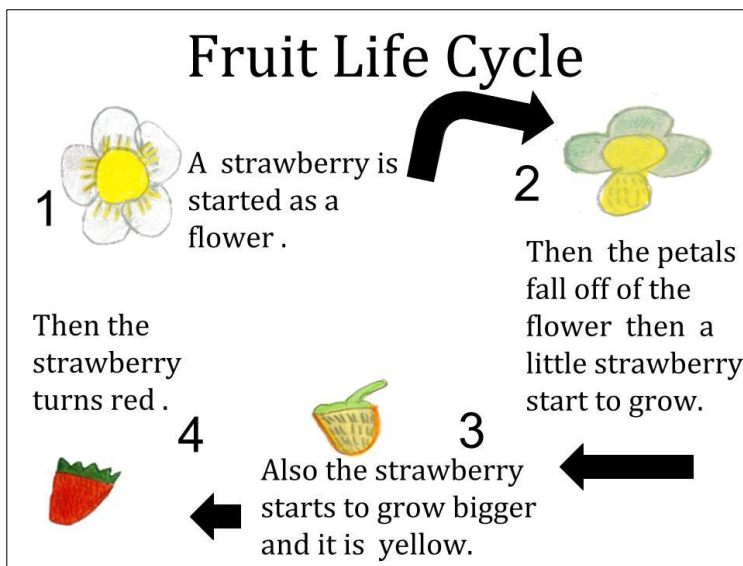
Fruits and vegetables aren't just good for you, they are very important. They are important because they help us grow. We're kind of like plants because plants need sun and water and soil just like we need fruits and vegetables! Did you know that strawberries only need one seed to grow? Just like strawberries, all fruit has seeds. Did you know coconuts are actually a seed. Coconuts can actually make a coconut tree! Isn't that so cool?!

Why is it important to have a lot of different kinds of fruit in the garden? Let's find out! I didn't know that a certain amount of sunlight is needed for each kind of plant. Another thing I learned is when you harvest raspberries you can tell when they are ripe if are the color of raspberries that you get at the store. Fruits and vegetables are very important! - *Saige Corning*



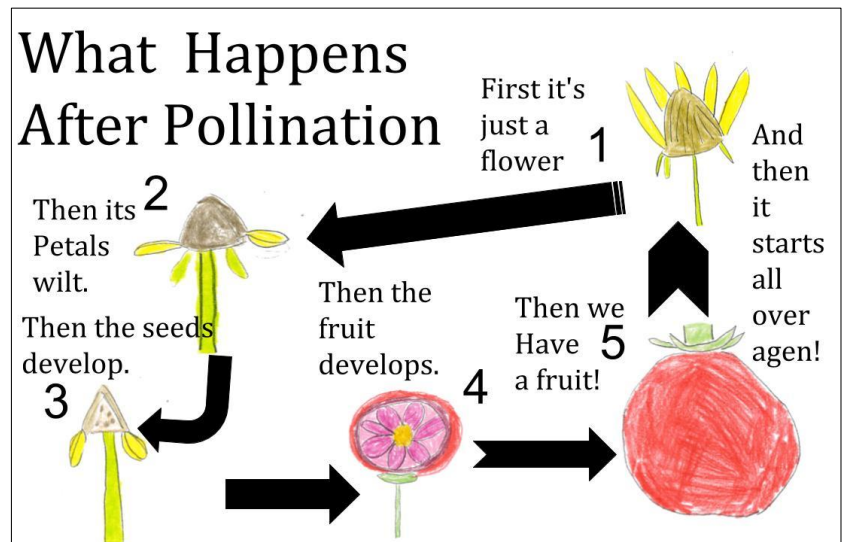
Did you know that a pepper is a fruit because it has seeds? A fruit is a very special plant. Fruits have seeds on the inside and sometimes the outside. A fruit is a part of a flowering plant that contains the seed! A cucumber is not a vegetable because it has seeds in the center. Did you know that inside the fleshy fruit of the avocado is a large pit, it's a single seed? Also I learned in the late 1500s tomatoes were grown in home gardens in England, Germany, Belgium, and France.

Fruits are important in our community garden. You should fertilize every ten days at first, then every two weeks, while the plant is growing. Also a fruit protects the seed and helps to spread them. Many fruits are good to eat and attract small animals such as birds and squirrels, who like to eat them. If you try a fruit and you don't like it you should try it again! - *Diana Diaz-Barriga*



Did you know that apples grow best in cold weather? Apples are interesting, lets see why. Apple trees rarely grow from a seed! But did you know apples are members of the rose family? It's also helpful to know that the root stock tells you the tree's size, life span, and resistance to pests and cold weather. It is so cool that apples are one of the most popular fruit in the United states!

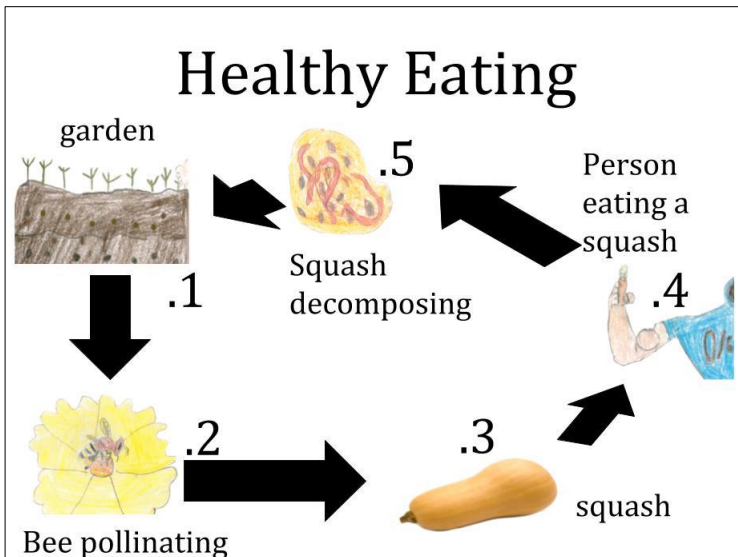
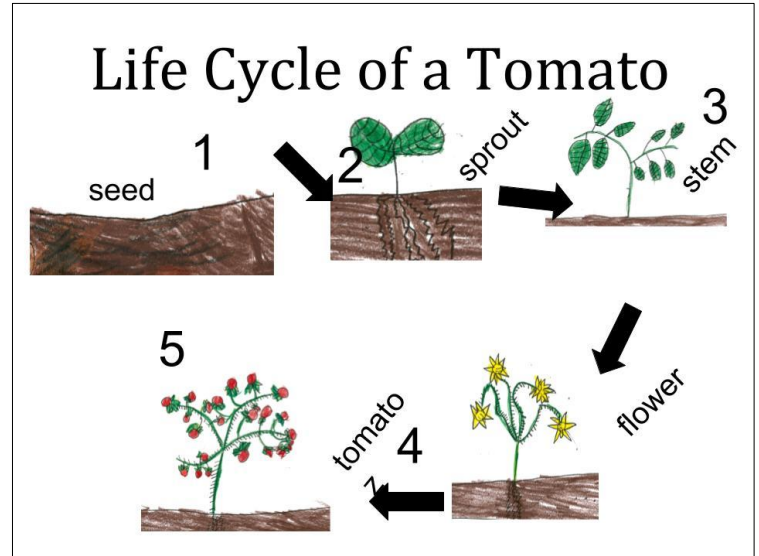
Why is it important to have a lot of different kinds of fruits? It's important to have a lot of fruit in the garden because it feeds all the insects. Also it feeds us good and healthy fruit... man, I need to remember that! - *Giannah Towler*



# Fruits and Healthy Eating

Did you know that one strawberry has about 200 seeds? Fruits and vegetables keep us healthy. It's important that we eat healthy food so we don't get sick. All doctors recommend we eat fruits and veggies 5 times a day. Next, lots of stuff affect what we eat and all living thing need food. It's cool that fruits and veggies give us energy.

It's important to grow fruits and vegetables in your garden because they look pretty, and you won't have to go to the store and get them since they are somethings really expensive. - *Imar Garcia*

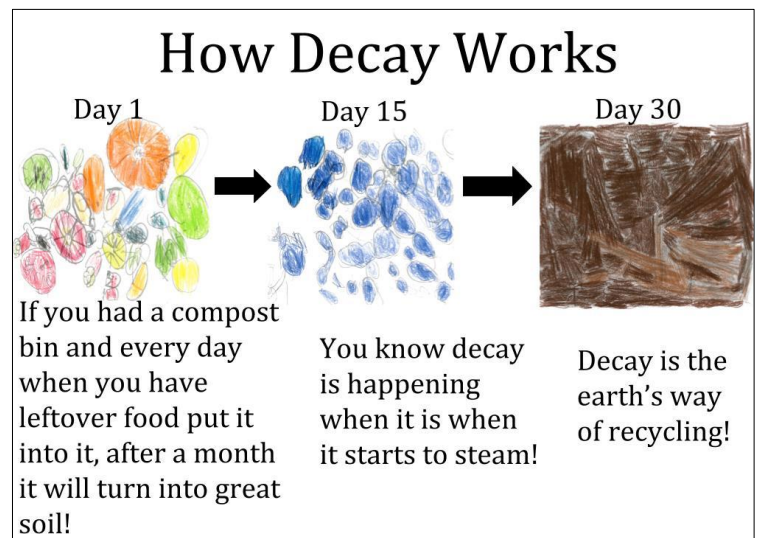


Being vegan means only eating fruits and vegetables and no animal products. Plants have lots of nutrients. Candy is not healthy. We need bees. Bees pollinate flowers so the flowers turn into fruits. Without bees we wouldn't have lots of fruits and vegetables. Lots of animals eat plants so we have good soil. Fruits and vegetables are very healthy. Milk is not good for us. Water is good for us. Drink more water than any other drink. Try to sleep as much as you can. - *Catcher Stitt*

Munch munch. Have you ever wondered what is in compost? Read more to find out.

Compost has a ton of ingredients. Some ingredients are greens and browns. Greens are fresh new leftovers in the compost. Browns are old and crunched up like paper. The greens are on top and the browns are on the bottom.

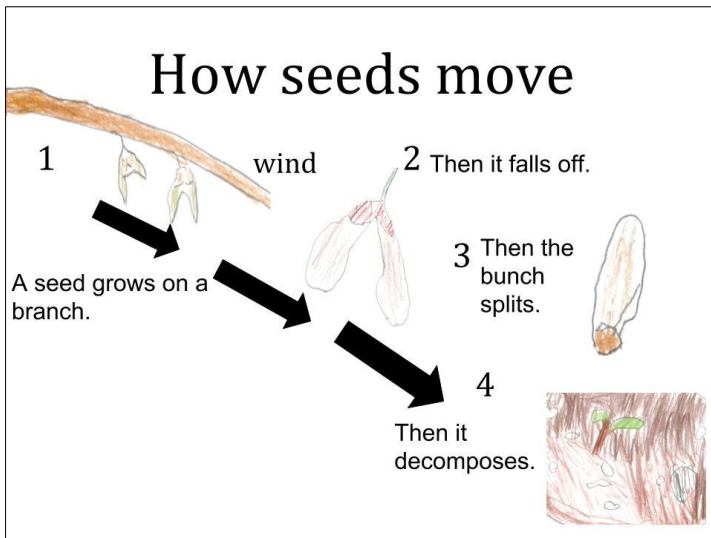
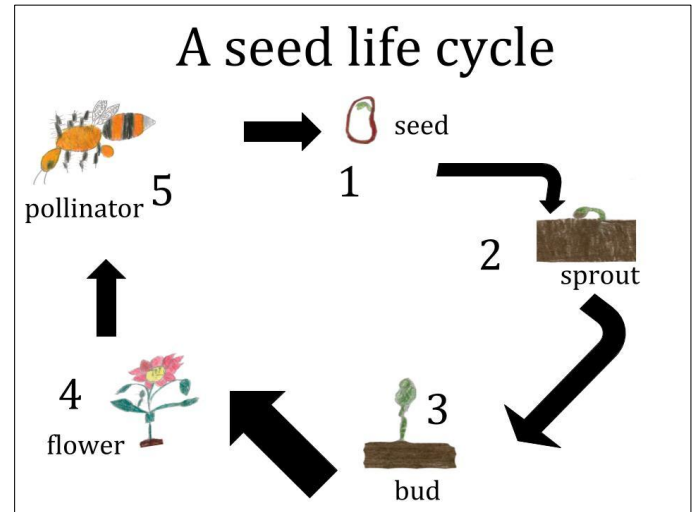
Composting is important to our community garden. Worms break down compost to make great soil for the gardening. It has fresh humus with a ton of nutrients for the plants. Don't waste leftovers put them into the compost so it can turn into great soil for the garden. When a part of the compost is steaming put the steaming part on top. If you see steam or feel heat it is changing this is called decay. - *Joaquin Quinonez*



# Seeds

A seed is the beginning stage of a plant. Seeds grow into plants and plants grow fruits and vegetables. When the petals fall, the seeds fall and it does it again like a cycle. How a seed grows: it starts as a seed. And then the root grows, then the roots gather water and food from the soil. Then the stem starts growing and the leaf starts coming out of the seed. Then the leaves get bigger and longer. Soon the plant is above the soil then there is a happy plant. Then the bee comes and pollinates the flower. Then the flower dies and the cycle starts over again.

The seed is the most important part of a plant. A seed has a baby called an embryo which is a baby plant in the seed. You should care about plants because they give us oxygen to breathe. You should not dig up plants because they give us oxygen to breathe so we are healthy. Weeds are okay to dig up but you should not dig up other plants that help us breathe. - Luna Molina

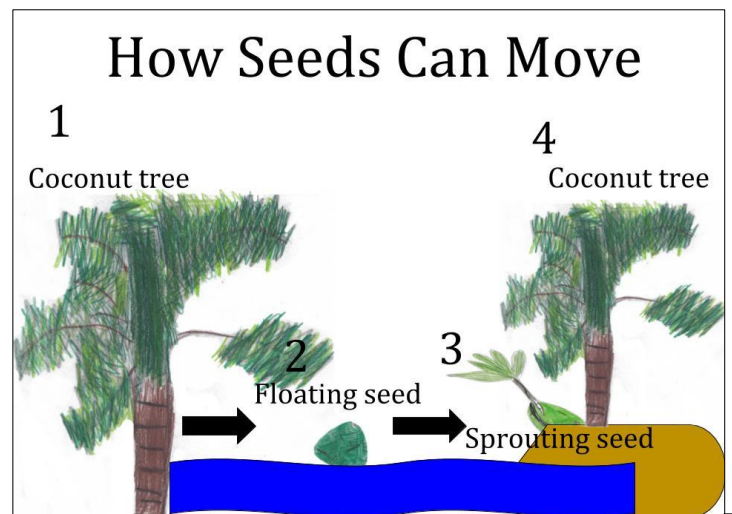


Most plants start as a seed. First a seed grows roots, then a little shoot comes out. Then it grows out the ground. Then once it comes out the ground it is called a plant and it can grow fruit. If you destroy a tree you are destroying oxygen and oxygen is important to us.

Seeds are important because they make fruit and fruit is healthy. Seeds also grow into plants and plants provide oxygen for animals, people, and other living things. - Ryan Monaco

Have you ever known how many things plants can do? Plants have special body parts. A tree's thick main stem is called a trunk. The thinner stem is called a branch. Roots suck up water and nutrients. When a seed is sprouting the roots grow down the stem with leaves grow up.

Plants are important. Most plants make seeds. A seed contains the beginning of a new plant. Sunflowers turn into fruit without flowers we will not get any fruit. - Ryder McGuire

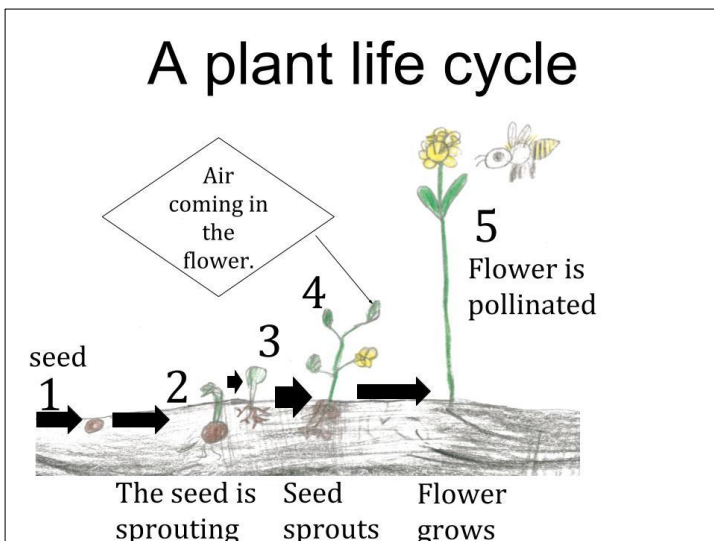
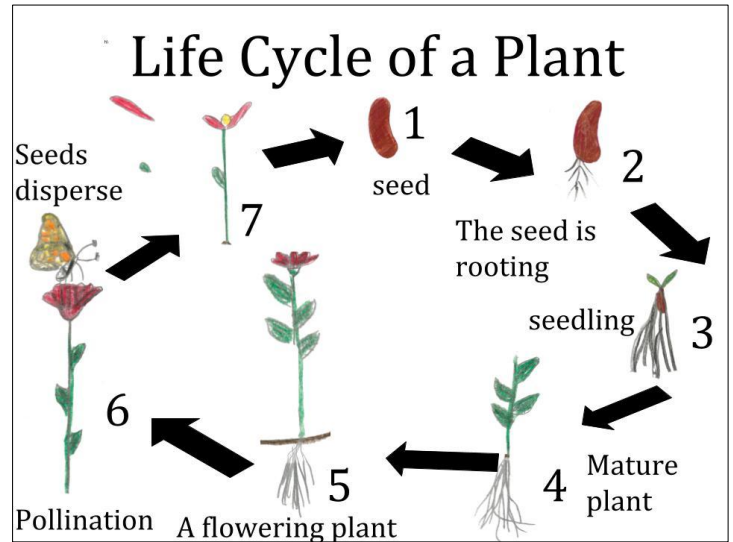




# Plants

A plant is a living thing just like me. Sometimes the plant is a team. The plant needs the team to stay alive. The flowers make seeds. The seeds make a plant. The leaf gets the sunlight and carbon dioxide and makes it turn into food. The stem gets the food and water where it needs to go. The roots soak up the water. The life cycle of a plant is: 1) There is the seed, 2) The seed is rooting, 3) The seed sprouts into a seedling, 4) There is a mature plant, 5) The plant flowers, 6) Pollinators pollinate the flower, 7) The flower lets go of the seed, and 8) The seed disperses to a new place. Even though all plants look different they are the same. The cactus and pine tree may look and feel different, but they both have the same body parts.

Plants are important to our garden because gardens provide us healthy fruits and vegetables. Without plants there would be no garden. We planted some flowers and milkweed so pollinators can pollinate and make seeds. Without pollination we would not have plants. You can help by making a garden or planting. There are so many ways you can help. - Alex Echevarria

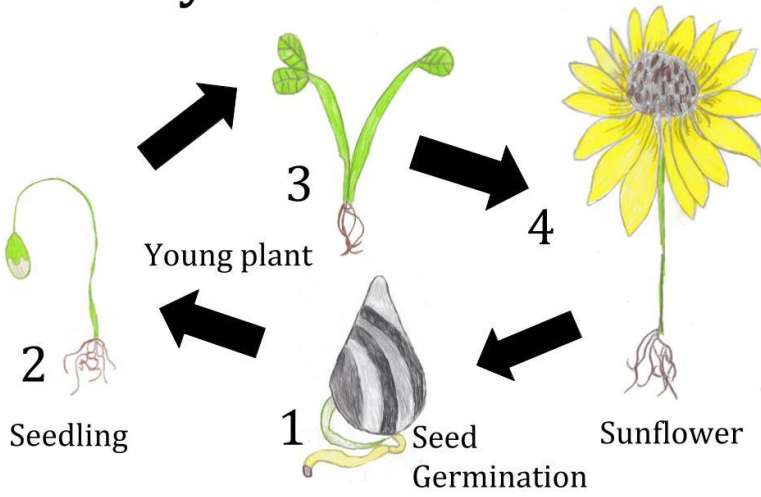


A new plant starts with a seed. Plants are living things that come in thousands of shapes. Plants need three things to grow: water, air and sunlight. Plants can grow in water and rocks and plants can grow in sand. Plants can grow inside and outside. The parts of a plant are leaves, flower, stem, and roots. Some plants eat bugs and the plant traps the bug and then the bug can not get out. And some of the plants leaves are sticky and the bug gets stuck on it. A venus flytrap is a type of plant that traps bugs.

Plants are important to our garden because they make fruit and vegetable for us to eat. Plants are important because they make oxygen for us to breathe. You can help by making your own garden and by planting your own fruit and vegetables. - Crystal Molano

# How Plants Grow

## Life Cycle of a Sunflower



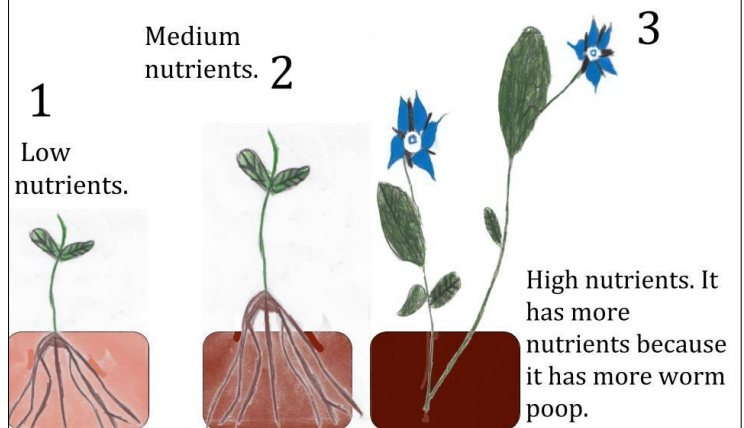
Did you know that poop is in soil? Soil is made up in layers. Sometimes gardeners plant seeds in topsoil. The humus layer has more nutrients because it has poop.

Soil helps gardens grow. Soil gives plants nutrients. Soil is special for plants. Soil helps the garden because it helps plants grow. Soil is very very good for plants. - *Sofia Camacho*

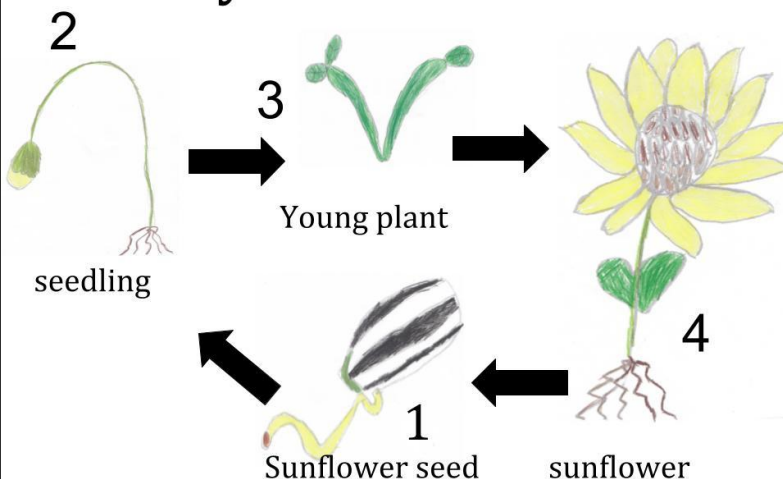
What's that brown stuff over there? Soil! There are lots of layers in soil. Soil can develop in layers called humus, topsoil, bedrock, and subsoil. If there were no humus, topsoil, subsoil, bedrock, there would be no soil. There is water, rocks, manure, and dead plants and animals. Dead plants and animals decompose in soil.

Soil is important to our garden. Soil is where plants get their nutrients. Soil is special for plants. Soil helps plants grow by giving it nutrients and water so it can grow tall. Plants can grow without soil if they are in rocks and they get nutrients from somewhere else like fish poop. Soil has good nutrients but not for you. - *Makena Green*

## Soil Helps Plants Grow



## Life Cycle of a Sunflower



What do plants need? Soil! Soil helps gardens grow. Soil has different layers. The first layer is called top soil. The next layer is called subsoil. The next layer is called bed rocks. Soil is special for plants.

Soil helps plants grow. Plants get their water from soil. The soil will help plants grow better. It gives plants humus. Humus is very dark. It has nutrients. Nutrients are good stuff. Do not step on soil because there are earthworms that are helping are garden community. - *Yaritza Maceda Reyes*

# All About Photosynthesis

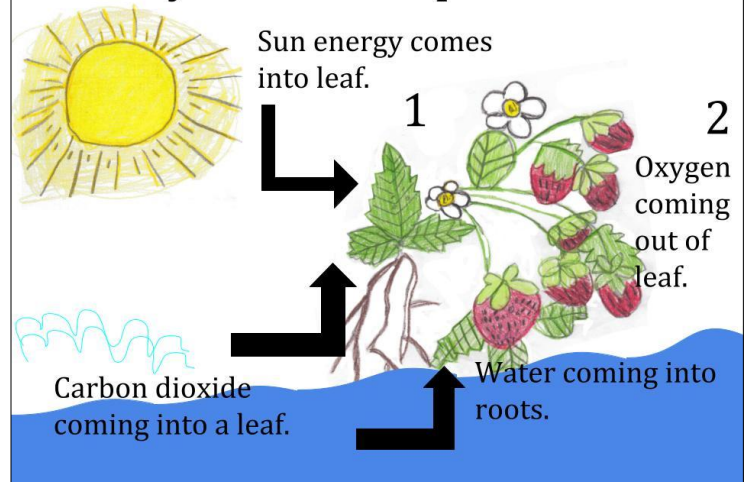
How do plants get their food? Photosynthesis!

Photosynthesis helps us breathe air. Photosynthesis is oxygen to us. Photosynthesis needs air, leaves, water, and sunlight. Photosynthesis uses carbon dioxide.

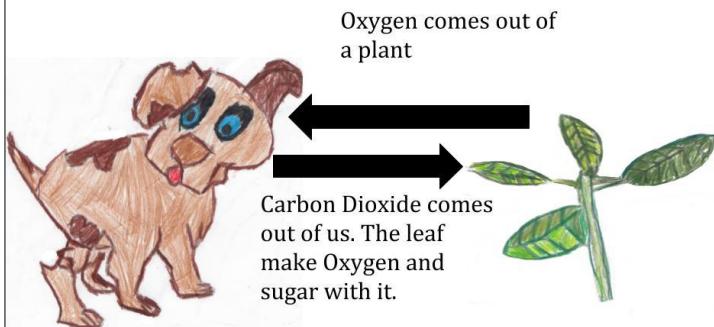
Photosynthesis is in a leaf. Animals help photosynthesis by breathing air.

Photosynthesis helps our garden. Photosynthesis makes plants food. Without photosynthesis there would not be any oxygen. Without photosynthesis plants would not have any food. Photosynthesis is important because it helps plants grow. - *Amaris Guy*

## Photosynthesis Helps Us Breathe



## What Makes Us Breathe



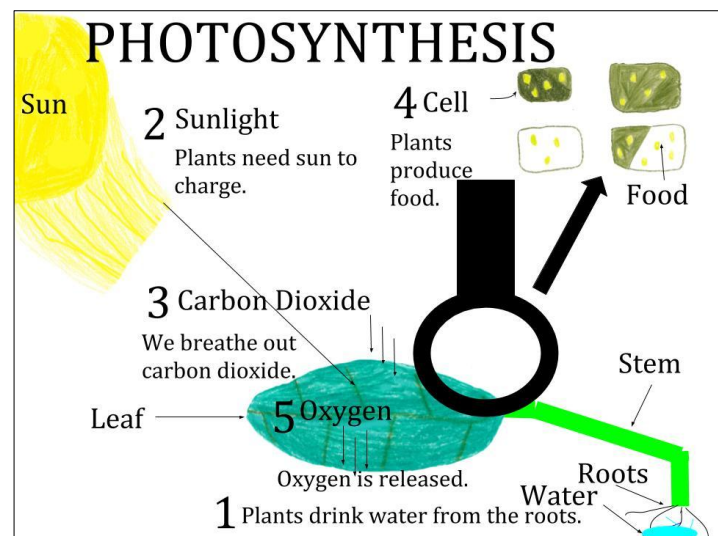
Have you ever wondered what happens in a leaf? Photosynthesis!

Without photosynthesis there would be no plants. Without photosynthesis there would be no oxygen. Without photosynthesis our plants would not be growing. Photosynthesis helps plants by helping them grow.

Photosynthesis is how plants grow. Photosynthesis needs water, air and leaves. Photosynthesis happens in a leaf so it can make its food and grow. It takes our carbon dioxide and turns it into oxygen. Photosynthesis helps plants make their own food. All this happens in a leaf! - *Jack Whelpley*

Photosynthesis (Fodo-sin-tha-sis) is a process. Photosynthesis is used when the leaf of a plant makes food for the plant. The reason Photosynthesis is called Photosynthesis is because Photo means light and Synthesis means combined. Inside the leaf of a plant there are tiny holes called Stomata. Carbon dioxide enters the leaf and into the Stomata. With help from the sun, water combines with the carbon dioxide to make sugar for the plant.

Photosynthesis also helps other living things not just plants. For example, Photosynthesis helps people by keeping the plant healthy, because people need oxygen. Photosynthesis takes carbon dioxide, water, and the sun's rays and makes it into food for the plant. Photosynthesis is saving lives! To help Photosynthesis, make more plants and keep them alive from animals that eat leaves! - *Jake Manger*



### FUN FACT

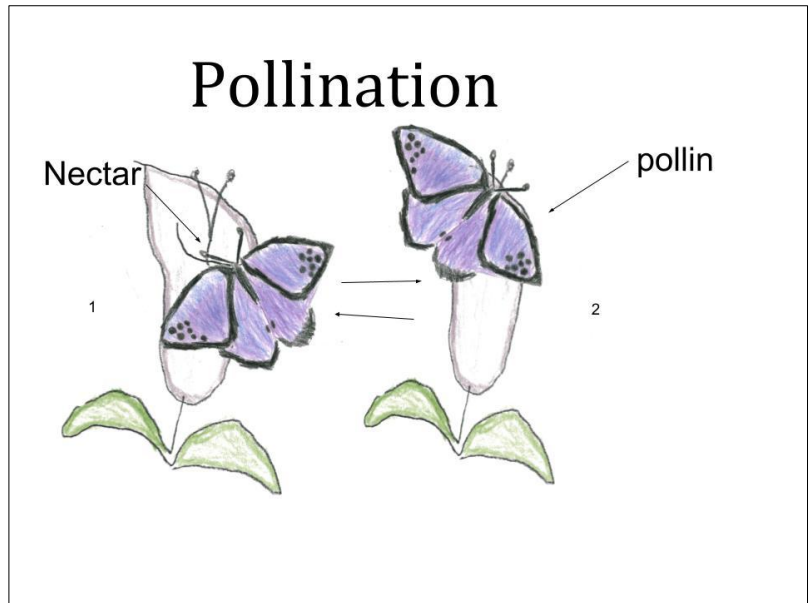
After photosynthesis makes food for the plant, it keeps it in the stem for good keeping.



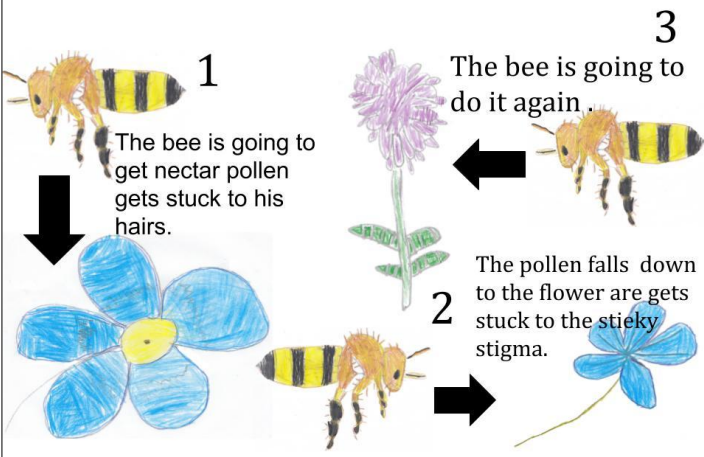
# Flowers and Pollination

Flowers come in different shapes and sizes. The shape of the iris flower makes a perfect base for bees to land on and pollinate. The dog rose has a regular flower shape which means that all the parts on the flower are arranged in a simple circle.

Flowers are important in our garden. One reason is because they bring bees to the garden. Did you know that there are over 90 lily flowers. One of my favorite flowers is the lily because that's my name. What type of flowers do you like? - Lily Calderon



## How Pollination Works



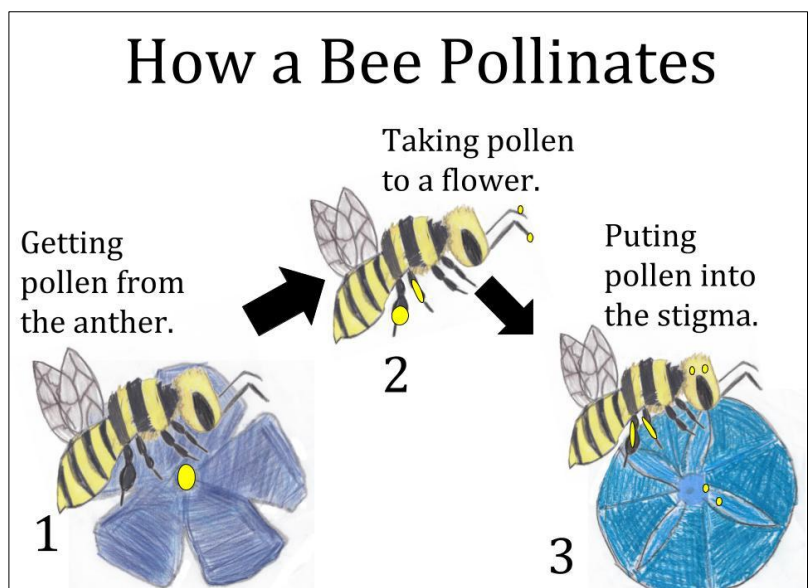
Flowers are living thing. Flowers have special nectar for the bees. Some flowers smell good. Some flowers can be different colors. How do flowers help the community?

Flowers help the garden. Flowers are important to our garden because they help bees pollinate. Bees go to a flower and they get pollen stuck on them and then when they go to another flower pollen rubs off on the stigma. Pollen helps flowers grow. - Mayeli Tirado

Have you ever wondered about flowers???

Flowers are important to our garden because they help each other. Flowers have pollen that bees take. They take the pollen to another flower and helps it grow.

Flowers can be big or small and some are different colors. The anther and the filament is the boy part of the flower. And the ovary and the style and the stigma and the ovules are the parts of a girl. If the flower has boy and girl parts it is called an perfect flower. And if the flower just has a boy or just a girl it is called an imperfect flower. We all know flowers are pretty but they need to live too. - Nataleah Cervantes

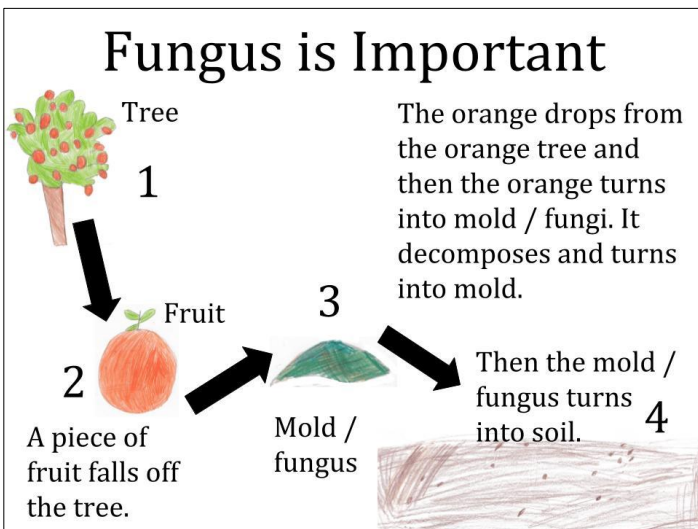
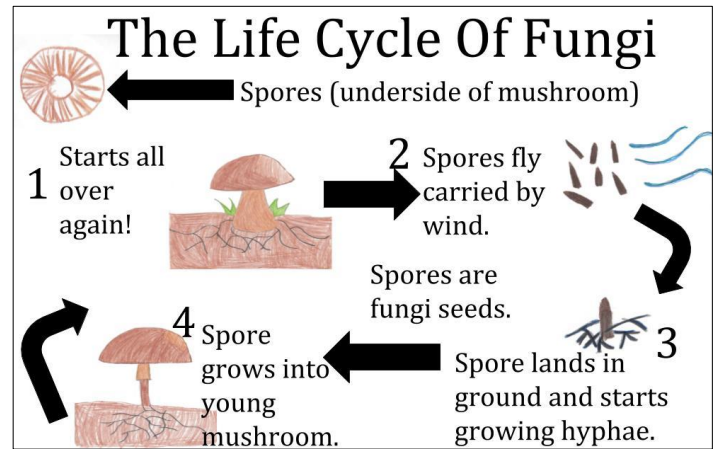


# Fungi

What is good and bad at the same time? What helps make blue cheese? Fungi and molds!!!!

Fungi and molds can be useful and some cannot. Useful fungi are called **decomposers** can work around in different areas. Fungi eat the remains of dead plants and animals and their wastes.

The life cycle of a mushroom is important for it to keep on living. A fungus has long threadlike cells called **hyphae** (hi-fa). Hyphae helps a mushroom get food. A mushroom can live in a pine or oak woodland, a fertilized pasture or unfertilized meadow. This is the life cycle of a mushroom. First: adult makes spores. Second: spores fly carried by wind. Third: spore lands in ground. Fourth: spore starts growing hyphae to get its own food. Fifth: it grows into a young mushroom. Sixth: it grows into adult. Seventh: starts all over again!! **Good fungi** is good for our garden because it makes better soil for us. - *Emilia Sakurada*

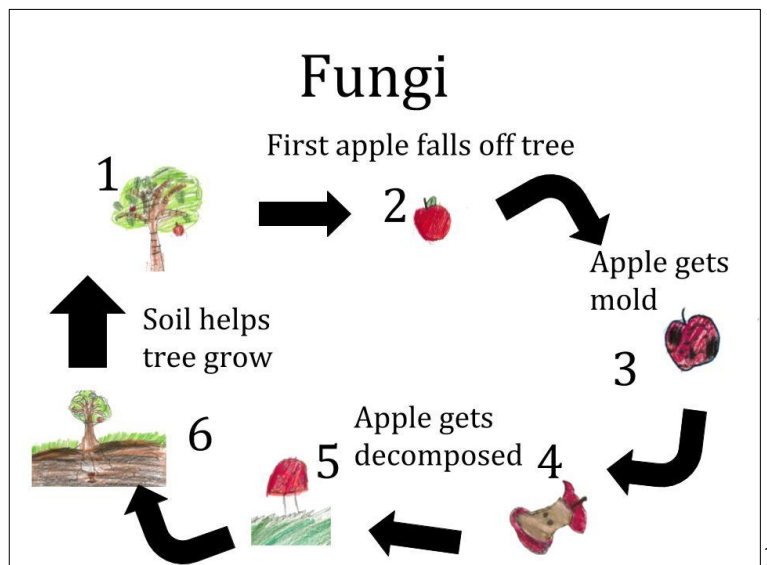


Have you ever wondered about fungus? Fungus don't have roots. It's called hypha. Water goes through the hypha and the mushroom grows. Fungus get energy from the sun or water. Hypha get water just like roots but hypha give more energy to the mushroom. Hypha is important to fungus because it can't live without hypha.

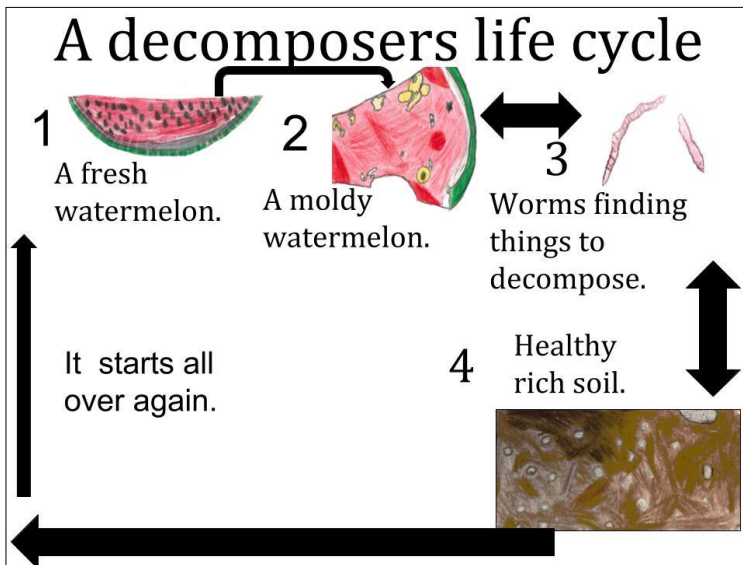
Fungus is important to our community garden. Fungus do a valuable job of recycling nutrients. That means that other plants can grow with the nutrients that the fungus recycled. So don't pull out fungus because it's important to our community garden. - *Giselle Palma*

Fungus is a decomposer! Fungus is important because without fungi the other decomposers will have to work harder! Did you know that there are 99,000 species of fungi? I also learned that fungi grows on dead piles of leaves. Did you know that fungi also grows on food too? Fungus feels squishy!

Fungus is important in our community garden. fungus important to the garden because it protects plants from diseases and helps them get more nutrients. Also ants eat it, and they are decomposers too! - *Zoe Hernandez*



# All About Decomposers and Ants



A decomposer is something that breaks down things. A decomposer makes soil so we can grow healthy vegetables and fruits so we can be strong and healthy. Ants can make soil by making dead insects into soil by decomposing. An ant can make soil by breaking down things. A decomposer can be a worm, an ant, a fungi, and beetles. Decomposers help us keep our earth clean and they decompose to make healthy soil so we can plant. Some decomposers only break down animals and some only break down plants and food. A whole fungi family can break down over 100 pieces of trash.

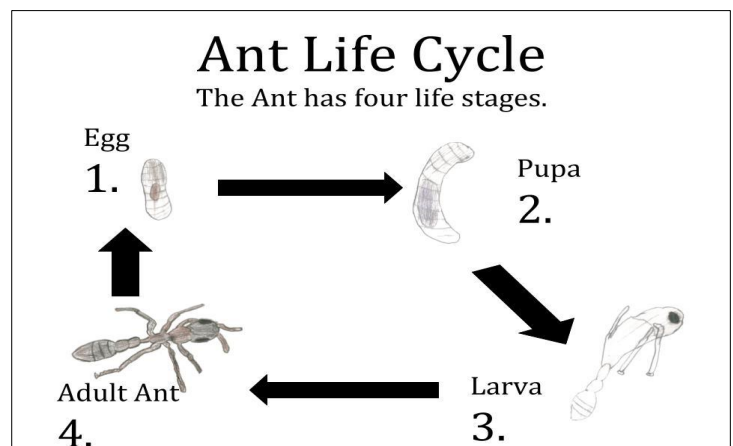
An ant decomposes so it can make the soil healthy. And so the soil can grow a plant. All living things need energy to survive like decomposers or else we would not have soil. Worms add air and space creating a perfect space for fungi. If we didn't have decomposers we would not have healthy soil. Worms keep the nutrients moving in food webs. Decomposers eat dead and dying plants. Decomposers keep webs out of our garden because they can break the webs down.

You can help decomposers by stop killing them and you can take care so they do not die. How you can help decomposers is a lot of looking on the floor so you don't step on them. You can build decomposers a home to stay so they live. How you can help decomposers is if you see them on your floor in your house you can get a paper towel or a piece of paper and scoop it up and put it outside safely. Some decomposers are very delicate and fragile so you can not kill them and make sure if you are holding one not to drop it. - *Sydney Silva*

Ants are related to wasps and bees but most ants don't fly, they are born with wings but they fall off after they are born. Like all insects ants don't have bones, they have a exoskeleton, a rough covering that protects it and helps it move. The head of the ant has two compound eyes on each side. A set of jaws called mandibles and jointed antennae. The antennae sense chemicals called pheromones given off by other ants. With pheromones ants can leave a trail to food, or identify other ants from its colony. When an ant dies, its body lets off a pheromone that tells other ants to take its body out of the nest.

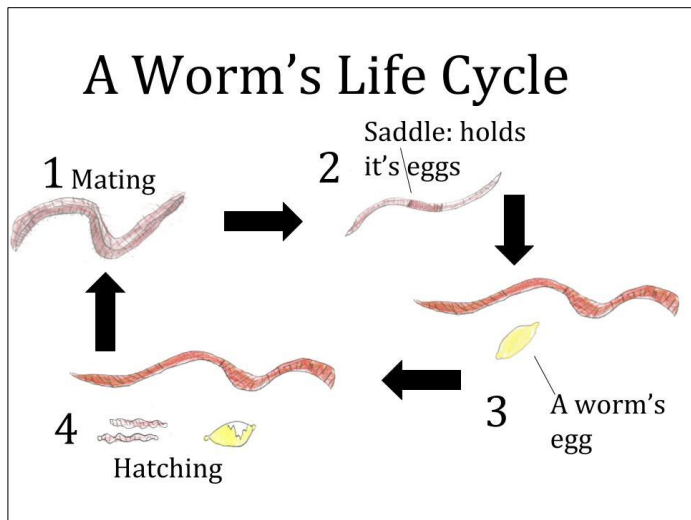
There are over 12,000 different types of ants all over the world on every continent except *Antarctica*, but when you consider the name.... Ants are insects that have three body parts: the head, thorax, and abdomen. The Bullet Ant has the most painful sting in the world, some people say that being stung by the Bullet Ant is like being shot! Fire Ants cause over \$3 billion damage worth a year!! Ants live the longest out of all insects. Ants are one of the strongest creatures relation to its size: A single ant can carry 50 times its own size! Ants hold the record for fastest movement in the animal kingdom! The biggest ant nest ever found was over 3,700 miles wide!!!

Ants are important to our garden because they move seeds around. And when they dig their tunnels for their nest, it gives the soil air to breathe. Ants are also decomposers, when they die their body decomposes to make the soil healthy. We should be careful about stepping on ants because we are destroying their habitat. - *Samara Choothesa*



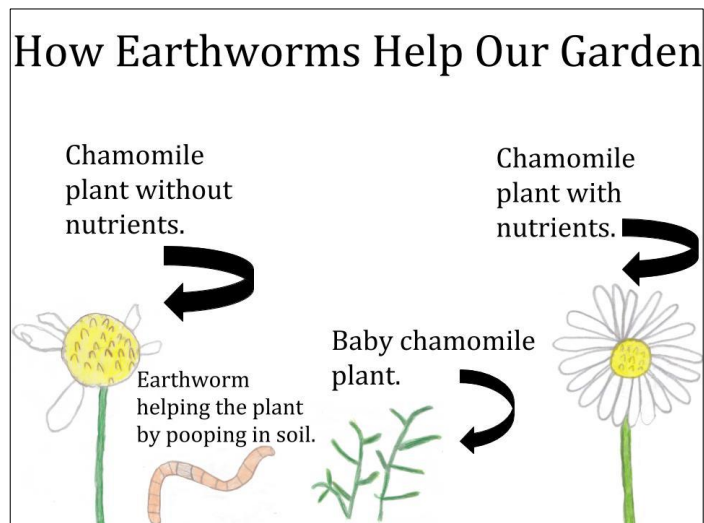


# How Worms Help Our Garden



Worms are not insects. They don't have bones. They have little hairs and muscles to push them forward to move. Their bristles hold on the dirt when a predator is near. Worms breathe through their skin. Worms have a tiny brain and no eyes. Worms feed on the rotting parts of dead plants. They have no teeth or jaws so the food they eat has to be very soft. The saddle is where they lay their eggs. Some worms are over the size of our classroom.

Worms are important to our garden because they make the soil richer. Worms feed on soil. They use the good parts as the soil goes through their body. Then they get rid of waste in a worm casts. Worms are decomposers that break down food parts and make the soil darker with more nutrients. It is helpful to your garden to add worms. - *Cerys Evans*



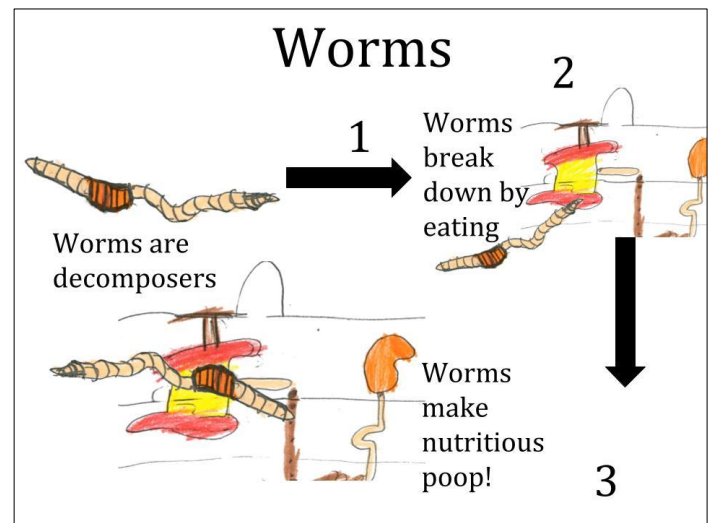
Have you wondered what a worm does? Decomposers are insects like earthworms. Decomposers turn dead plants and animals into little bits in the soil.

Earthworms help our garden. Earthworms can eat leftover food then they poop it out into the soil Earthworms are important to our garden because it helps our garden soil. Earthworms are important to our garden because they help plants grow healthy. Don't forget that worms are important to our gardens. - *Isabela Corral*



What's an animal that is slimy? An earthworm! Earthworms are a type of animal. Earthworms aren't insects because they don't have six legs. But they do have smooth skin. Earthworms help soil be healthy. Earthworms have lived on earth for 500 million years.

Earthworms are important to our garden. As earthworms tunnels through soil they make holes in the ground that allows oxygen and water to enter. And it helps the roots. Earthworms mainly eat decaying leaves and animals in the soil. An earthworm's thin skin can not stand heat or sunlight. Earthworms help soil by giving it manure because it gives it nutrients. Earthworms are important to our garden so do not bother them. - *Natalie Garcia*

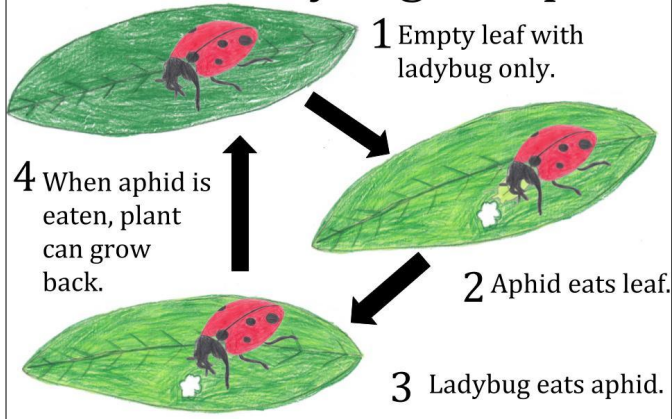


Did you know that worms never stop digging? Worms have important jobs. First, worms feel sounds with their whole bodies. Second, worms don't use fingers. Third, worms are good diggers. Finally, worms are decomposers and very helpful.

Worms are important to the garden. First, worms are good for plants because they make air for roots. They also make nutritious soil. People hate worms because their slimy, but they are really good for the garden! - *Anthony Maldonado*

# Garden Helpers

## How Ladybugs Help



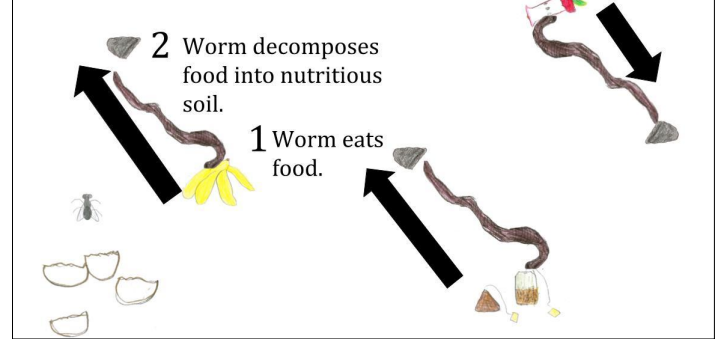
What's that weird insect on that leaf? It's a ladybug! Ladybugs are beetles but colorful. Asian ladybugs can be yellow or orange. Also ladybugs are beetles with black spots and red shells. There is about 5,000 different kinds of ladybugs in the world with different colors like pink and black zig-zags. So that's all the colors that ladybugs have.

Ladybugs are important to our community garden. Ladybugs keep plants healthy by eating bugs that eat plants called aphids and ladybugs can eat 5,000 aphids in its life so they can eat aphids in your garden. So ladybugs are little garden helpers. - *Faustina Maldonado*

Bugs can be insects, arachnids and more. Insects are bugs with six legs, such as ants. Arachnids are bugs with eight legs such as spiders. There are many types of bugs. Bugs can also be pests and eat plants. Bugs can be pollinators and pollinate flowers.

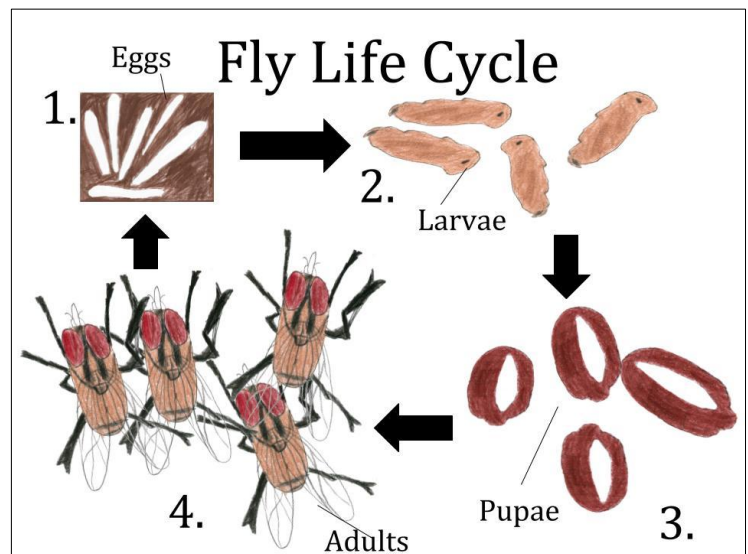
There are many bug pollinators in the world, such as beetles, bees, flies and butterflies. They collect pollen when they eat nectar and bring it to another flower, and that is pollination. And pollination spreads seeds to plant more plants. Bugs are important to the garden because they pollinate and eat pests. You can help by not killing bugs (that aren't pests to a garden). - *Cruz Johnson*

## Soil Becomes Nutritious



Did you know that mosquitoes can lay 200 eggs at a time? I know that all bugs have different jobs. I learned that bugs have 2 or 4 wings and some have zero. Also, some bugs can sting you. Next, I learned that mosquito eggs can survive for 5 years before hatching. Some bugs can be fury like tarantulus.

Bugs are important in the garden. Did you know that worms make dirt into soil? Also, Some bugs are pollinators like bees. You shouldn't kill bugs because they all have important jobs. - *Jessica Barios Garduno*



### Fun Facts:

A certain type of worm possesses a dead snail. When they grow up, they lay eggs inside the snail then create a lure for birds. This happens in the eyestalks so the birds can eat the snail and poop out the eggs, so a snail can eat the eggs and become possessed by the larvae and start the cycle over again.

Wood ants are small but have really sharp jaws. They can also squirt acid out of their body which kills other bugs.

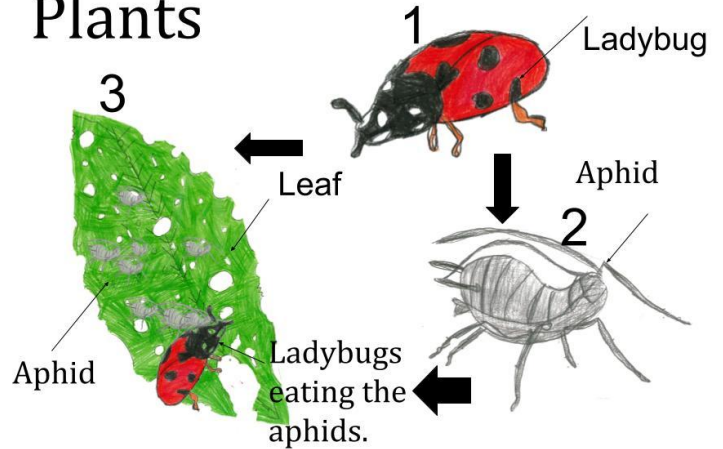
# Ladybugs Saving the Environment

Hey, did you know that there are 5,000 ladybugs in the world? Ladybugs are very important insects. First, I learned that ladybugs are closely related to beetles. Second, I learned that when a ladybug is frightened it oozes out a bitter yellow juice. Did you know a ladybug's wings beat 85 times a second? Also, did you know ladybugs hibernate? I learned that their spots are a sign that they do not taste good.

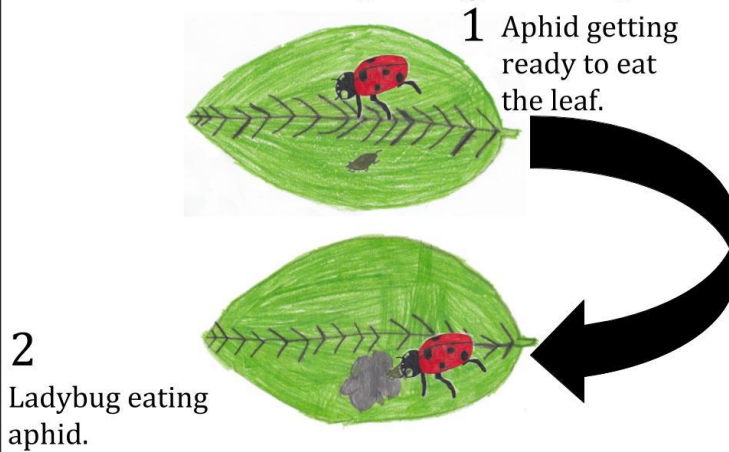
Ladybugs are important to the garden because they eat aphids that kill the plants. Also, ladybugs are important to the garden because they pollinate the flowers. Ladybugs are very important to the garden.

- Anabelle Exner

## Ladybugs Saving the Plants



## How Ladybugs Help



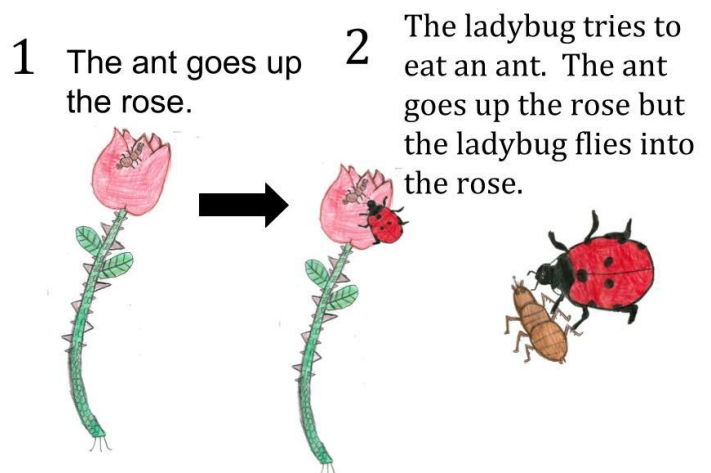
Ladybugs eat pests in the garden such as aphids. Ladybugs also help the environment by eating tiny insects that damage plants. Plus aphids are bad for plants but ladybugs are like knights because they actually eat the aphids. Ladybugs help the garden by protecting the plants by eating the aphids.

There are many facts to learn about ladybugs. Ladybugs are closely related to beetles. They look very tiny and are very shiny and are covered in tiny black spots. Plus ladybugs can fly 15 mph. Also ladybugs are shorter than a teaspoon. And there are about 5,000 different species of ladybugs in the world. - Breslin Moore

Have you wondered why they called Ladybugs, Ladybugs? A long time ago farmers prayed to Mary and believed that Ladybugs were sent from heaven to protect their gardens, they called Mary Our Lady. So they called them Ladybugs. One fact is that Ladybugs chew side to side and people chew up and down. Also, Ladybugs eats Aphids and other Ladybugs too! Ladybugs only live one year.

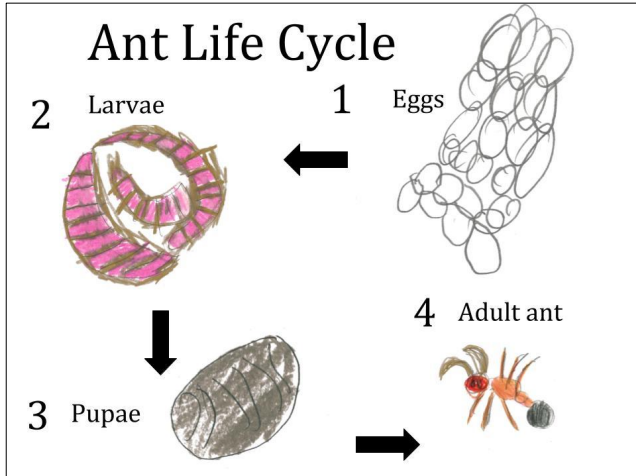
I learned that Mildew is a plant disease that some ladybugs eat. Ladybugs are important because they eat bugs that eat fruits and vegetables in your garden! - Kaily Quintero Perez

## A Ladybug Eating an Ant



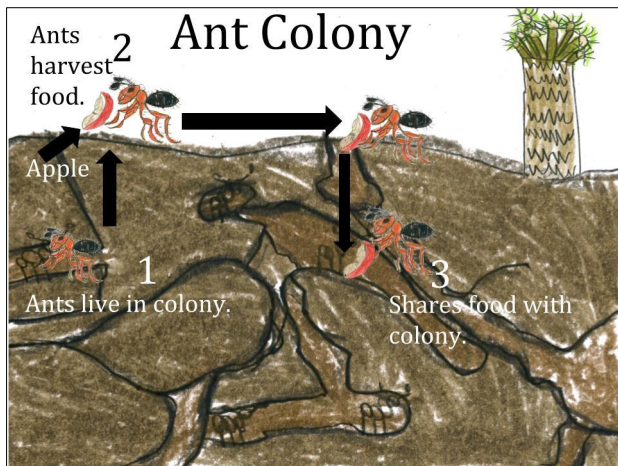


# Ant Facts



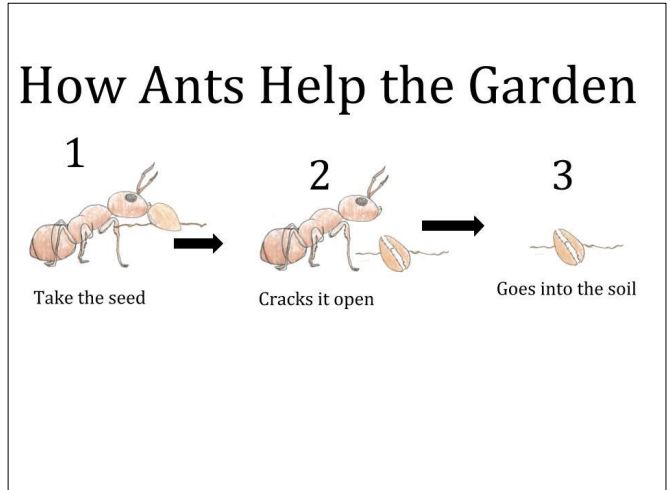
Did you know that people eat ants? Ants are important. Some ant hills have 1,000,000,000,000,000,000,000,000 of ants. The queen ant is the only one that lays eggs. Also, there are 3 types of ants, Queen, worker, and a soldier ant. Some ant hills only have 20 or 30 ants.

Ants are important in our community garden. One reason is because ants sometimes pollinate flowers. That's important so we could have fruits and vegetables to be healthy. Ants are in important in our garden. - Anthony Portillo

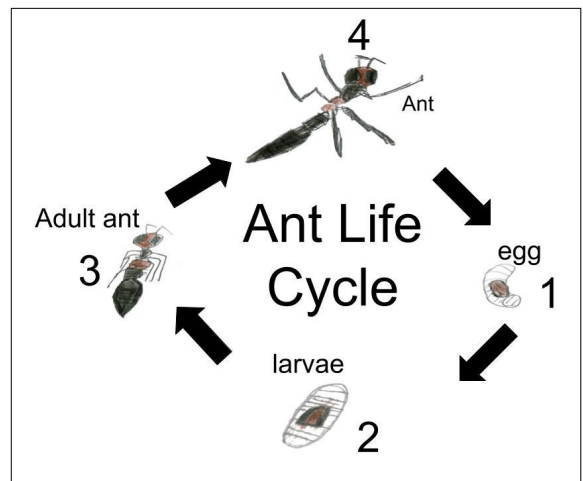


Did you know that there are more than 10,000,000,000 ants in the world? Ants are really interesting insects. First, I learned that fire ants make their nest in boundaries or flattened craters in open soil for moisture. Also, the bullet ant is said to have the strongest sting in the world. Next, I learned that ants don't have ears they 'hear' by feeling vibrations with their feet.

Ants help our community garden. One reason is ants accidentally pollinate flowers which helps the flowers grow. What's your favorite type of ant? - Josh Friz



Did you know there is more than 10,000,000,000,000,000 ants in the world? They decompose in the garden. Also, ants eat all the bad stuff in your garden so you can have healthy fruit. Next, a group of ants is called a colony. Did you know ants accidentally pollinate flowers? How ants pollinate flowers is when they go to a flower and they eat the pollen inside. The pollen gets stuck to their jaws and when they go to the next flower, it pollinates. A lot of people think ants are trouble, but they help the world! - Itztlalli Lira-Prado



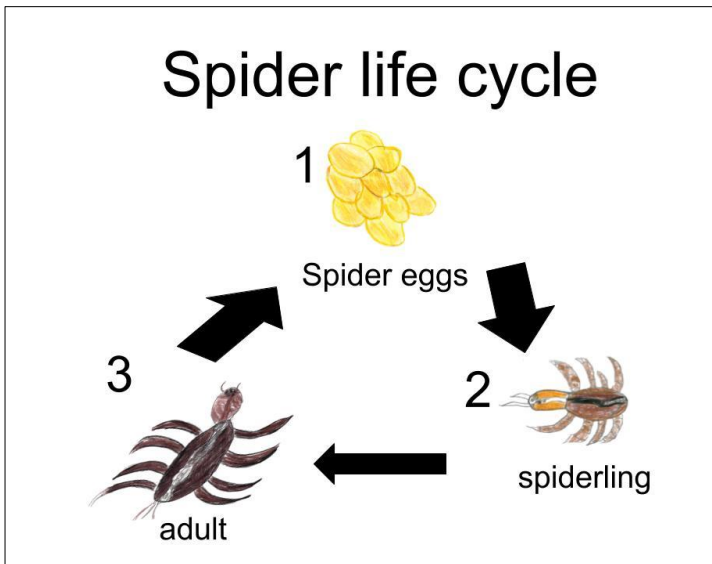
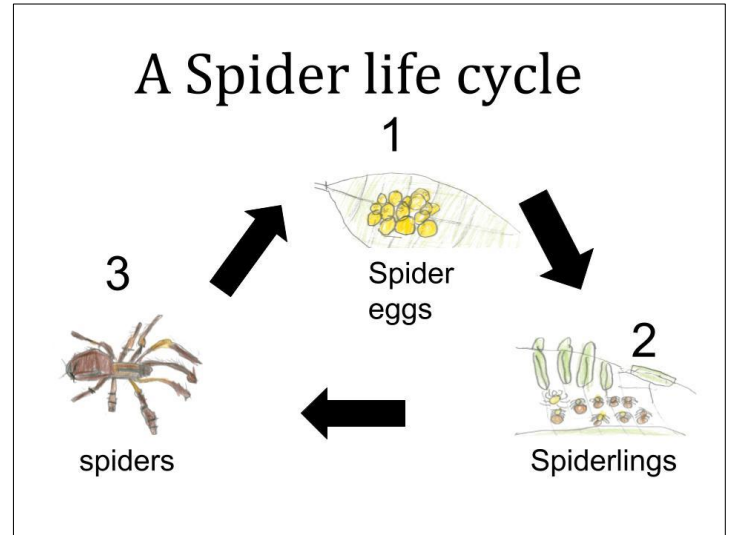
Ants are insects. Ants are related to bees. Ants are insects that do not have ears. Ants are insects with three body parts. they are called head, thorax and abdomen. Ants are decomposers.

Ants help the garden by decomposing dead animals which makes the soil better. The dead animals are broken down, like compost, and the nutrients from the animals are added to the soil Also, ants move seeds around that helps plants grow and make vegetables and fruits. - Xavier Barrera Godinez

# Spider Facts

Spiders are bugs that make webs to catch their prey. Their venom kills the prey. Spiders only eat bugs. Spiders make different webs. They suck the liquids out. Black widows can kill by their bites. They can be any color. Spiders lay lots of eggs. The mom spider attaches the egg to her body to protect it. Some spiders eat big animals. The spiders have to creep to the bug and wrap it with silk. Spiders have venom. Spiders have no teeth.

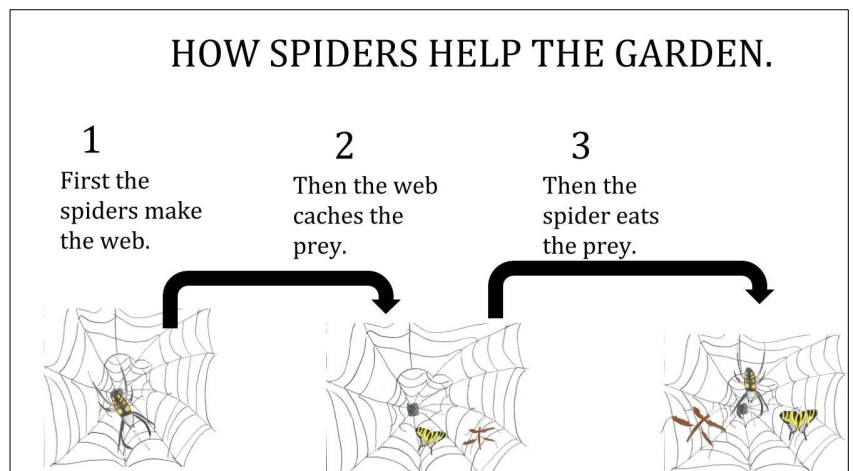
Spiders are important because they eat harmful bugs. Daddy long-legs eat bad bugs. Bugs eat all of our food in our garden and leaves of plants. - *Madison Reeves*



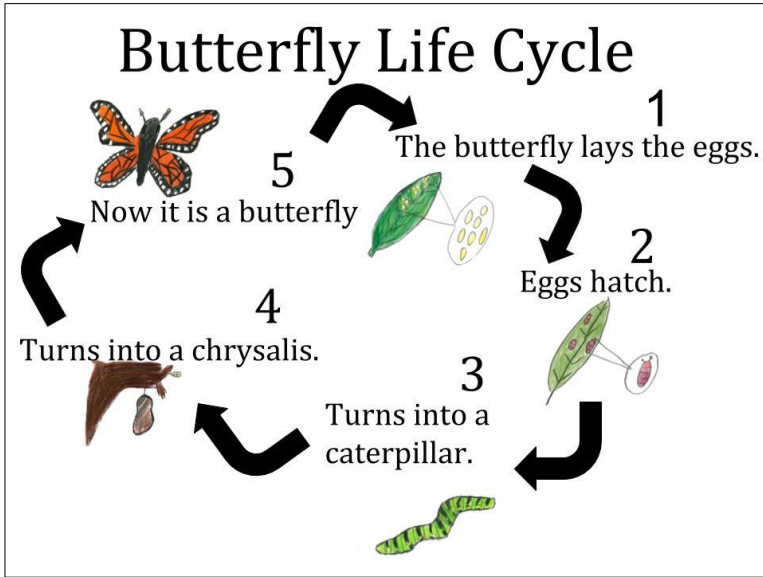
Spiders use webs for different reasons. Spider webs are made of a special silk. Spiders trap their prey and wrap it in silk and then it turns into goo so they can drink it. Spiders also use their silk to carry their babies.

Spiders are important to our garden because they make webs that catch bugs. This keeps harmful bugs off of our garden plants. If there were no spiders bugs would eat our plants. Spiders protect our plants. People should leave spiders alone outside. If you see a spider inside, take it outside. - *Charlie Corona*

Did you know that spiders are arachnids? Did you know that there are 4000 spiders in the world? First, a pterinochilus will try to frighten a attacker by rearing up to show its fangs. Indian omental Tarantulas live in hollows and trees to come out at night and its venom is dangerous to humans. Spiders have two parts of their body. The first one is called the cephalothorax. The second body part is the abdomen. Spiders are important to the garden because they catches the bad bugs in its web so the bugs don't destroy the garden. There are so many spiders in the world, so keep learning about spiders! - *Leo Quick*



# Pollination

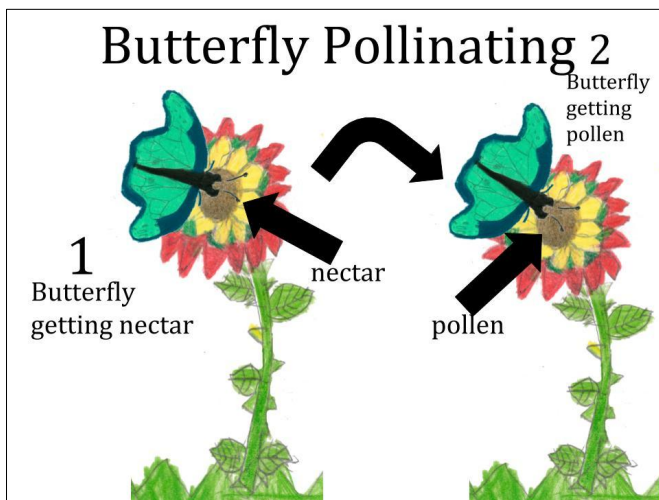
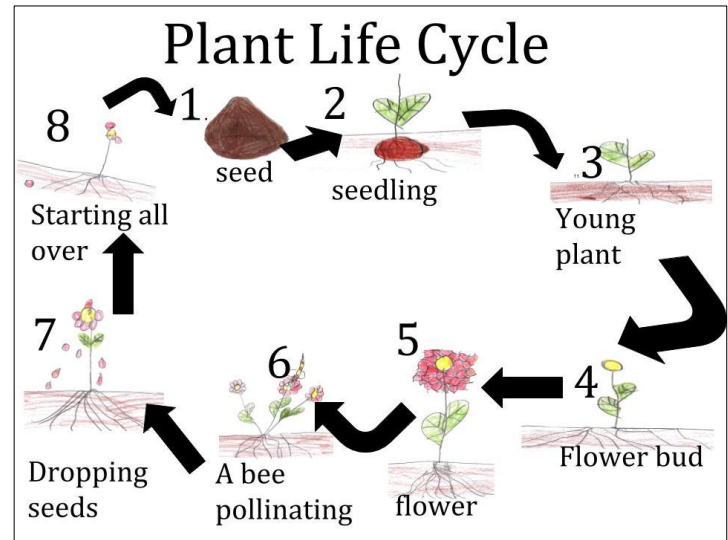


Did you know there are 100,100,100 scales on a butterfly? Butterflies are important insects. First, I learned different names of each butterfly. Then, I learned butterflies can get caught in webs easily. Next, I learned there are 8 different pollinators not just butterflies. Finally, I learned butterflies have a life cycle.

Butterflies are important to our garden. First I learned butterflies suck up the nectar from the flower then it moves to a new flower. Butterflies are helpful to the garden because they are pollinators. Butterflies are important insects. - *Leo Van Looveren*

When bees go to a flower, pollen gets on them. Then they go to another flower and the pollen that was on them gets on the sticky stigma. The stigma is in center of the flower and once the pollen rubs off it mixes together. In a while, it combines together and makes a seed and that is how pollination works.

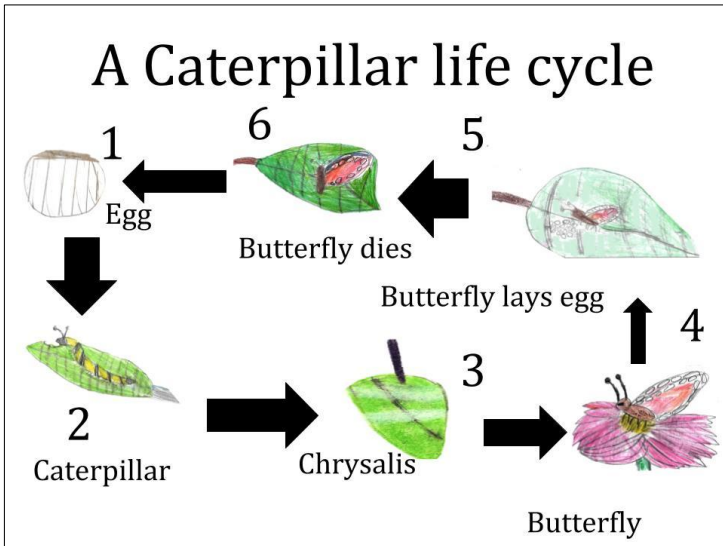
Pollination is important to our garden because if we didn't have pollination we wouldn't have trees and flowers. You can make a garden to help pollination and plant flowers. And you can be happy because if we didn't have pollination we wouldn't have a lot of fruits and vegetables to eat. - *Payton Orozco*



Butterflies are pollinators. How are butterflies pollinators? First its leg fur tastes the nectar. A butterfly uses its proboscis to taste the nectar. A butterfly's proboscis rolls it tongue back up. The butterfly is the greatest insect. It travels flying 25,800 miles (45,000 km) from Canada to Mexico to breed. - *David Carrasco*



# Caterpillars and Butterflies

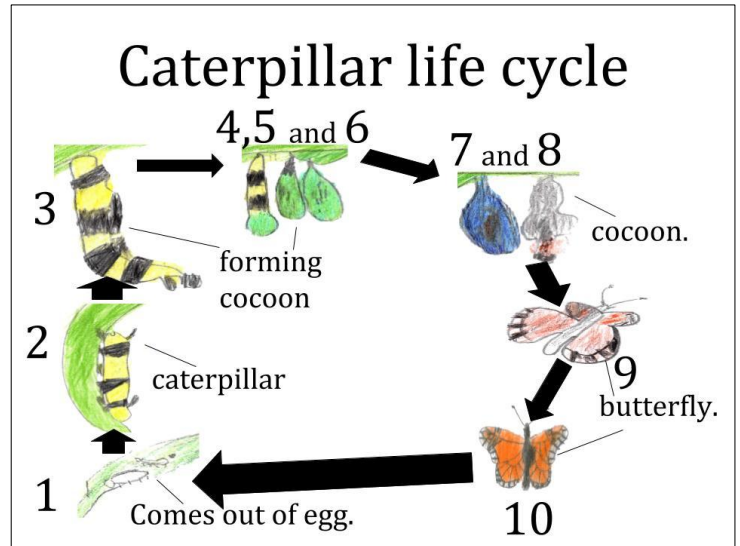


A caterpillar is the second stage of a butterfly's life cycle. The egg is the first stage of a caterpillar's life cycle. It is first an egg then caterpillar, then a chrysalis, then a butterfly, and then it lays eggs and it dies. And that is how it works.

Caterpillars are important to our garden because they turn into butterflies. You can help by making a garden for caterpillars to be a cocoon and a butterfly which is a pollinator. Without caterpillars we would have no fruit, because fruit comes from flowers that are pollinated by butterflies. - *Sofia Capi*

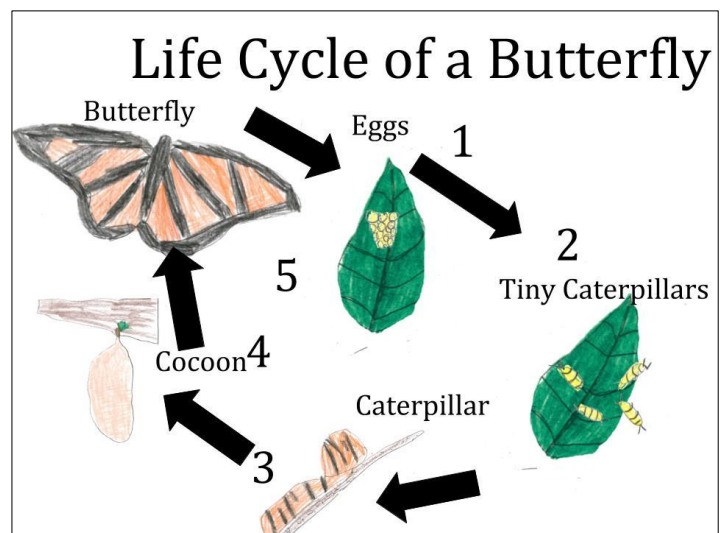
Did you know that if we didn't have caterpillars we wouldn't have butterflies? Caterpillars are very interesting insects. First, caterpillars feed on leaves and grow very fast. Next, I learned that Caterpillar's feelers drop and it sheds its skin and pulls its body and becomes a Chrysalis. Did you know when caterpillars grow too big it makes a new skin? Finally, caterpillars don't have the same patterns.

Caterpillars are important in our community. Caterpillars are important in the garden because that's how butterflies come. - *Samantha Romano*



Caterpillars are not an insect but...they turn into an insect. An elephant only eats a few branches, while caterpillars can eat the whole top of a tree! Caterpillars can turn a whole tree into a cocoon! It takes 10 days for a caterpillars to turn into a butterfly. Caterpillars shed their skin 3 times.

At first caterpillars are harmful to our garden because it eats all of the leaves of plants. But... they turn into butterflies which pollinate flowers. - *Spencer Bacon*

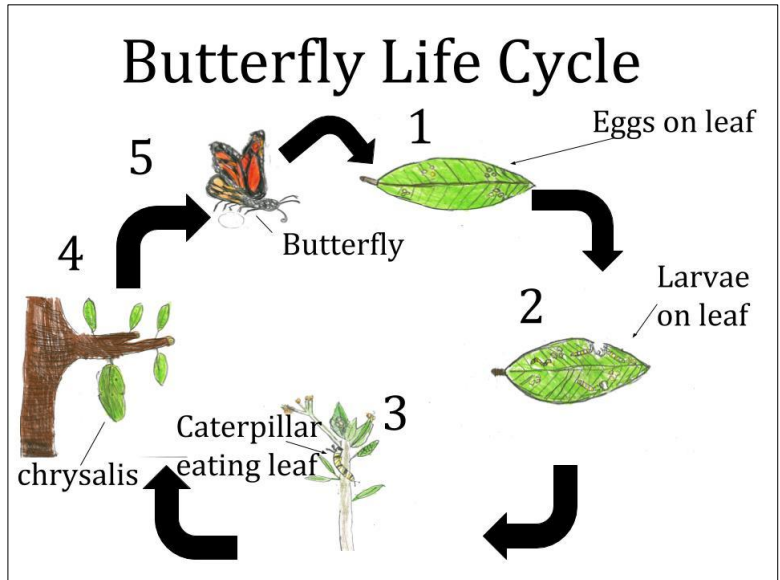


# What a Butterfly Does

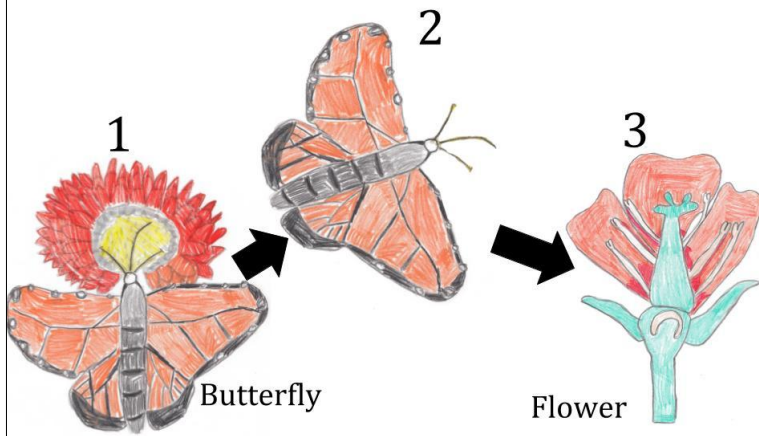
Butterflies live in all different places for different reasons. First, hot, dry, sandy deserts don't seem like a place for Butterflies but they do live there to pollinate. Second, the Butterfly lays her eggs on her favorite leaf because she thinks the caterpillars would like it too. Third, you need to know that butterflies are cold-blooded insects so the best place for butterflies is sunny weather. Finally, as there is starting to be no food for butterflies in America, they migrate to Mexico or Canada. Butterflies live in all different cultures for different reasons.

Butterflies are important in the community garden. Butterflies are pollinators. If there were no butterflies there would be not as much fruits and vegetables growing as there is now! Second, some butterflies eat on very common plants like nettles. Butterflies are pollinators so you should keep butterflies in your garden.

- June Heid



## Butterflies Pollinating



Butterflies fly during the day. Butterflies are insects because they have six legs and three body parts. If you touch a wing of a butterfly it feels like dust. Butterflies start out as eggs.

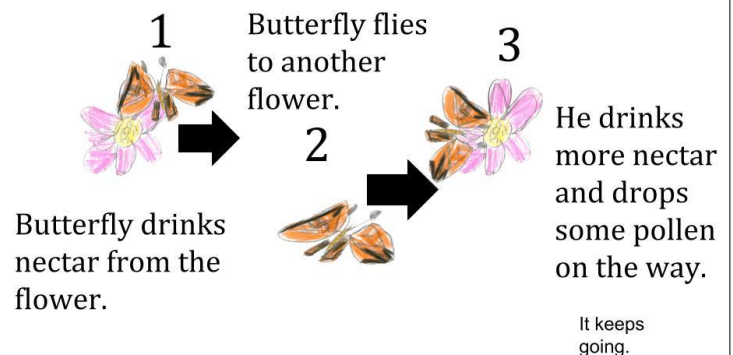
Butterflies are important to our garden because they spread pollen. Pollen helps our flowers grow. Without butterflies there would be no sunflowers. - Sebastian Tavares

Have you ever wondered what flies in the air and is colorful? A butterfly!

If a butterfly is colorful it means that they don't taste good. When monarchs touch milkweed it makes their skin poisonous. When it gets cold in the north monarchs fly to the south. Their parents cannot guide them.

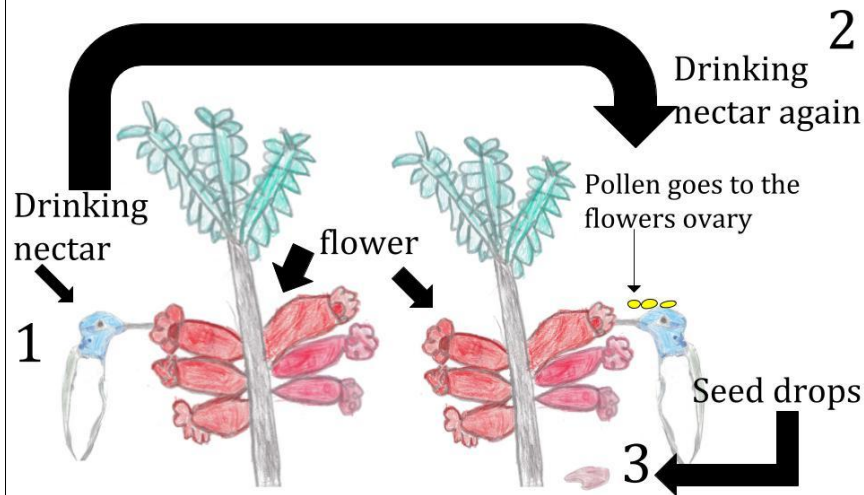
Butterflies are important to our garden because they pollinate flowers. They help make fruits and vegetables and more flowers. Do not kill butterflies because they help our garden! - Christian Williams

## A Butterfly Pollinating



# Hummingbirds Pollinating

## How Hummingbirds Pollinate



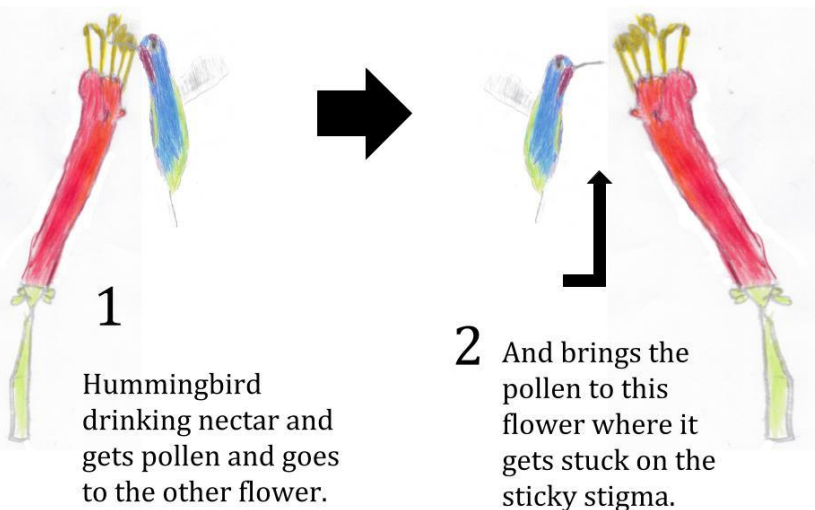
Do you wonder what makes fruits flowers and vegetables? It's POLLINATION!

Pollen helps make flowers fruits and vegetables grow. Pollen helps flowers to make new seeds. Pollen comes from pollen grains from the flower. Nectar attracts pollinators they drink the nectar and collect the pollen on their body.

Pollination is important to our community garden. Pollination helps gardens grow fruits flowers and vegetables. Pollen makes some flowers develop into fruits or vegetables. Pollination make gardens grow don't forget it!!!

- Tomas Marrone

## Hummingbird Pollinating Flowers



Flap flap who was that? It is a **hummingbird**. Hummingbirds are important to our garden because they help flowers grow. And they spread pollen. They have hairs. The pollen gets on the hairs when they are drinking nectar. Then the pollen falls off on the sticky stigma. The embryo needs pollen to make the seed pod. And if we did not have hummingbirds we would not have fruit because they help the flower make more seeds. Hummingbirds help our community garden. - Ethan Hoglen



# All About Hummingbirds

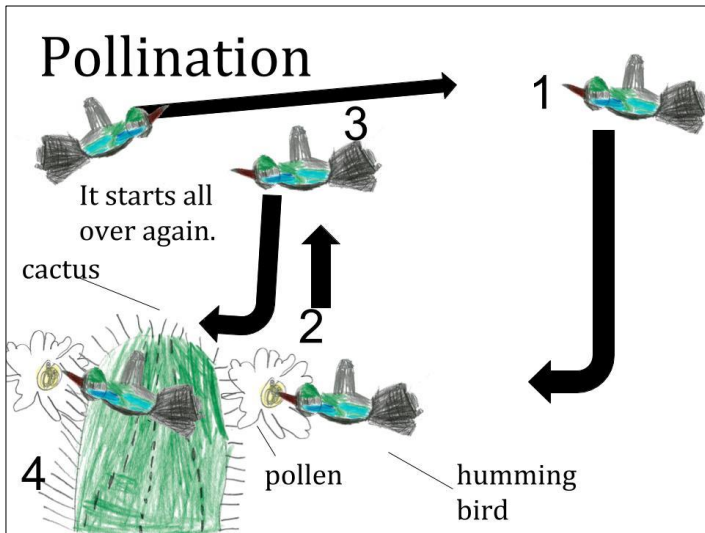
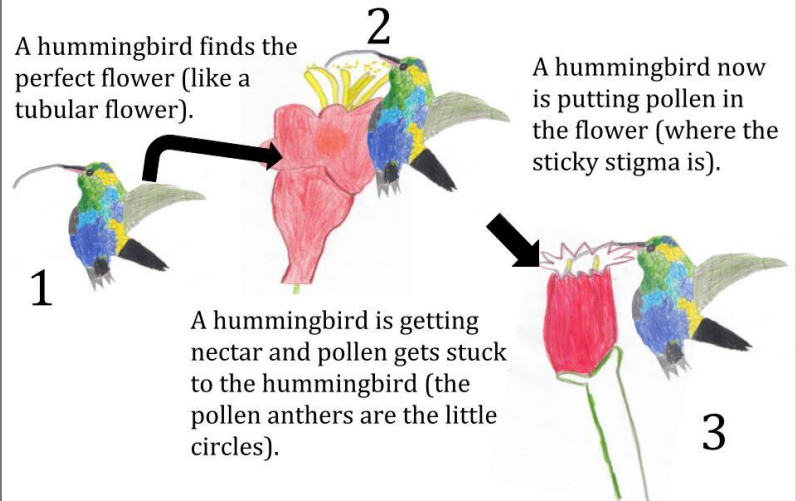
Have you heard of a bird that has a lot of details and a lot of color and a long beak? It is a HUMMINGBIRD!

The smallest hummingbird is the Bee Hummingbird. Hummingbirds can fly straight up or down or just straight. Hummingbirds don't have a nose so they try to find a garden with their big eyes. Hummingbirds are the smallest birds in the Americas. Their fast wings make a humming sound.

Hummingbirds are important to our community garden. Hummingbirds are important for our community garden because they drink nectar in the flower. The flower already has nectar in it so the hummingbird is covered with pollen after drinking the nectar. Next they drop pollen into the sticky stigma of another flower. The flower uses the pollen to turn into a fruit or vegetable.

Don't distract the hummingbirds because they are helping our community. - *Deana Lopez*

## How Pollinators Pollinate



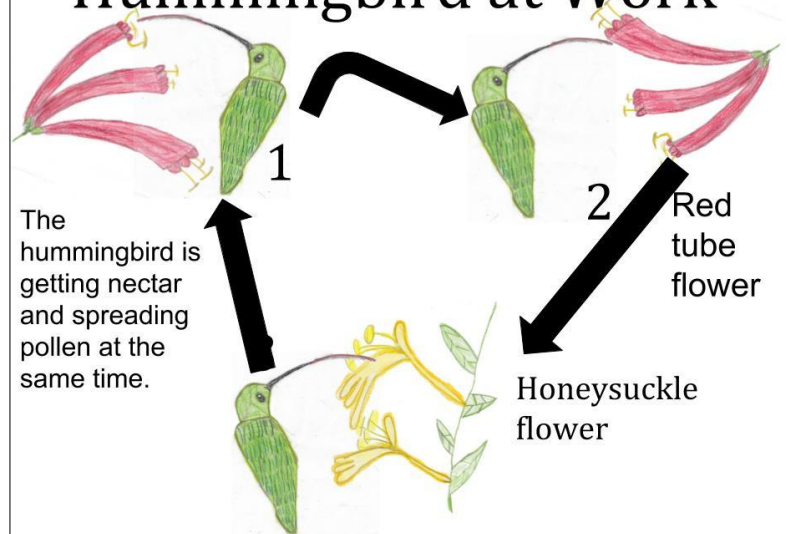
Did you know that the girl bees don't leave the hive to pollinate? Pollination can happen everywhere! Butterflies, bees, and hummingbirds are all examples of pollinators. I learned that ten million monarch butterflies live in cold Canada. Then I learned that there is a queen bee, a drone bee, and a worker bee. Also I learned a hummingbird can get out of a spider web easy. The last thing is humans can also pollinate if they use their finger to do what the pollinators do.

Pollinators are important in the garden. Pollinators help people live because they help the plants which makes the fruits and vegetables grow. Pollinators help plants grow and grow and grow. People need to stop killing all the pollinators, like bees and butterflies. - *Alex Molina*

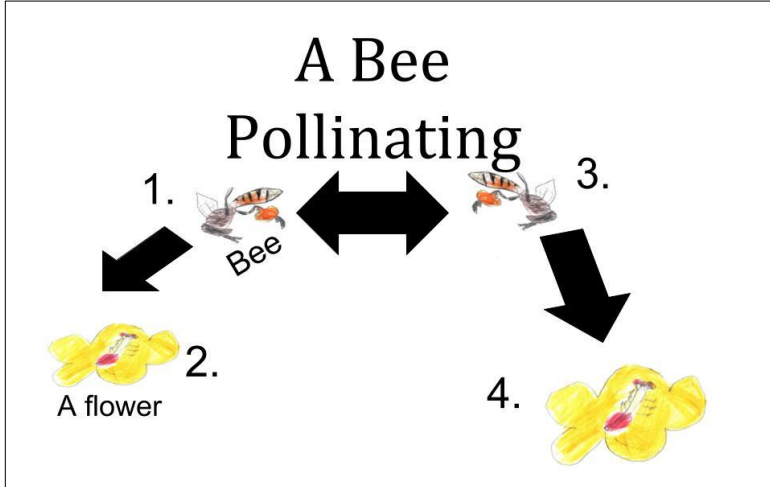
Hummingbirds do lots of things. Hummingbirds eat nectar from flowers. When a baby hummingbird comes out of its egg it stays in the nest. Hummingbirds hover when they fly.

Hummingbirds are important for our garden. Hummingbirds spread pollen to flowers. Hummingbirds spread pollen to make fruits. Hummingbirds spread pollen to help plants grow. Please do not kill hummingbirds because they help pollinate flowers. - *Josue Rios*

## Hummingbird at Work



# How Bees Pollinate

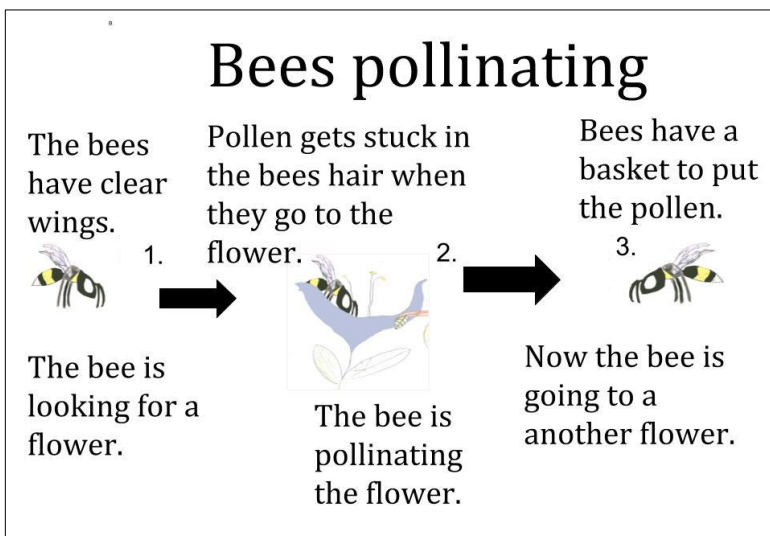
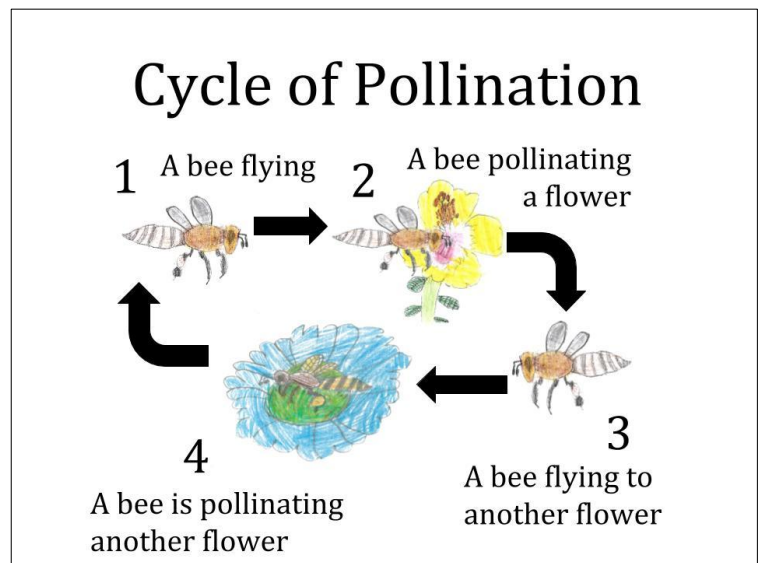


A bee is an insect that can help flowers grow. Bees collect pollen and nectar. Bees use nectar to make honey. Bees pollinate fruits and vegetables.

Bees are important to our garden because they pollinate flowers so we can have fruit and vegetables. If bees don't come to our garden, we won't have fruits and vegetables to eat. - *Tony Arellano Rosales*

Bees can help pollinate. A bee will shake a flower to get pollen on it to pollinate flowers. Bees have a part of its body called a pollen basket on its back legs if it is a girl. All bees have 3 eyes, 2 antennas, 2 compound eyes, a mouth, a head, thorax and abdomen. Queen bees are the biggest bee in a hive. Honey bees are the closest relative to the bumble bee.

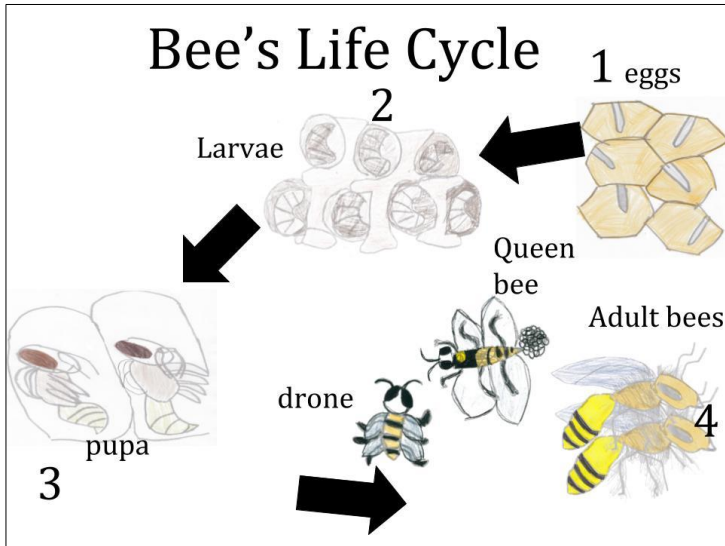
Bees are important to our garden because they pollinate flowers in our garden to make fruits, vegetables or seeds. Bees go from flower to flower pollinating them. We can plant flowers and make a garden to help bees! - *Morgan Cowell*



Bees are a type of pollinator that gets pollen. Bees have 3 body parts: head, thorax, and abdomen. Bees buzz when the bees fly. Bees do not have bones instead, they have a hard outer skin called an exoskeleton which supports their bodies from the outside.

Bees are important to our garden because bees pollinate flowers to make honey. The bees need to pollinate flowers so the flowers can be healthy. We can help the bees by not pulling flowers. We can plant flowers where the people pull the flowers - *Kayla Rios*

# All About Bees



Bizzzzzzzzzz. What is the main pollinator? What makes honey? Bees!

Bees are in the arthropod family. Bees are minibeasts. They see all colors except red. Bees have two big eyes to look. Bees have 4 wings to help to fly. Bees collect pollen and nectar to make honey and honeycomb.

Bees help our gardens. Bees do a circle dance to show other bees flowers to pollinate. Bees pollinate our flowers. When bees pollinate flowers they help turn flowers into fruit and veggies! So don't be afraid of bees they help our community garden. - *Fiona Hedayati*

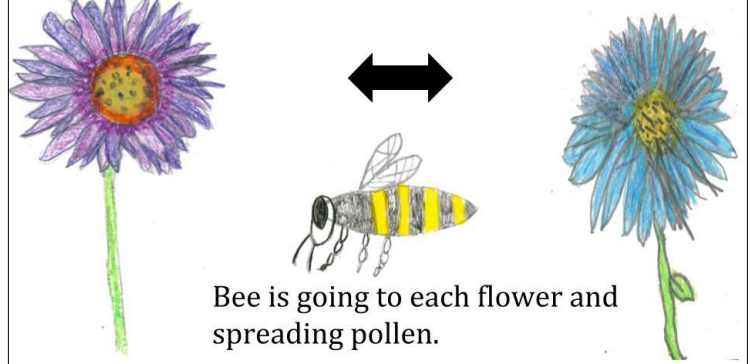
Have you ever wondered what the buzzing sound comes from in your garden?

Bees have different things to do. Bees are very busy. Bees have clear wings. The only food that won't spoil is honey.

Bees help gardens. Bees are important to our garden because bees keep plants growing. Bees help to pollinate. They land on different flowers then they put the pollen inside the other flowers. - *Emani Mostofi Sykes*

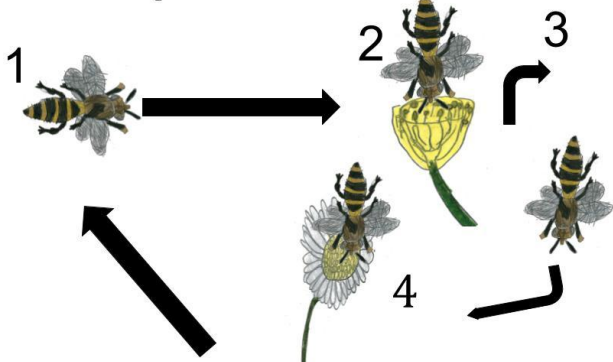
## Bees Pollinating Flowers

The bee is going and when it is drinking nectar the pollen gets stuck on the bee.



## Bees pollinate flowers

Bees pollinate from a flower to another.



Did you know bees are the first pollinator found? Bees are important animals. Bees are important because they pollinate. Did you know that bees cannot see red? Also, when it's cold out honey clusters into a ball of honey. Bees are one of the main pollinators. If we did not have pollinators we would not have any food.

Bees are important because they pollinate our food so don't be afraid of bees... thank bees! - *Max Vetter*