

girl scouts  
of california's  
central coast



# protecting pollinators

and the environment

Project Pollinate  
Patch Program

discover

connect

take  
action

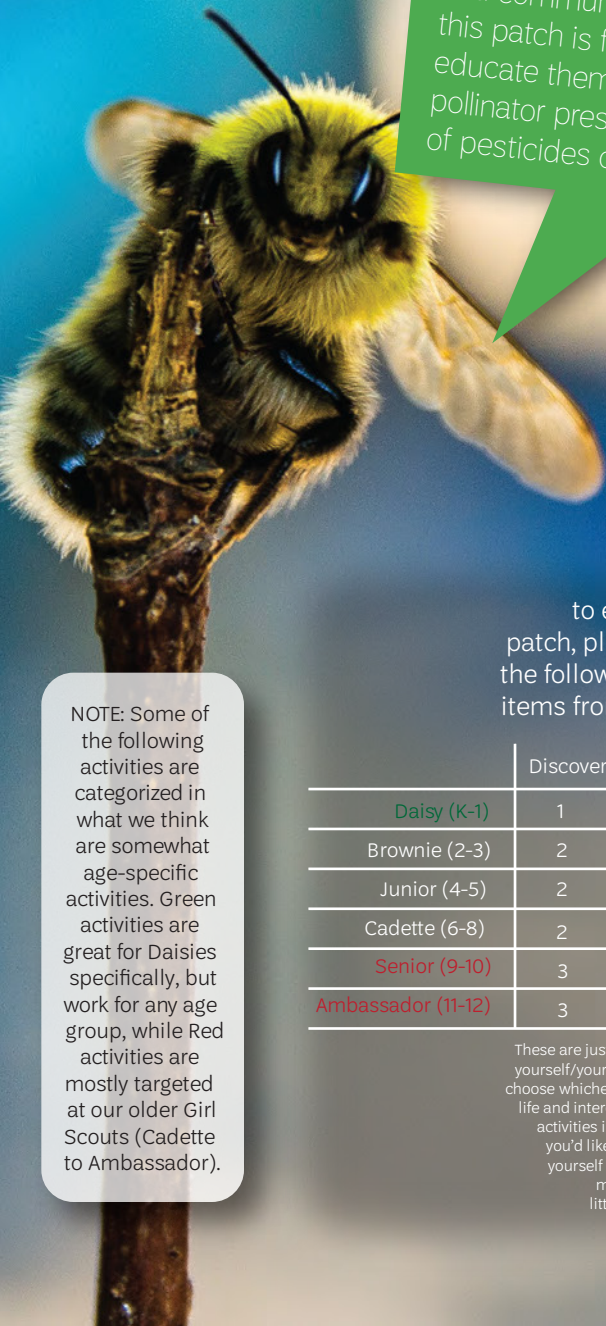
learn more at  
[www.projectpollinate.org](http://www.projectpollinate.org)



California is known around the world for its incredible biodiversity, but our ecosystem is in danger. With booming pesticide use, habitat destruction and pollution created by humans we must stand up for each other's safety and the creatures that don't have a voice.

The goal of the Project Pollinate Patch Program is to educate and inspire the Girl Scouts of the central coast about pollinators. By learning both about our biodiverse ecosystems and human impact on the environment, we can begin to make choices that protect pollinators.

The patch gives all Girl Scouts the opportunity to observe and track local pollinators in their community. Younger scouts will learn about bee and flower anatomy as well as how plants are pollinated, while older scouts will get to interview school administrators and county employees about pesticide use. All scouts will be encouraged to keep a food journal for one week to discover how much of what they eat is owed to pollinators. Scouts are encouraged to also note what percentage of this food is organic versus conventional and what impact that has on the environment.



Several activities for this patch can be done without adult supervision or guidance. A couple require assistance from troop leaders or parents/guardians. These are the ones that require school and community outreach. The goal of this patch is for scouts to be able to educate themselves and others about pollinator preservation and the impact of pesticides on our environment.

to earn this patch, please complete the following number of items from each section

NOTE: Some of the following activities are categorized in what we think are somewhat age-specific activities. Green activities are great for Daisies specifically, but work for any age group, while Red activities are mostly targeted at our older Girl Scouts (Cadette to Ambassador).

	Discover	Connect	Take Action	Create
Daisy (K-1)	1	1	1	1
Brownie (2-3)	2	1	1	2
Junior (4-5)	2	2	1	2
Cadette (6-8)	2	2	2	2
Senior (9-10)	3	2	2	2
Ambassador (11-12)	3	3	2	3

These are just suggestions! You know yourself/your troop best and you can choose whichever activities best fit your life and interests. Feel free to do the activities in any color category you'd like and also challenge yourself with activities that may require a little more work!

# Who Are Our Pollinators?

Pollinators come in many shapes and sizes. Here's a list of some of the more abundant pollinators in your community to look out for:

- Bees  
(honeybees, native bees and bumblebees)
- Butterflies
- Moths
- Beetles
- Bats
- Hummingbirds

When doing these activities:

Keep in mind the wide variety of pollinators in your community! If you'd like to know more about these pollinators or the many other pollinators that exist, do your own research by searching on the internet or going to the library.



A person's hands are shown holding black binoculars to their eyes, looking towards the left. The background is a soft-focus green, suggesting an outdoor setting with foliage.

# discover

## option #1

Do at least a one week (7 day) survey of the pollinators around your neighborhood. You may choose to fill out the Project Pollinate Pollinator Count Packet and keep track of specific pollinator sightings.

## option #2

You can draw/ paint a picture of your daily pollinator observations making sure to log/ draw the correct amount of all the pollinators you've observed for that day. Pick your favorite patch of flowers in your neighborhood and visit it every day for a week. When you observe it, take note of how many pollinators you see touch the flower(s). When you've observed the flowers for at least 10 minutes, take time to draw out what you've seen that day. By the end of the week, you'll have 7 inspiring works of art to remind you of the cool pollinators in your neighborhood! (This is recommended for the younger Girl Scouts)

## materials

Pollinator Count Packet

Flower Parts Diagram

REMEMBER: Bees, wasps, flies, butterflies, moths, beetles, birds and bats ALL help plants reproduce by carrying pollen from one flower to another.

discover pollinator critter count



discover

online  
resources

Flowers Seeking Pollinators-  
Cal Academy of Sciences

Protecting Our Pollinators - USDA

12 Entertaining 'Bee-haviors' of Native Bees

California's Native Insect Pollinators  
Bees, Native Plants and Crop Pollination

Biotic Pollinator Communities and Food Selection

Podcast: How to Protect Pollinators

Things Kids can do to help Pollinators

Multiple Kid Friendly Bee Resources

Project Pollinate's FUN FACTS SHEET

Learn about your local pollinators and their native habitats online and through printed materials.

Use your FUN FACTS SHEET to take notes!

discover

local pollinators

# discover

option #1

Draw the anatomy of a honey bee with labeled parts.

option #2

Draw the anatomy of a flower with labeled parts.

## online resources

[How to Identify Body Parts of Honey Bees](#)

[Anatomy of a Flower](#)

[Cross-Pollination](#)

option #2

Draw a picture/diagram of cross-pollination

discover

# anatomy lessons

A person is sitting on a bed covered with a grey blanket, surrounded by several books. They are holding a red book in front of their face. The books are scattered around them, some open and some closed. One open book on the left shows a colorful illustration of a landscape with trees and a path. Another open book on the right shows a page with text and a small illustration of a butterfly. The overall scene is cozy and suggests a quiet reading time.

discover

Investigate what are some of the dangers facing pollinators and find out what causes Colony Collapse Disorder (CCD). Write a one page summary of your findings.

use the supporting links to support your research

supporting links

[Bee Colony Collapse Disorder](#)

[Colony Collapse: 10 Years Later](#)

discover

colony collapse





discover

## supporting links

[A List of the Foods We Eat That Requires Pollination](#)

[Organic Farming Practices - Reducing Harm to Pollinators from Farming](#)

[Organic Farming - A Boon for Environmental Sustainability](#)

[How To Eat Organic on a Budget](#)

[List of California CSA Farms](#)

[Organic Meal Recipes for Kids](#)

[Organic Treat/Snack Recipes](#)

Examine the food around your house and identify what is labeled organic- tally up what produce in your home is organic versus conventional. Feel free to use the links below to learn more. \*DID YOU KNOW: Research shows that 30% or about every 1 in 3 bites of food that we eat needs pollination?

discover

organic food finder

## supporting links

[Project Pollinate Daily Food Log](#)

[Pollination 101](#)

[Wind Pollination](#)



# discover

Keep a log of the food you eat at dinner each night for one week. Talk with your family over dinner to discover which foods we owe to insect pollination. For example, corn is wind pollinated, so if you're eating tacos, the tortilla would not fall into the "insect pollinated" category, but if you're eating salsa with your tacos, the tomatoes, onions, etc. would fall into the "insect pollinated" category.

discover from pollinators to plate

A person with long blonde hair, wearing a dark jacket, blue jeans, and a brown backpack, is captured mid-jump in the air. They are pointing their right hand towards the sky. The background is a bright, overcast sky with some blurred green foliage on the right side.

connect

Contact one of the organizations on the following page or another similar local group. Arrange either a field trip or an assembly with them so your troop can learn more about their work supporting pollinators.

connect

field trip time

# connect

Project Pollinate Hive at the Homeless Garden Project - Santa Cruz

Santa Cruz Bee Company

Santa Cruz Beekeepers Guild

Natural Bridges Monarch Sanctuary - Santa Cruz

UCSC Farm - Santa Cruz

UCSC Arboretum - Santa Cruz

Santa Cruz Museum of Natural History - Santa Cruz

Live Earth Farms - Pajaro Valley

Gilroy Beekeepers Association - Gilroy

Beekeeper Tom Hughes of Seaside - Seaside

SLO Honey Co - SLO

Monterey Bay Beekeepers - Monterey Bay

Lompoc Valley Beekeepers Association - Santa Maria/Lompoc Valley

Santa Barbara Beekeepers Association - Santa Barbara

Santa Barbara Bee Company- Santa Barbara/Goleta

Ventura County Beekeeping Club - Ventura

Ventura County Fish and Wildlife office, Schoolyard Habitat Program

connect

field trip time

connect

Find out how  
you can help!

The Xerces Society has tons of projects that allow you to help the conservation of invertebrates (like bees, dragonflies or butterflies).

Choose one Xerces Society's citizen science Initiatives to participate in and Write a short (half to full page) summary of which initiative you chose (and why) and what it involved.



connect

conservation project

A close-up photograph of a hand giving a thumbs up gesture. The hand is positioned on the right side of the frame, with the thumb pointing upwards. The background is a clear, bright blue sky. The hand appears to be wearing a watch with a dark strap and a light-colored face, visible at the bottom right edge.

connect

Work with your parents/ guardians to catalog the pesticides you use around your house. Are there non-toxic alternatives you could be using instead? Talk to your parents about switching to natural products that are more sustainable and eco-friendly. There are tons of online resources about safer alternatives to pesticides.

connect

safe swaps



# connect

## Get to Know Your School:

With the help of your parents or troop leaders, schedule a meeting with your school administrators to find out what pesticides are used on school grounds. If pesticides are being used, work with your troop to start a campaign to implement an IPM program for non-toxic school grounds. This could look like a fundraiser to purchase non-toxic herbicide alternatives.

Include that information on your INFO-REPORT SHEET.

\*Project Pollinate is happy to work with you and your school to develop an education campaign for students (or church members, community members etc.) on pollinator protection.

connect

get to know your school

A close-up photograph of a person's hands holding a yellow and black butterfly-shaped flower in a metal bucket. The person is wearing a blue and white patterned sweater. The flower has a bright yellow base with large, dark brown or black markings on its petals, resembling a butterfly. The bucket is filled with green foliage and other similar flowers.

take  
action

Resources:

[Beginners Guide to Organic Gardening](#)

[Attracting Pollinators to Your Garden](#)

[Native California Plants](#)

Plant an organic, native pollinator  
garden at your house.

take  
action

green thumb



# take action

Create a video on how you are protecting pollinators  
and upload it to a social media platform  
(e.g. YouTube, Facebook, Twitter, Instagram)  
and use BOTH the hashtags  
#GSProtectsPollinators and #ProjectPollinateGS

take  
action


social butterfly



take  
action

As an individual or with your troop, make an appointment and visit/contact your local City or County Departments (e.g. Parks and Recreation, Water, Public Works). Request a meeting to interview them about what (if any) pesticides are used in your city. If your local City or County information is not listed on the next page, LOOK IT UP!

Keep a log of what you find out on your INFO-REPORT CARD so you can report what you find back to Project Pollinate!



Download your blank INFO-REPORT CARD

take  
action

interview your city

# take action

## Local Government Contact Resources:

City of Santa Cruz

City of Watsonville

City of Hollister

City of Monterey

City of San Luis Obispo

City of Santa Barbara

City of Ventura

City of Thousand Oaks



Download your blank  
INFO-REPORT CARD

If your local City or County information is not listed, look it up online!

take  
action

interview your city - resources



take  
action



Download your blank  
INFO-REPORT CARD

If you have identified that your City or County uses toxic pesticides, contact your local City Council or County Board of Supervisors to see if they are aware it is going on and if they know about the alternatives. Include that information on your INFO-REPORT CARD.

take  
action

investigate



take  
action

Make a mason bee  
house to place in your  
pollinator garden.  
Make a Mason  
Bee House



How to make a Mason Bee House

take  
action

bee house project



take  
action

Make an art project or flyer with information and facts about pollinators that you have learned by doing the other activities. Hand them out in your neighborhood and throughout your community.

take  
action

flying flyers



# take action

Host a Pollinator Workshop/ Class for a younger troop or even your parents/ guardians.

Take what you've learned while doing this program and find a fun and creative way to present this new information. You may create a poster, a Powerpoint Presentation, or any other presentation method that outlines the importance of pollinators in your community and the effect they have on our daily lives.

Use this opportunity to do more research into your favorite pollinators or find out more about any topic within pollination that you're interested in. Have fun showing off all that you've learned to your parents, guardians, or younger troops and explain why they should care more about pollinators!

take  
action

teach it