



Bug Badge Plans

Naturalist

Bugs help us in lots of cool ways. Explore the world of bugs and learn more about these little creatures that do so much.

Draw a bug poster

Try a bug craft

See bugs in action

Explore bug homes

Take a bug field trip

Note: Supplies for ALL steps and Snacks on following page.

Purpose: When I've earned this badge, I'll know all about bugs.

Bug or Insect?

Though many people call all insects "bugs," a bug is actually a certain kind of insect. "True bugs" have a mouth shaped like a straw that they use to suck nectar from plants or blood from other insects. They also have a special type of front wing. In this badge, we call *all* insect friends bugs – even those that aren't true bugs. (Spiders are related to bugs and insects, so you can learn about them in this badge, too.)

Words Worth Knowing

ENTOMOLOGY: (en-toe-mall-o-gee) Is a long word that means "the study of bugs."

ENTOMOLOGISTS: (en-toe-mall-o-gists) are scientists who look at what certain bugs do to crops or find out if a group of bugs is growing or shrinking

An entomologist who studies butterflies is called a **LEPIDOPTERIST** (lep-ee-dop-ter-ist).

An **APIOLOGIST** (a-pee-o-lo-gist) studies honeybees.

Ants	Cockroaches	Lacewings
Bees & Wasps	Dragonflies & Damselflies	Mayflies
Beetle (Bessbug, Dung Beetle, Jewel Beetle, Stag Beetle, Stink Bug, Rhino Beetle, Scarab, etc.)	Earwigs	Mosquitos
Beetle (Ladybug)	Fireflies	Moths (silk moth, luna moth, atlas moth, etc)
Butterflies (Monarch, Morpho, Oregon Swallowtail, Painted Lady, etc)	Flies (House Flies, Fruit Flies, Horse Flies, etc.)	Praying Mantis'
	Fleas	Stick & Leaf Insects
	Grasshoppers & Crickets	Ticks
		Termites

Craft / Activity Supplies

Snacks

Popsicle Name sticks for choosing partners
4 iPads, charged
Book Collection: (listed page 3)
Videos: DK Insect and Bill Nye the Science Guy, Insect Episode, Youtube Videos (on site list, page 4)
Large Paper for Bug Posters
Pencils, Thin Sharpies
Coloring Tools (Markers, Crayons, etc)
Stickers and other decorative elements
Bugs Stamps
Bug Rubbing Plates
Rulers
Create Your Own Insect Worksheet (1 per girl, page 5)
Buggy mini-book.pdf (1 per girl)
Clear Craft Pebbles
Scrapbook Paper Scraps
1" Circle Punch
Mod Podge
Small Magnets
Glue Guns / Glue Sticks
Googly Eyes
Construction or Scrapbook Paper in Greens, Reds, Browns, Blues
Glue Sticks
Black Sharpies
Painted Lady Butterfly Habitat (not sure if we will have caterpillars, cocoons, or bugs by then)
Live Ladybugs (Portland Nursery)
Bug Jar Kits
One Small Square, Backyard
Wire coat hangers or Something to mark a small area
Magnifying glasses
Small notebook for each girl
Pencils
2 L Bottle for every 2 girls
Craft Knife
Garden Twine or Wire
Small Paper Bags
Found Materials
Mason Bee Tubes (Portland Nursery)
Mini Beast Spotting Worksheet (work as a team)
Clipboard & Pencil
Gardening Gloves (adult & Girl sizes)
Phone for taking pictures for girls
Copies of Bee / Butterfly friendly gardens (1 per girl)

{Ants on a log, Honeycomb cereal Bee Bags, Mozzarella & Tomato Caprese Caterpillars, Cheese & Cracker Bugs, Ladybugs on Crackers, Grape Caterpillars, Bee Oreo Pops, Lemonade, Watermelon Agua Fresca}

Grapes
Large Watermelon
10-12 Lemons
Celery
Cherry Tomatoes
Basil
Chives
Mozzarella Balls
Cream Cheese or Herbed Cheese Spread
Spray Cheese, or Spreadable Cheese Ball
7-Up
Peanut Butter
Raisins
Slivered Almonds
Pretzel Sticks
Mini Pretzel Twists
Ritz Crackers
Honeycomb Cereal
Ripe Olives
Double Stuff Oreos
Small Ziploc Snack Bags
Clothespins, Black Pipe Cleaners, Paint, Black Electrical Tape, Googly Eyes
Black Edible Marker
Candy Eyes
Yellow & Black Candy Melts
Lollipop Sticks & Oreo Pop Mold
Skewers

Gather on Nature Walk (Step 5, doing as Step 4): leaves (bug paintings), sticks, pinecones, *broken terra cotta pots, dried corn cobs, hollow mason bee tubes or small pieces of bamboo canes, bits of bark, dried seed pods, etc.*

SWAPs: Hermie on Leaves, Beaded Wire Dragonflies, Bottle-cap bugs: Green Pipe Cleaners, Artificial Leaves, Hot Glue, *Tag Punch*, Googly Eyes, Wire, Needle Nose Pliers, Wire Snippers, Beads, Safety Pins, Felt Rectangles for Holding Swaps, Bottle Caps, Clear Acetate, Sharpies

Step One

Step 1 Draw a bug poster

With an adult's help, find websites about your bug. And, look online for lots of good photos so you can see your bug in action! (See list of sites, next page)

Read a book or watch a video about your bug. It should be a book or video about a real bug, not a cartoon.

Available Books: Ultimate Bug-o-Pedia, Bug Detectives, Everything Kids Bug Book, The Beetle Book, Bustle in the Bushes (poetry), Insect Detective, Insectlopedia, Some Bugs, Insects you can Draw, Insects of the Pacific Northwest, Brilliant Bees, Ladybugs—also PDF books, on iPad), 1001 Bugs to Spot, Butterfly & Moth, Vanishing Honey Bees, Dazzling Dragonflies, Focus on Flies, From Flower to Honey, Life & Times of the Ant, Secret Lives of Backyard Bugs, Termites, Zoom in on Butterflies, Zoom in on Grasshoppers,

Available Videos: DK Insect and Bill Nye the Science Guy, Insect Episode

Then, draw a poster of your bug. Label its parts and answer the questions below. When it's done, share your poster with your Brownie friends.

All About My Bug

Where your bug lives

How long it lives

What it eats

What is good about this bug

What is not so good about this bug

Who its enemies are

More to Explore:

Create an insect activity (see page 5)

Pretend you're a Girl Scout in 1930. They had to know 50 different insects to earn their Insect Finder Badge! Can you put 10 different bugs on the back of your poster?

Find examples online that will explain How to Tell a Butterfly from a Moth.

Sites

http://crafts_and_kids.tripod.com/coloring_pages/Butterflies.htm

<http://singdanceplaylearn.com/everything-else/ladybug-habitat/>

<http://www.naturalbeachliving.com/2016/05/ladybug-life-cycle-activities.html>

<http://preschoolmom.com/color-learn-bug-worksheets/>

*<https://www.youtube.com/watch?v=YjOFjzLgYOM&feature=youtu.be>

<https://www.amentsoc.org/bug-club/>

<http://www.insects.org/>

<http://mrnussbaum.com/flash/bugs4.swf>

http://www.scholastic.com/magicschoolbus/games/bugs/monsterBugs_04.swf

<http://discoverykids.com/videos/there-are-over-5000-species-of-dragonflies-discovery-world-safari/>

<http://discoverykids.com/videos/ladybugs-come-in-many-different-colors-discovery-world-safari/>

<http://teacher.scholastic.com/activities/bugs/>

<http://extension.illinois.edu/insects/01.html>

Create Your Own Insect



Read the facts below about insects. Then create your own insect.

All insects have the following body parts:

Head at the front of the body

Thorax in the middle of the body

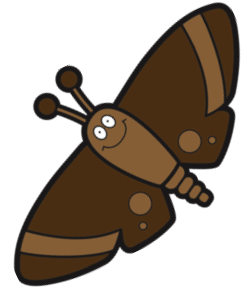
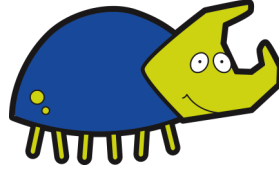
Abdomen at the back of the body

Six Legs (3 legs on each side of the thorax)

Two antennae attached to the head

Two eyes on the head

Some insects also have **wings**.



Directions: Create your own insect. Include all the body parts listed above.

Step Two

Step 2 : **Try a bug craft**

There are lots of “buggy” things you can make. Try making your own colorful or silly or sparkly bug!

CHOOSE ONE: (Troop 45619 choosing different bug crafts—see next several pages)

Make a paper-plate spider. Decorate a paper plate with markers or paint to look like the body of a spider. Draw eyes, or make them by attaching googly eyes or covering dots of glue in glitter. Cut four black pipe cleaners in half to make eight legs and attach them to the plate. Bend them to make your spider stand.

OR

Make an egg-carton caterpillar. With an adult’s help, cut a strip of six cups from an egg carton (cardboard cartons work best). Paint or color the cups. Poke two holes in the top of the first cup, which will be the head. From inside the cup, poke a pipe cleaner inside each hole and pull it through. The pipe cleaners will stick out of the top to make antennae. Draw or glue on round objects for eyes.

OR

Make your own butterfly. Use markers to decorate a coffee filter with lots of bright colors. These are the wings. Then, paint and add glitter to a wooden clothespin for the body. When the pin is dry, clip it in the middle of the coffee filter to create your butterfly.

FOR MORE FUN: Make tissue-paper flowers and hang your butterfly above them for a pretend butterfly garden.

More to Explore:

Make a butterfly feeder. Make a place where butterflies can eat – and you can see them fly by. Punch holes in a plastic plate or container lid (like an ice-cream carton lid). Put string through the holes and hang the plate or lid from a tree. Put fruit on the feeder. It may attract other bugs, so tie it away from doors or windows.

Craft: Collograph Printing

Collagraphy is a print-making process where various materials are glued to a hardboard to create a raised texture. The collaged collagraph plate can then be printed with a press or by hand with a roller. Scouts will create a texture or pattern of an insect on the collagraph.

A few examples of various materials that can be used for collagraph textures are: leaves, seeds, string (hemp), acrylic paint, crushed paper, bubble rap, sandpaper, cardboard, grass, and many others.



The essential questions for this particular lesson are: What is the function of pattern in nature? As artists, what can we learn from patterns found in nature? A great topic that can be discussed in this lesson is the concept of reusing or re-purposing recyclable and non-recyclable materials in art. Therefore, addressing the topic of being GREEN and that something that may be considered garbage to one person can actually be used to create work of arts.

Craft: Paper Tube Honeycomb

Cardboard Tubes
Ruler
Pencil
Scissors
Yellow Paint
Small Plastic Eggs
Black Pipe Cleaners
Sharpies

Make marks to divide two paper towel rolls in thirds and using a pencil and ruler, draw two straight lines down the length of each roll. Then measure down the rolls every inch, drawing lines across the width of the rolls. Cut the rolls on these lines. Now, you'll have tons of flattened football shapes. Fold each strip on the lines. We folded one forward and other backward, so our strips resembled the letter z. Make sure each of the folds is creased well.

Open up the z-shapes and form into hexagons. These are your honeycomb cells. Glue and or staple them into a honeycomb grid. Paint with yellow acrylic paint (this may take multiple coats).

For simple bees, wrap yellow plastic eggs with black chenille stems, ending by leaving some loose on each side for antennae. Create a face with sharpie markers.

Alternatively, Cut two sections of paper tube, and do not flatten. Staple together. Cut 2 tear drop shapes for wings and an oval scrap for the head; staple them to the tubes. Decorate with markers.



You can do a more elaborate craft if desired. (Think of the papier mache bee that my boy made, for instance.) Just keep in mind the size of the hexagons.

Once dry, fill 1-3 combs with the bees you made while the paint was drying. Punch a hole in the center top comb (find where it will balance), insert a paper clip, and use that to hang your creation on the wall.



Craft: Recycled Items Garden Bee

Tin Can, Edges sanded to remove rough edges
Plastic Water Bottle
Metal Bottle Caps
Hammer & Nail
Scissors / Craft Knife
Yellow & Black Acrylic Paint
Painters Tape
Wire
Needle Nose Pliers for manipulating wire inside can
Buttons
Long Stick (optional)

Fill a can for each scout with water and place in the freezer. The ice will allow the can to keep its shape when you are making holes in the metal.

Using a small nail and the hammer, pierce 6 holes, 3 on each long side of the can in parallel pairs (this is where the legs will go). Pierce two holes on the bottom of the can, far enough apart for your bottle cap eyes. Create two holes about an inch apart on the top of the can, opposite of where you punched holes for the legs (where you will attach the wings). Finally, If you wish to place your bee on a long stick to place it in your outdoor garden, create a hole large enough for the stick in the bottom, between your two middle leg holes. Lastly, punch a hole in two bottle caps.

Paint the can yellow. Allow to dry. Using painters tape, block off stripes of yellow, and then paint visible surfaces black to create bee stripes. Allow to dry completely, then carefully remove tape.

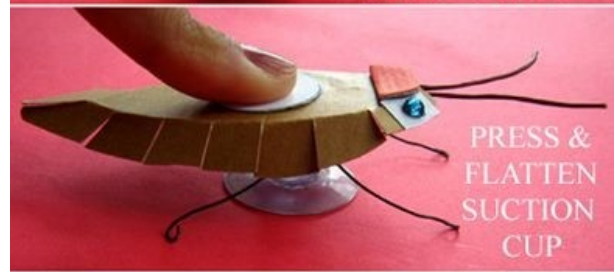
Layer a button onto the bottle cap, and bend a small piece wire through the button into the hole on the bottle cap. Push wire through an eyehole, then bend the wire (on the inside of the can) tightly against the side of the can so the eye stays in place using your needle nose pliers. Repeat for the second eye.

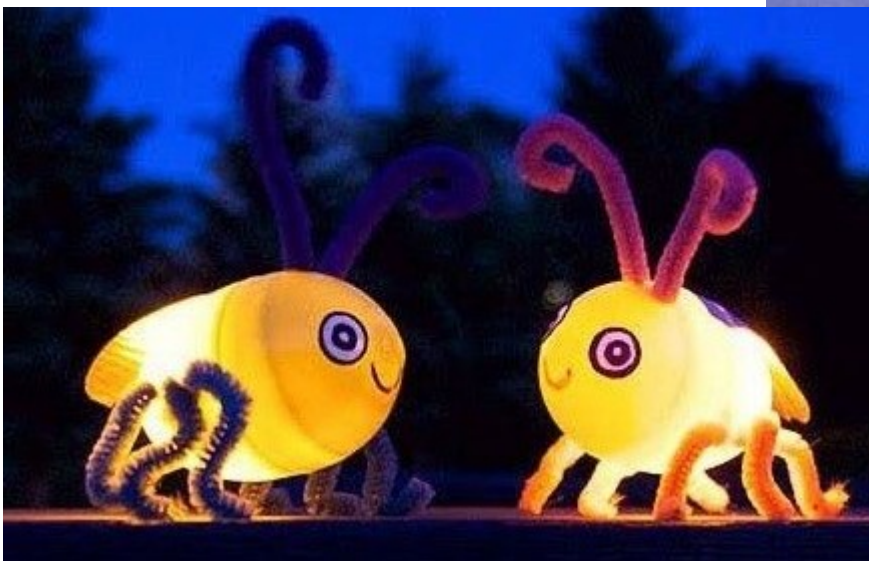
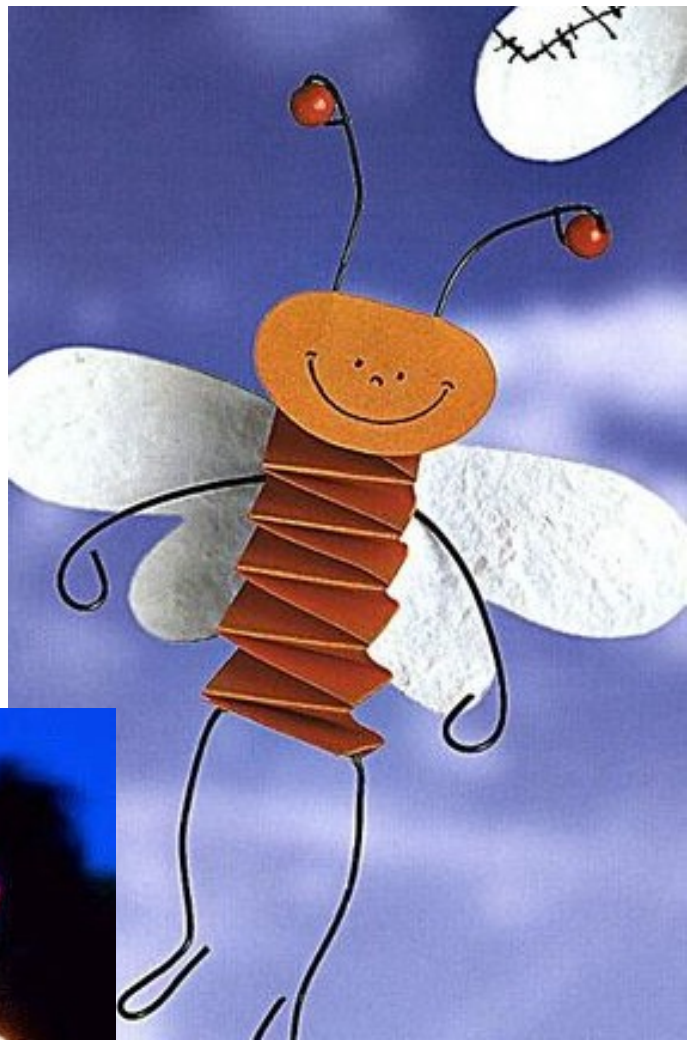
Insert a piece of wire into each leg hole. On the inside of the can, bend the wire into an L shape so it will stay. If desired, wrap a button on the bottom of each wire to create little feet.

Cut a large U shape out of the water bottle to create the wings. Line wings up with holes on the can, and poke holes in the wings. Thread a loop of wire through the holes and twist inside, tightly, to keep wings in place.

If you created a hole in the bottom, insert your stick; place in your yard for a happy note of color =)









Step Three

Step 3 **See bugs in action**

Even though most bugs don't live very long lives, they are very busy!

CHOOSE ONE:

Watch three bugs. Look for three different bugs in your area. They could be an ant carrying food, a beetle chewing on a leaf, and a roly-poly (sow bug) on a porch. Identify the bugs and try to find out what they are doing and why!

OR

With an adult, find an ant trail. See what happens if you put a stick in the middle of the trail. What about a little water? What about food? See what you can find that distracts the ants (without hurting them, of course).

FOR MORE FUN: Try to follow the trail to the ants' home.

OR

Make a bug box. You can take a closer look at a bug in action by making a bug box. Try using it to watch grasshoppers, centipedes, lightning bugs, or moths. Check with an adult first to make sure your bugs don't bite.

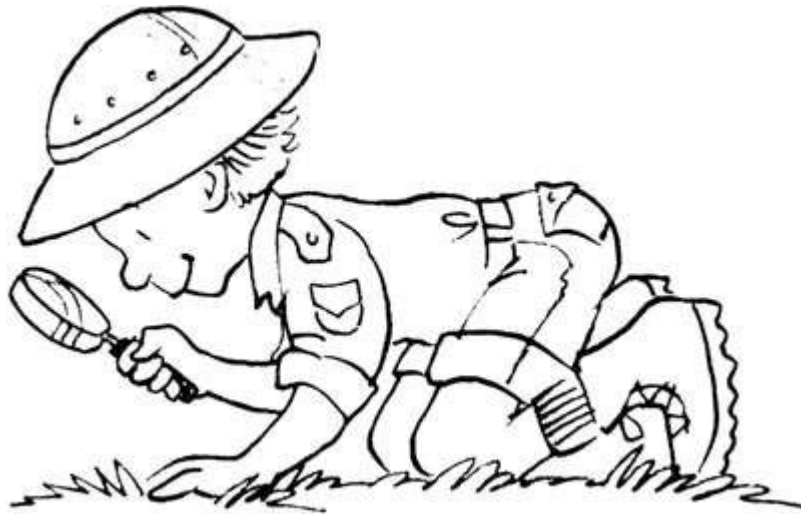
We will be making Bug Jars (oriental trading kit) and then checking out [One Small Square—Backyard](#) and going on a lawn safari (following page) to see what kind of bugs that we can find.



Lawn Insect Activity

Spring and summer are the best times to take a lawn safari. You won't see much activity in the winter. Take a wire coat hanger and bend it into a square. Go out on your lawn or in a grassy park and toss the hanger on the grass.

Wire coat hanger
Magnifying glass
Notebook
Pencil



Study whatever in the grass is "framed" by the wire. Get down flat on your stomach and have a really close look. Use your magnifying glass as well. Search the grass inch by inch, blade by blade, and find as many animals as you can: earthworms, beetles, grubs, spiders, moths, and anything else.

Jot down what you see in your notebook. If you don't know the name of the animal, draw it. Adult insects have six legs while spiders and their kin have eight, so don't confuse spiders with insects.

Take your wire frame and toss it into another patch of grass and do the same thing. Do you find anything different? Try comparing shady grass and sunny grass. Compare thin grass with thick, healthy grass. Are there any differences in the types of insects you find?

Note: I may have them work in pairs

Step Four

Note: We will be doing step 5 FIRST, so we can also gather items for our insect hotels.

Step 4 **Explore bug homes**

It isn't just the bugs that are cool. The places they live are fun to explore, too. Find out more about bug homes in this step.

CHOOSE ONE:

Draw a cocoon. Some bugs, like caterpillars, sleep in a cocoon. Inside, they transform into a moth or butterfly. Find out what else goes on in there. Then, draw what you think it looks like inside a cocoon.

OR

Make a model of a bug house. Bugs live in all kinds of houses: hives, cocoons, tunnels, even inside wood. Make a model of what a bug house looks like.

FOR MORE FUN: Talk to your friends about how your home is the same and different from your bug house. If you could, would you live in the bug house you made?

OR

For one week, watch a spider on its web. Team up with an adult to watch it during different times of day. On what does the spider work? Does the web look any different? Is there food somewhere? Don't touch the spider or disturb the web – some spiders can bite.

We will be looking at butterfly cocoons, saved from when our painted lady butterflies hatched, in addition to the following activities.

Bug Hotel

This simple bug hotel will provide an environment for bugs to live and hide.

1 2L Bottle for every two girls

Found materials that will fit inside the cylinders.

Think natural items, nooks and crannies, and things that will last, such as sticks, pinecones, broken terra cotta pots, dried corn cobs, hollow mason bee tubes or small pieces of bamboo canes, bits of bark, dried seed pods, etc. Try to use fallen items; don't remove things from living plants!

Cut the top and bottom off each two liter bottle, then cut the resulting cylinder in half, making two smaller tubes. Repeat for each bottle so each scout has a cylinder.

Lay out the materials that you have found and arrange by size and texture. If necessary carefully break pieces so they will fit into your plastic ring; it is ok if some stick out beyond the edges though.

If you plan to hang your hotel, rather than leaving it on the ground, carefully poke two parallel holes a few inches apart. Thread garden twine or wire through the holes, and tie or twist.

Start layering your bug hotel; stuff it full and firm so the pieces will not easily fall out, or get blown around easily by wind.

To make the most of your hotel, and become a destination for insects, you need to place it in a good location. Set your hotel up in a sheltered area of the garden or allotment away from the prevailing wind. Most insects prefer slightly damp conditions. If you have done a hotel for solitary bees (mason) full of circular holes, they prefer the sunniest place possible to help them get out and about on a chillier day. Your hotel will become occupied more quickly if it is located close to an existing insect hotspot: a hedge, bank of nectar-rich flowers, or a pond, for example.



This more elaborate version would be great for a the wood-working badge for older girls.

Step Five

We will be taking a hike in the natural area behind my home. Girls should have closed toed shoes for this! See next page for what we hope to find, but we will settle for

Step 5 **Take a bug field trip**

CHOOSE ONE:

Visit a farm. Farms have lots of animals and crops, so they can be a great place to see bugs. Bring a magnifying glass to see the tiniest ones. Ask the farmer why bugs can be useful to crops, and what their favorite bug on the farm is.

FOR MORE FUN: Go to a farm where they raise bees, and taste fresh honey.

OR

Take a bug walk or bug hike. See how many kinds of bugs you can find along the way. Use a magnifying glass and look on the ground and up high in branches.

FOR MORE FUN: Go with friends. See who can find the most bugs along the hike, or who can find a bug they've never seen before.

OR

Visit a museum, zoo, or botanical garden with a bug collection. Look at the bugs. How are they grouped? What's the strangest bug in the collection? Some places have a live insect viewing where you can hold the bugs. You could give it a try. (Oregon Zoo's Insect Exhibit is closed for remodeling ::sadface::)

More to EXPLORE

Find out more about good bugs and bad bugs. On your bug field trip, ask a bug expert about good bugs (like those that help spread pollen so new flowers can grow) and bad bugs (those that destroy trees or plants) that live in your area. Are some bugs both good and bad? For example, termites help break down dead wood into healthy soil, but they also eat the wood in our houses.

Rotting Log Insect Activity

Rotting logs are home to some fascinating creatures. Try this rotting log insect activity the next time you are exploring a forest or woodland. When you find a soft, decaying log, spend time discovering the organisms that live there.

Garden gloves
Magnifying glass
Small clear plastic jar (bug jars)
Notebook
Pencil or pen

Put on your garden gloves and get down on your hands and knees. Using your magnifying glass for a better look at the surface, look to see what lives there. You may find green plants, such as moss or small seedlings. You may find insects; such as beetles or termites. There may be other small creatures, such as wood lice and spiders. If you want a closer look at a small creature, catch it in the jar and observe it. (Let it go when you are done.)



Record your discoveries in your notebook. If you don't know the name of something you've found, draw its picture. If the wood is soft, break off a piece to see what kinds of creatures live inside. Termites, ants, and wood-boring beetles often live in logs.

Replace the wood when you are done. Record what you find in your notebook. Now turn the log over and see what lives underneath. The wood may be so rotten that it resembles soil. This is nature's way of recycling.

The nutrients that made up the tree's tissue are being returned to the soil for other plants to use. Lots of organisms here are associated with decay, such as millipedes that eat dead plant material, insects that also feed on the dead wood, and earthworms.

Minibeast Spotting

Keep your eyes open!

Which minibeasts have you seen? (tick the circles)



ladybird



butterfly



spider



beetle



ant



fly



worm



wasp



dragonfly



bee



slug



snail



newt



grasshopper



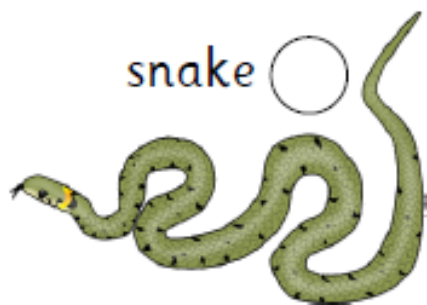
caterpillar



frog



snake



woodlouse



And Then ...

Bug Jokes

What did one cockroach say to the other? *You bug me!*

What do you get when you cross a bee and a cow? *A hamburger.*

What do you get when you cross a pig with a centipede? *Bacon and legs.*

What goes snap, crackle, fizz? *A firefly with a short circuit.*

What creature is smarter than a talking parrot? *A spelling bee!.*

What's the biggest ant in the world? *Ant-arctica!*

Add the Badge to Your Journey

Your Leadership Journeys invite you to think globally – there's a big world out there! Ask a Girl Scout adult to help you find out about butterflies or other bugs in another country in the world. Then, add something about them to your craft project.

Now that I've earned this badge, I can give service by:

Hanging my bug poster in my classroom to teach others about bugs

Helping Daisies make butterflies to decorate a Daisy flower garden

Taking my family on a bug hike and sharing what I know about different bugs

I'm inspired to:

Bug Swaps



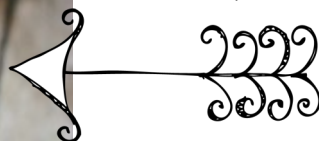
Caterpillar on Leaf



Beaded Wire Dragonflies



Bottle Cap Beetles







PLANT THESE

HERBS



LAVENDER



CATMINT



SAGE



CILANTRO



THYME



FENNEL



BORAGE

PERENNIALS



CROCUS



BUTTERCUP



ASTER



HOLLYHOCKS



ANEMONE



SNOWDROPS



GERANIUM

ANNUALS



CALENDULA



SWEET ASYLUM



POPPY



SUNFLOWER



ZINNIA



CLEOME



HELIOTROPE



TO HELP SAVE BEES

Some people think nature is “out there”, in a national park or other designated wilderness area. But bees, our most important pollinators, love to live in urban settings where there are short flight paths, and a variety of different plants and flowers to sample. In fact, bees are more likely to thrive in your backyard, community or patio garden, and on mixed farms than on acres devoted to single crops.

Create a welcome place for bees

Creating hospitable homes for beneficial insects in your garden means they are less likely to move into your house. You'll triple the yield of fruit and veggies in your garden – no more lumpy strawberries or shrunken squash! Even what seems like a small contribution – just a tiny flower pot or patch – can provide valuable pollinator habitat.

Attract bees to your backyard or garden

Build a bee house: House walls: an empty milk carton (waterproof) with the spout cut off – leave the bottom intact – or a box about that size made of wood scraps (not cedar). Paint house a bright color with exterior zero- or low-VOC (volatile organic compounds) paint. At first, the bees will fly around taking mental “snapshots” of their potential new home, but they'll soon learn to make a bee-line to their new abode. If you plan to make more than one bee house, be sure they're different colors. Fill the box with layered stacks of brown paper nest tubes, which you can buy at a garden store. Cut the tubes to six inches long, closing the end with tape or a staple, or fold them in half. Commercial nest tubes are 5/16 of an inch in diameter, the exact size of a pencil. Make your own by rolling a piece of brown paper around a pencil, then pinch off the end and seal it with tape. Hang the house somewhere out of the rain, facing south or east, at eye level, once the temperature outside has warmed to 54-57° F. Dig down below your garden soil adjacent to your bee house until you expose the clay layer, or keep a bowl of moist clay near your bee house for the masons to use as construction material. It may take a full season for the bees to find your house. If you don't have any luck attracting locals, you can also purchase mason bees from a garden store or local bee keeper.

Provide nutritious bee food

Bees eat two things: nectar (loaded with sugar, it's a bee's main source of energy) and pollen (which provides proteins and fats). Choose a variety of plants that flower at different times so there's always a snack available for when bees are out and about. (Rule: native plants attract native bees and exotic plants attract honeybees.) Flowers bred to please the human eye (for things like size and complexity) are sometimes sterile and of little use to pollinators. **Native plants or heirloom varieties are best.** Bees have good color vision – that's why flowers are so showy! They especially like blue, purple, violet, white and yellow. Plant flowers of a single species in clumps about four feet in diameter instead of in scatterings so bees are more likely to find them. Bee species all have different tongue lengths – adaptations to different flowers, so a variety of flower shapes will benefit a diversity of bees.

Make a bee bath

Bees and other beneficial insects – ladybugs, butterflies, and predatory wasps – all need fresh water to drink but most can't land in a conventional bird bath without crashing. Line a shallow bowl or plate with rocks. Add water, but leave the rocks as dry islands to serve as landing pads. Place the bath at the ground level in your garden. (Put it near “problem plants” – those that get aphids, for example – and the beneficial insects that come to drink will look after them.) Refresh the water daily, adding just enough to evaporate by day's end.

Bee Friendly Plants for Oregon Gardens

To help bees and other pollinator insects you should provide a range of plants that will offer a succession of flowers, and thus pollen and nectar, through the whole growing season. Even a small area planted with the right flowers will be beneficial, because each patch will add to the mosaic of habitat available to bees and other pollinators. Below are two good starting lists of good bee plants, the first of native plants and the second of garden plants. Among the things that you should consider:

- Use local native plants. Research suggests native plants are four times more attractive to native bees than exotic flowers. In gardens, heirloom varieties of herbs and perennials can also provide good foraging.
- Choose several colors of flowers. Flower colors that particularly attract bees are blue, purple, violet, white and yellow.
- Plant flowers in clumps. Flowers clustered into clump of one species will attract more pollinators than individual plants scattered through the habitat patch. Where space allows, make the clumps four feet or more in diameter.
- Include flowers of different shapes. Bees are all different sizes, have different tongue lengths, and will feed on different shaped flowers. Have a diversity of plants flowering all season. By having several plant species flowering at once, and a sequence of plants flowering through spring, summer and fall, you can support a range of bees species that fly at different times of the season.

Native Plants

Aster 'Lady in Black'
Balsamroot
Bee Balm
Bitter Cherry
Blanketflower
Blueblossom
California poppy
Cascara
Ceanothus, buckbrush
Clarkia
Currant
Douglas Spirea
Fireweed
Goldenrod
Gumplant
Huckleberry
Lupine
Milkweed
Ninebark
Oceanspray
Oregon grape
Oregon Iris
Oregon Tea Tree
Pacific Rhododendron (western azalea)
Pacific Yew
Penstemon
Phacelia
Rabbitbrush
Rose

Salal
Scouler's Willow
Serviceberry
Snowberry
Sunflower
Vine Maple
Western Crabapple
Willow

Garden Plants

Bachelor Button
Basil
Bee Balm
Black Eyed Susan
Borage
Catmint
Catnip
English Lavender
Giant Hyssop
Hardy Sages
Marjoram
Mexican Sunflower
Mint
Purple Coneflower
Rosemary
White Blazing Star
Zinnia

Create a Butterfly Garden

With careful planning, home gardeners can create an inviting habitat that will allow butterflies to flourish. The first thing to do is select a warm, sunny spot for the butterfly garden. Butterflies are cold-blooded and need sunshine to warm their bodies," she explained. "Locate your garden near a wall, a fence, or even some evergreens so when they come to visit, they are not fighting a strong or chilling wind. This will help them to conserve energy. In order to help butterflies stay warm, include a resting spot that heats up, such as dark-colored rocks or boulders. They should be placed where sunlight heats them up early in the morning and/or late afternoon.

Nectar Plants that Attract Butterflies

Annuals

Ageratum
Camas
Cosmos
Heliotrope
Henderson's Checker Mallow
Lantana
Mexican Sunflower
Flowering Tobacco
Oregon Sunshine
Pentas
Petunia
Statice
Verbena
Yarrow
Zinnia

Perennials

Allium
Chives
Forget-me-not

Bee Balm
Black-Eyed Susan
Butterfly Weed
Catmint
Coreopsis
Lavendar
Liatris (Blazing Star, Gay-Feather)
Lily
Mint
Phlox
Purple Coneflower
Red Valerian
Sunflower
Veronica
Yarrow

Aster
Globe Thistle
Goldenrod
Joe-Pye Weed
Obedient Plant
Sedum
Sneezeweed

When butterflies lay eggs, each species tends to be quite specific in which plant that it chooses in order to provide food for the caterpillar when it emerges.

Painted Lady—Yarrow, Mugwort, Pearly Everlasting. Western Tiger Swallowtail — Bigleaf Maple, Scouler's Willow. Monarch — Showy Milkweed. Orange Sulphur, Silvery Blue — American Vetch. Lorquin's Admiral — Oceanspray, Scouler's Willow. Sara Orange Tip, Western White — American Winter Cress. Various Fritillary — Early Blue Violet., Stream Violet

To attract as many adults as possible, plant large groups of flowers. Include plants that bloom throughout the growing season so butterflies have a choice from spring to fall. Also masses of flowers tend to attract more visitors than small plantings.