Welcoming Pollinators to your School Garden

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FARM TO SCHOOL BC WEBINAR SERIES

WELCOMING POLLINATORS TO YOUR SCHOOL GARDEN

TUESDAY, APRIL 27

3:30 - 4:30 pm

FARM to SCHOOL BC

Public Health Association of BC

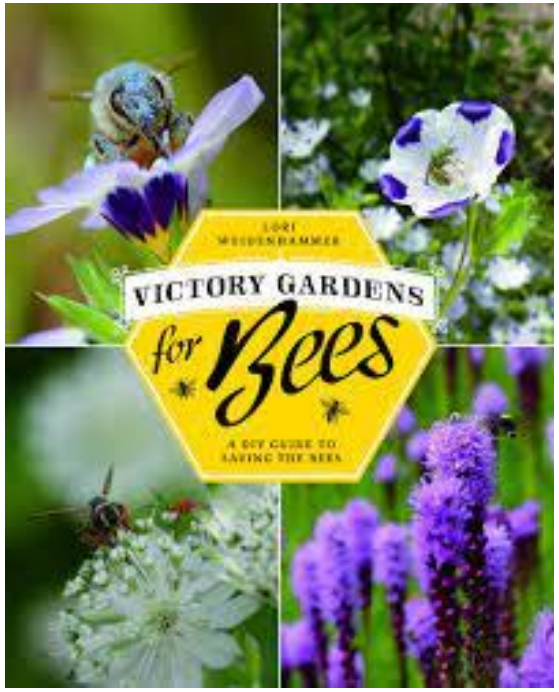
This program supported by the Province of British Columbia & the Provincial Health Services Authority

Introductions

Erin Champion

Northwest Regional Animator
Farm To School BC

I gratefully acknowledge I am coming to you from the unceded territory of the Haida Nation, and work with schools in unceded Wet'suwet'en, Gitxsan, Haisla, Nisga'a, and Tsimshian territory.



Lori Weidenhammer

Author
Victory Gardens For Bees

I gratefully acknowledge I am coming to you from the unceced territory of the Coast Salish peoples–Sḵwx̱wú7mesh (Squamish), Stó:lō and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh) and xʷməθkʷəy̓əm (Musqueam) Nations.

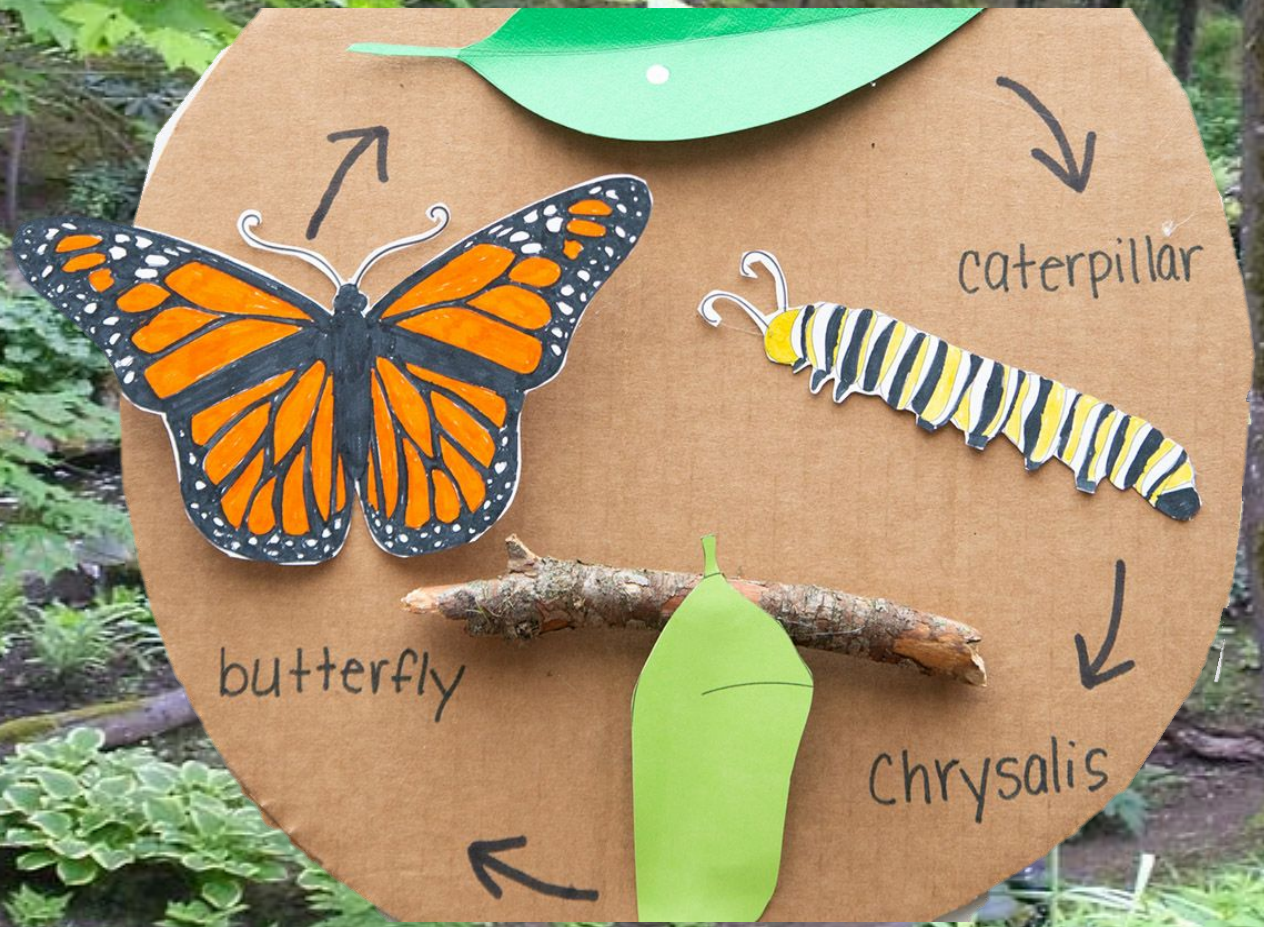
Pollinators

Bees vary greatly:

- Size
- Appearance
- Behavior
- Effectiveness as pollinators
- Floral choices
- Nesting sites

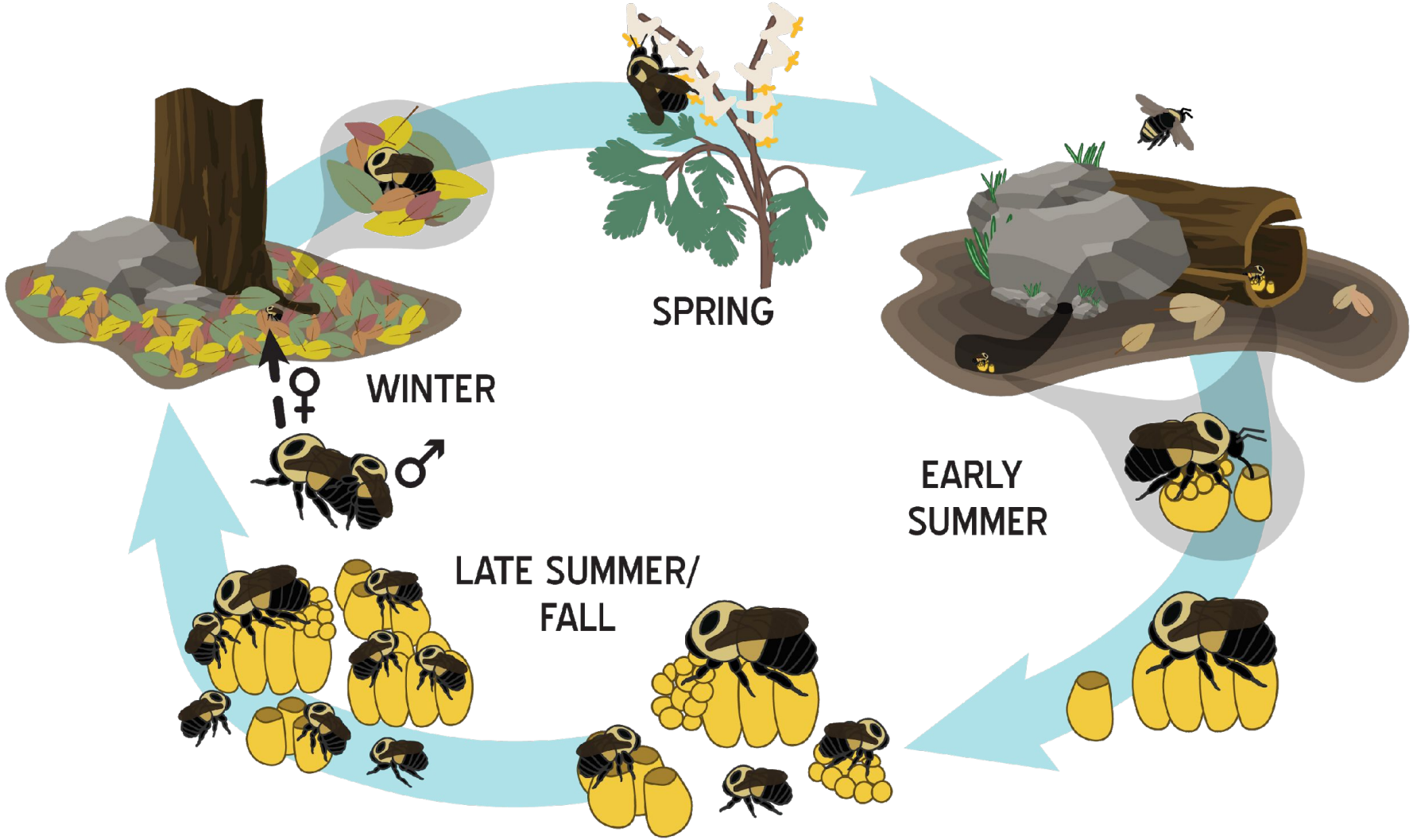
Oregon Bee Project

The Importance of Lifecycles



Building Ecological Integrity

- Gardens are alive all year
- Different Lifecycle stages need different garden elements



The Good News Butterfly

- Mysterious migration habitats:
  - spring/summer make their way north
  - fall/winter return to breed in warmer climates
- Need your help with pollinator corridors!
- David Suzuki Butterfly Project
- Global Citizen Science Project: http://www.butterflymigration.org/

Painted Lady (*Vanessa cardui*)

- Kindergarten and Grade 1 raise them in class
- Used in community ceremonies
- Good way to introduce the subject of pollinator stewardship
- Caterpillars need leaves
- Butterflies need flowers

Painted Lady Butterfly Life Cycle

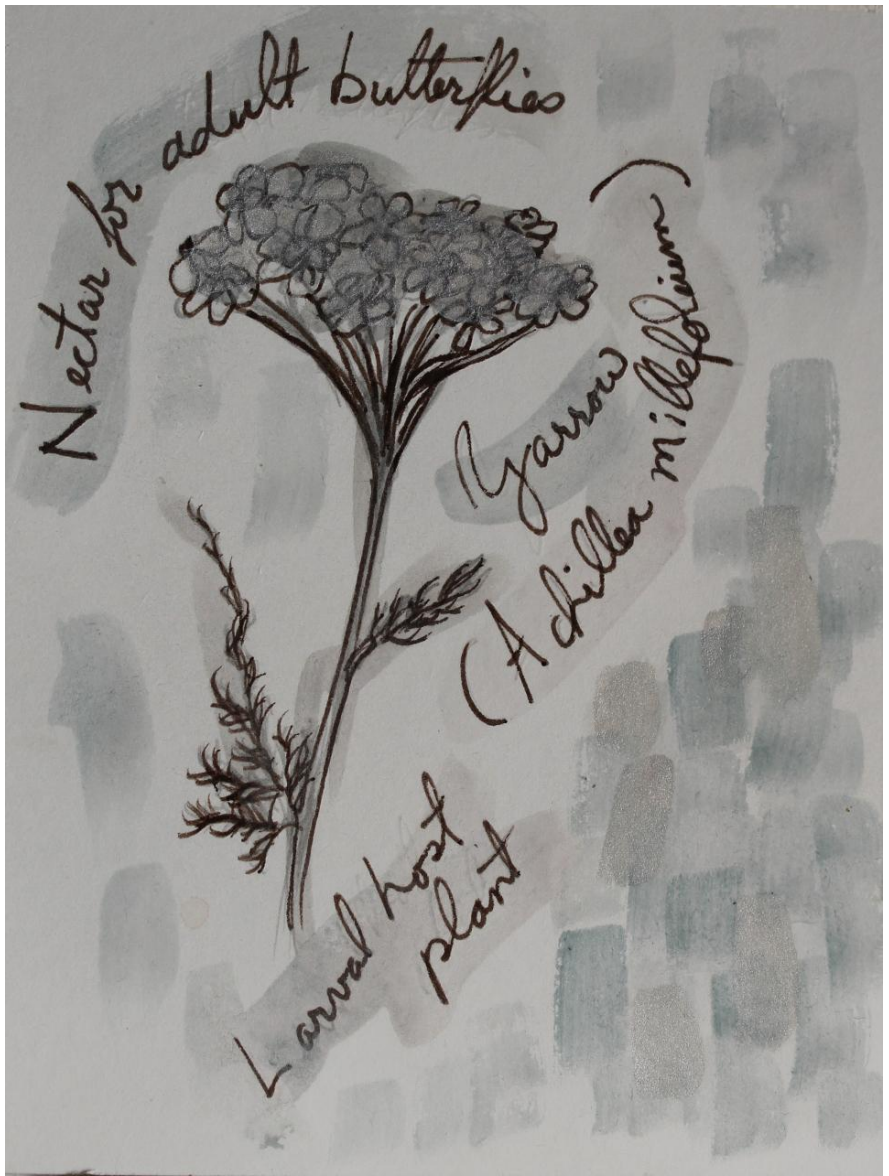
- Many butterflies are specialists
- Caterpillars have a limited number of food plants
- Painted Lady Butterflies are generalists

Larval and Caterpillar Stage

- Many gardeners aren't aware of what the butterflies look like in larval/caterpillar/chrysalis stages
- Important to teach people not to be too tidy with their gardens—a natural aesthetic
- Some butterflies and moths pupate in leaf litter

Larval Host Foods: choose native plants when possible

- Yarrow
- Can be naturalized into lawns
- Pearly Everlasting
- Nectar and larval food plants



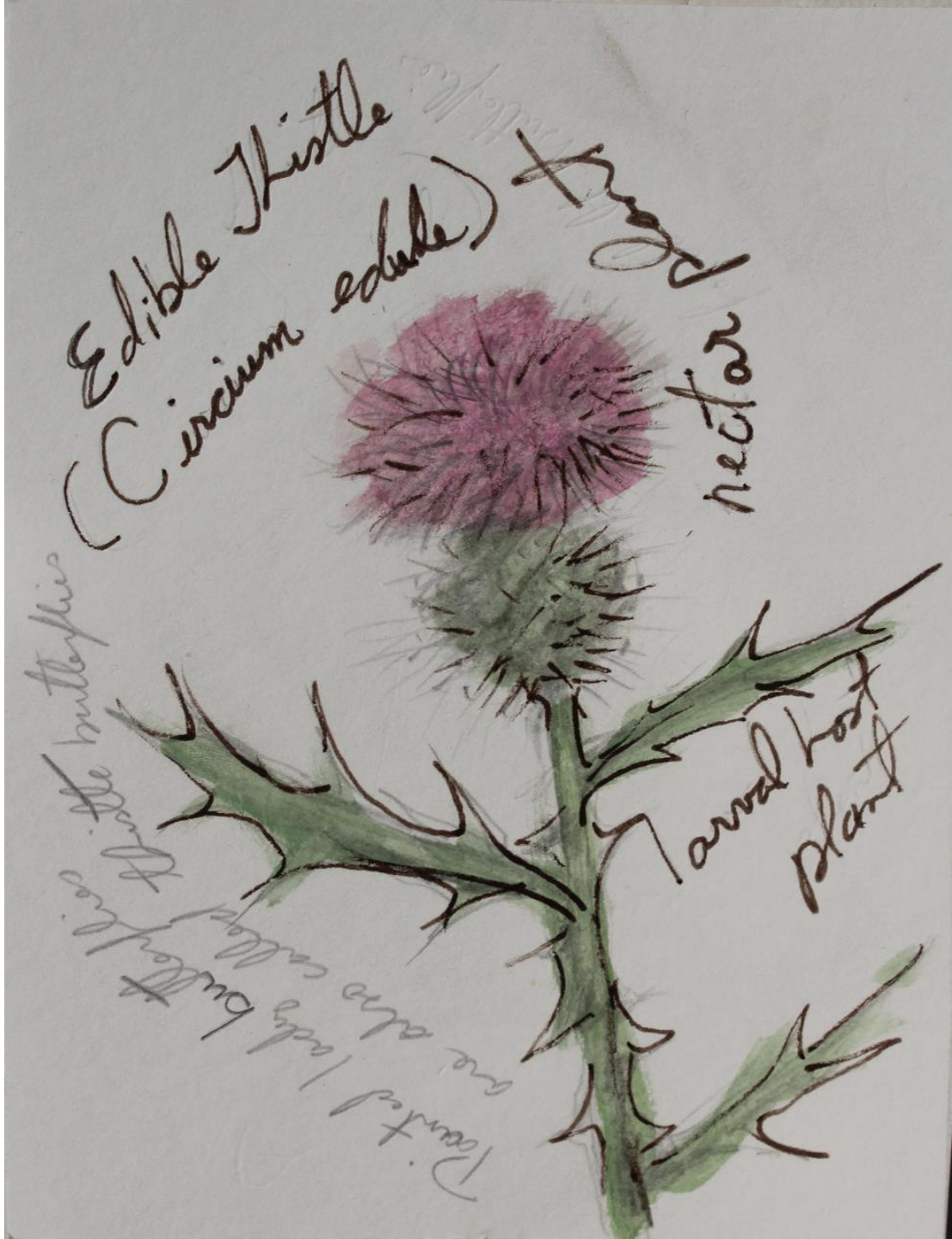
Try to find information from your bioregion or nearby

- Woolly sunflower
- Henderson's Checker mallow

Prickly Plants

Not all plants will be suitable for a school garden, but still provide opportunities for learning.

- Thorns, prickles and spines
- The thistle butterfly

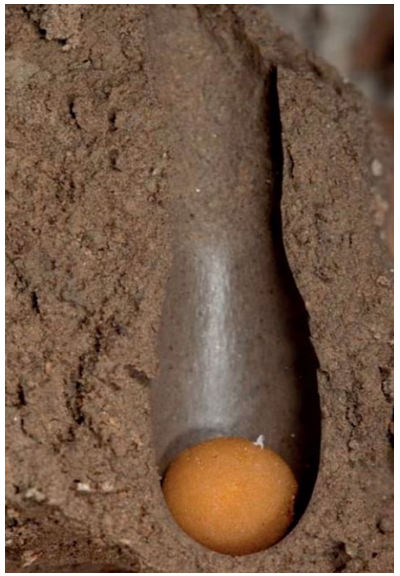


Nesting Habitat

- Plant Stems
- Bare soil
- Trees, including old stumps/holes drilled in logs
- Bumble Bees: rodent nests/bird houses/bee boxes
- Materials: wax, mud, resin, pebbles, petals and leaves

Soil Life

Ground-nesting bees!




The Great Sunflower Project

Debris Removal


Oregon Bee Project

Bioregions throughout the Province

Examples of bioregions:

- Garry Oak Ecosystem: Vancouver Island and Southern Gulf Islands
- South Okanagan Grasslands
- Lower Mainland: Urban-altered temperate rainforest

Look for the Pollinator Partnership Guide for your region
https://www.pollinator.org/guides-canada

Follow this project:
https://www.inaturalist.org/projects/nbsbc-bee-tracker

South Okanagan Grasslands

Wax Currant
Blooms in April

Arrowleaf Balsamroot
Spring

Rabbit Brush
Summer

Photo by Stan Shebs
% Wikimedia Commons

Garry Oak Ecosystem

- Blue Camas
- Great Camas
- Red-flowering currant
- Sea Blush

Planting Suggestions

- Choose plants from your bioregion when possible
- Support native nurseries
- Develop lesson plans around the life cycles and ethnobotanical history of your native plants

Garden Infrastructure

- Gardens come and go, but trees feed bees for years
- Also shrubs--layer underneath/beside
- Trees and shrubs provide a volume of nectar and pollen at crucial time in the life cycles of many bees, especially in spring
- Many ground nesting bees nest under trees and shrubs
- Many butterflies rely on trees for larval food and nectar

5 Native Trees to Consider

- Vine Maple
- Crab Apple
- Mountain Ash (*Sorbus*)
- Pin Cherry
- Ocean Spray (tall shrub)

Shrubs for Pollinators


Red Flower Currant
(Ribes sanguineum)

Oregon Grape
Mahonia spp.

Fantastic with Osoberry, Nootka rose, and red-flowering currant

- Over 30 spp Bees
- Over 5 spp Moths and Butterflies
- Over36 spp Birds

Nootka Rose

Designing a Pollinator Garden

- Choose plants from your bioregion when possible
- Right plant in the right place always
- 1 meter squared
- Continuous bloom e.i. from March 15 to October 15
- Hardy, tolerant to your climate i.e. drought tolerant in summer, wet feet in winter

Raised Beds and a Perennial Pollinator Border

Many advantages to having raised beds

You can put in top quality soil

Warmer, so plants get a head start

Great for kids to dig--have one place just for that purpose

Clearly defined boundaries

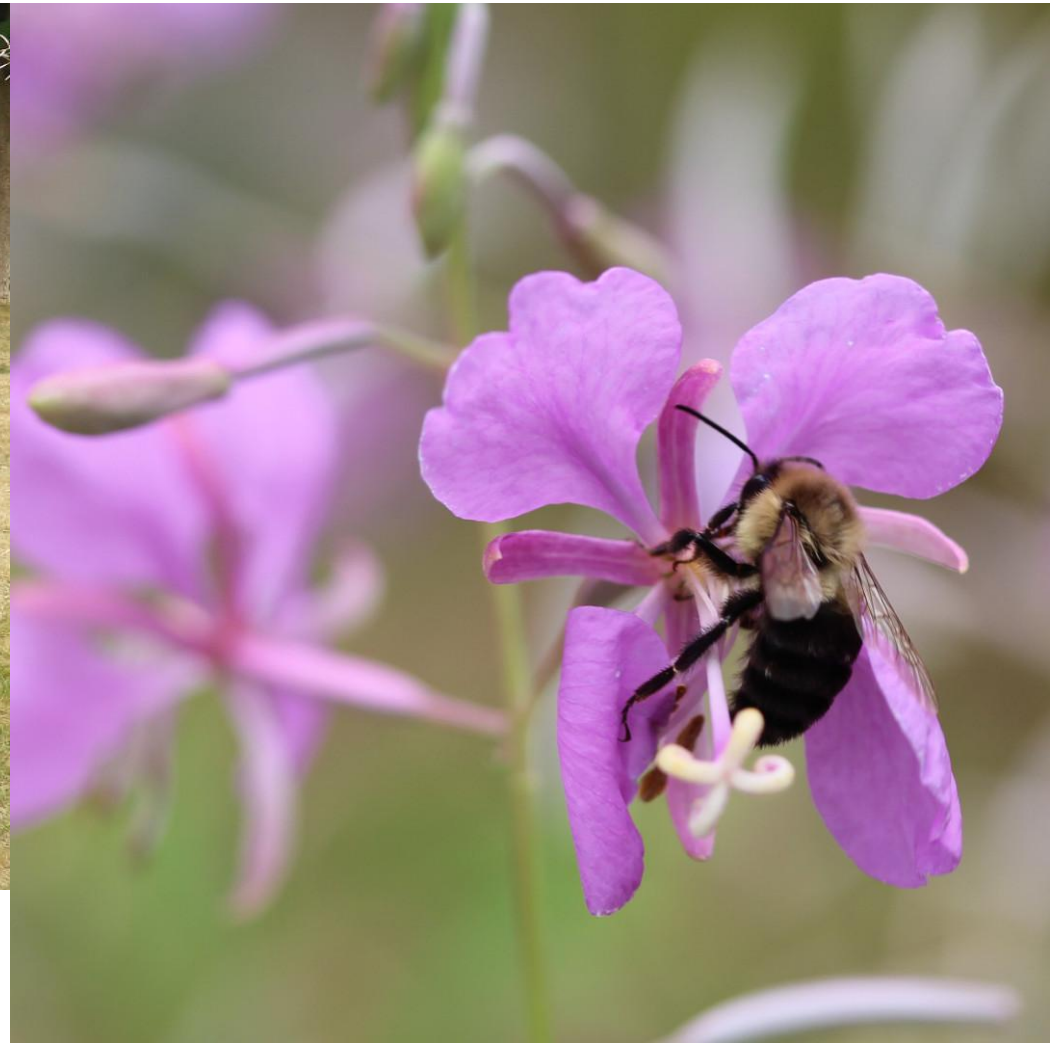
Choose a theme for each bed


Gibson town centre

Inside Raised Beds

- I like a combo of annuals and smaller perennials
- You can always move the perennials to the outside of the bed if they start to take up too much room

Project Green Block

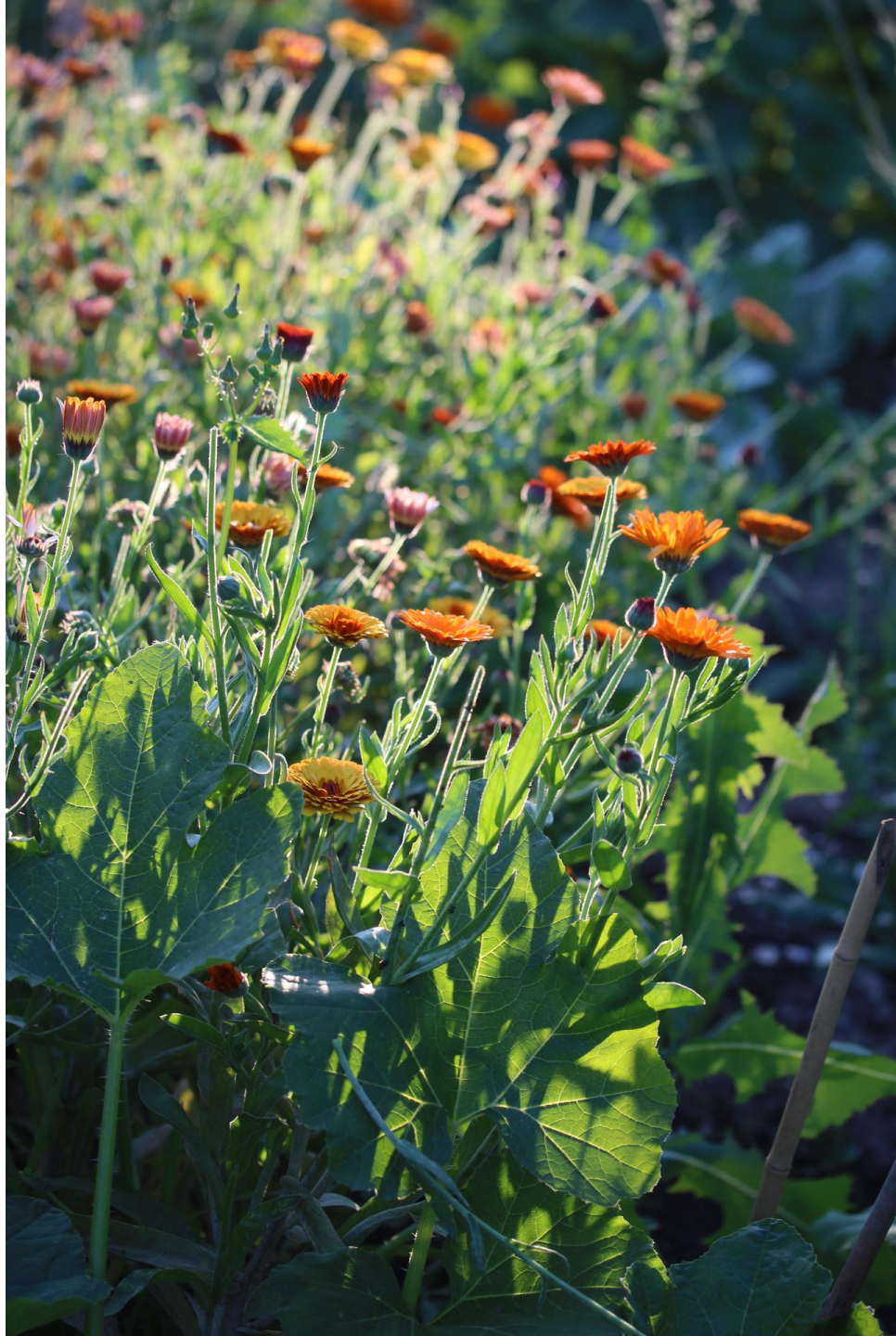



Beyond this seat,
a honey garden grows:
enjoy it with your eyes and nose.
But do not pick what you might see.
this garden is for everyone,
especially the bees.


Pollinator Pathway
Our flowers, fruit and food plants rely on bees and other bugs and birds to pollinate them.
Due to pesticides and habitat loss, bees are in decline.
To support a healthy bee population, Project Green Bloc has built this Pollinator Pathway—a collection of planters with variety of pollinator-friendly flowers.

Calendula officinalis

- One of the easiest plants to grow from seed
- Long-blooming—almost overwintered here this year
- Deadhead the flowers and use in salads or to make skin salves
- Repels asparagus beetles and pesky soil nematodes



Edible Flowers

Borage (Bee porridge)

Borago officinalis

- Pumps out nectar every few minutes
- Flowers and leaves are edible
- Self-seeding

Cosmos

Cosmos

- Easy annual to grow from seed
- Sow in intervals
- Avoid doubles
- Attract many other beneficial insects
- Works well with vegetables, other herbs and many other great pollinator flowers: carrot, verbena, coreopsis, agastache, cilantro, leadwort (*Plumbago*) etc.

Zinnias

More annuals

- Scarlet Runner Beans
- Sunflowers

Weeds and the Lacy Aesthetic:
Work with school grounds keepers to save the dandelions

Examples of Hardy Perennials

Early: Heather, Violets, Lupins, Strawberries, Siberian Miner's Lettuce, forget-me-nots, camas

Mid: Yarrow, Pearly Everlasting, Nodding Onion, Bee Balm (*Monarda*)

Late (Asters): Brown-eyed Susans, Gumweed, Echinacea, Sneezeweed

Native Perennial Bunch Grasses

Photo credit: Saanich Native Plants

- Roemer's Fescue
- June grass
- Tufted Hair Grass
- California Oat Grass

➔ Larval food for butterflies

➔ Work well with wildflowers

➔ Drought tolerant

➔ Basking sites

➔ Bare soil for ground nesting bees

Garden Plan Example

Create an adventure zone!

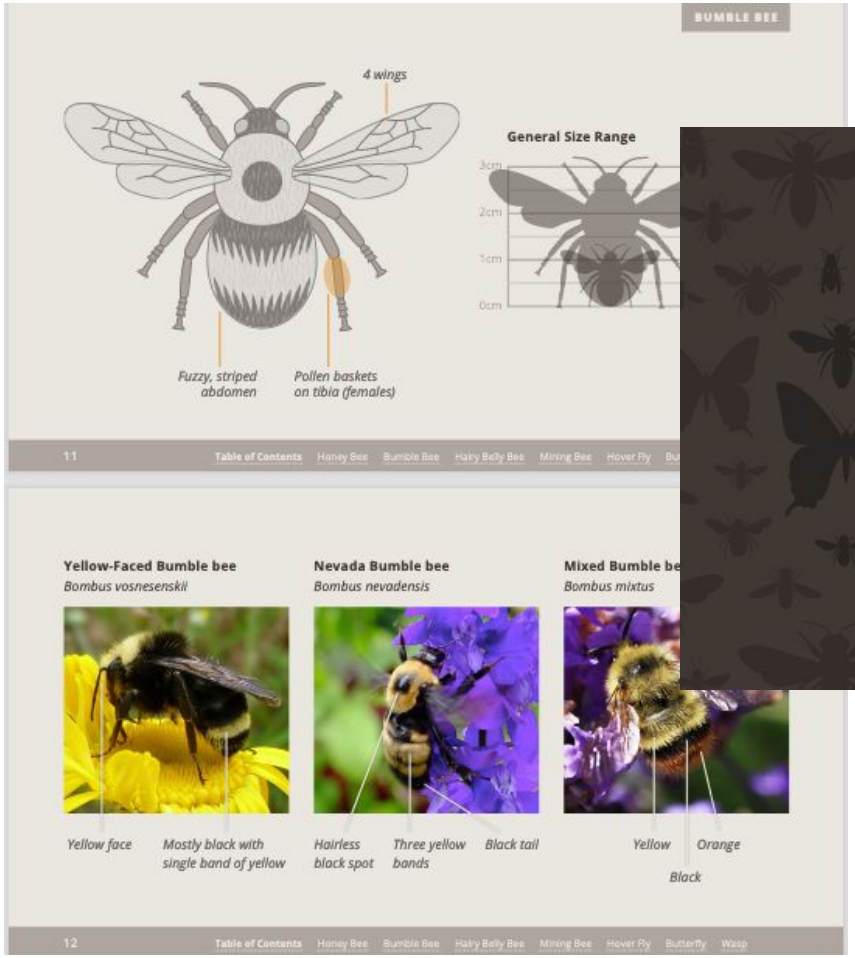
Activate imaginations!

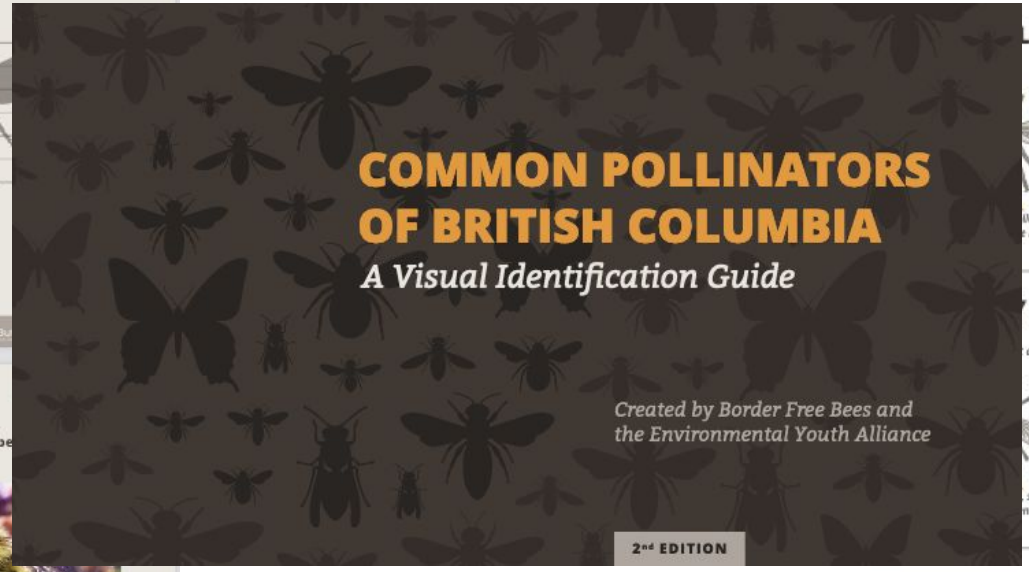
Stimulate curiosity!

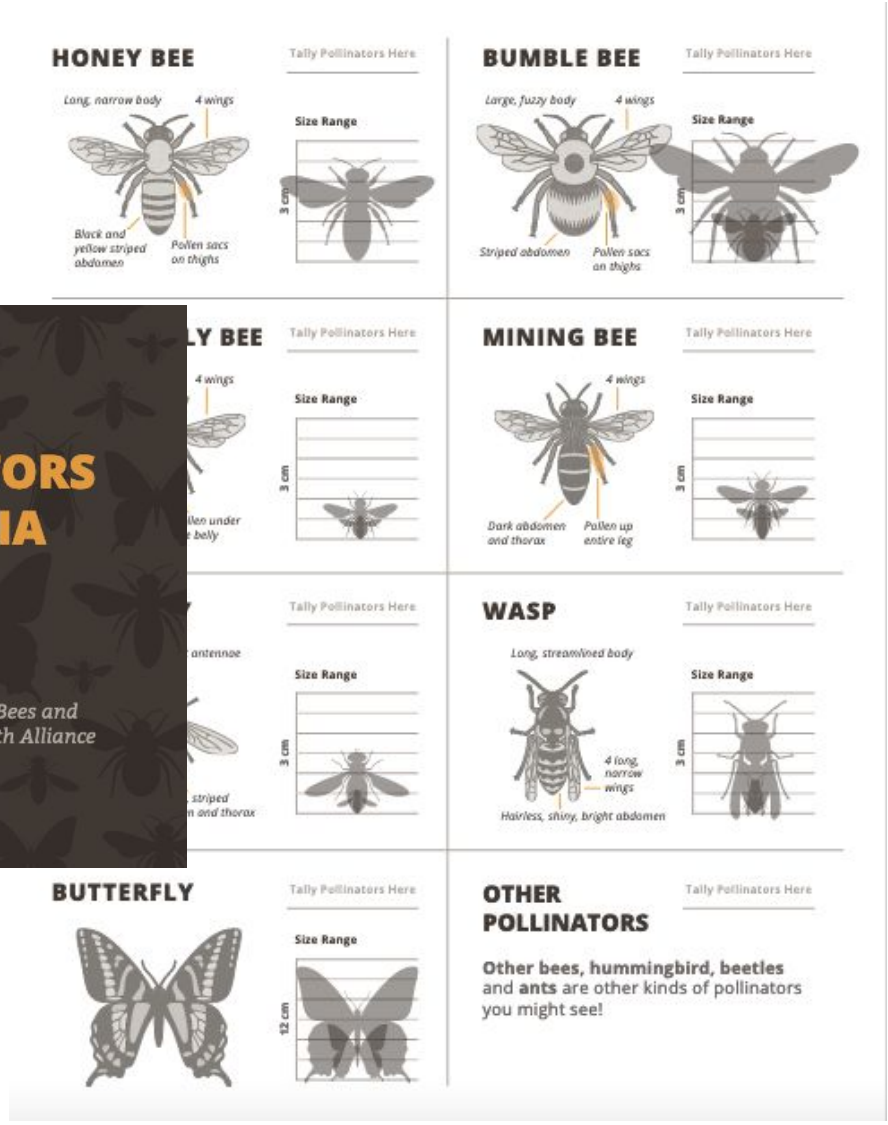
Photo c/o Coquitlam Inspiration Garden

Community Science – study local pollinators

borderfreebees.com







Community Science

Pollinator Partnership - pollinator.org/learning-center/education

POLLINATOR PARTNERSHIP
Protect their lives. Preserve ours.

WHO WE ARE | WHY POLLINATORS | PROGRAMS | CONSULTING | RESOURCES | GET STUFF | JOIN US

Curriculum

- Nature's Partners: A Comprehensive Pollinator Curriculum for Grades 3-6 with educators guide from The Bee Cause Project
- NACD Pollinator Field Day Curriculum Guide
- Pollinator Partnership's Pollinator Gardening Curriculum
- The Great Pollinator Partnership lesson ideas
- Order Free Pollinator Posters and Educational Wheels for the Classroom by Visiting Here!
- National Academies Resources on Pollinators
- Pollinator Live - Find a series of live interactive webcasts, satellite field trips, and web seminars about pollinators, gardening, and conservation. PollinatorLIVE is geared to grades 4 to 8.
- Discovery Education Pollination Idea - Butterflies Lesson Plans
- Discovery Education Pollination Idea - Plant Pollination Lesson Plans
- Monarch Butterfly Conservation Talking Points
- Powerpoint Presentations for Teaching from Michigan State University - Attracting Beneficial Insects with Native Flowering Plants
- Sweet Virginia Hive Alive Lesson Plans
- Abuzz for Honey Bees - Day 1, Day 2
- Pennsylvania Game Commission - Seedlings for Schools
- BeeCause Curriculum: The Complete 6 Week Bee Unit + Teacher Guides

More Resources

ART
BEEKEEPING
BEE RESC
CORPORA
FARMING
GOLF COU
GARDENS

PRE/POST ASSESSMENT

1. Circle all of the animals below that ARE pollinators:

A. 

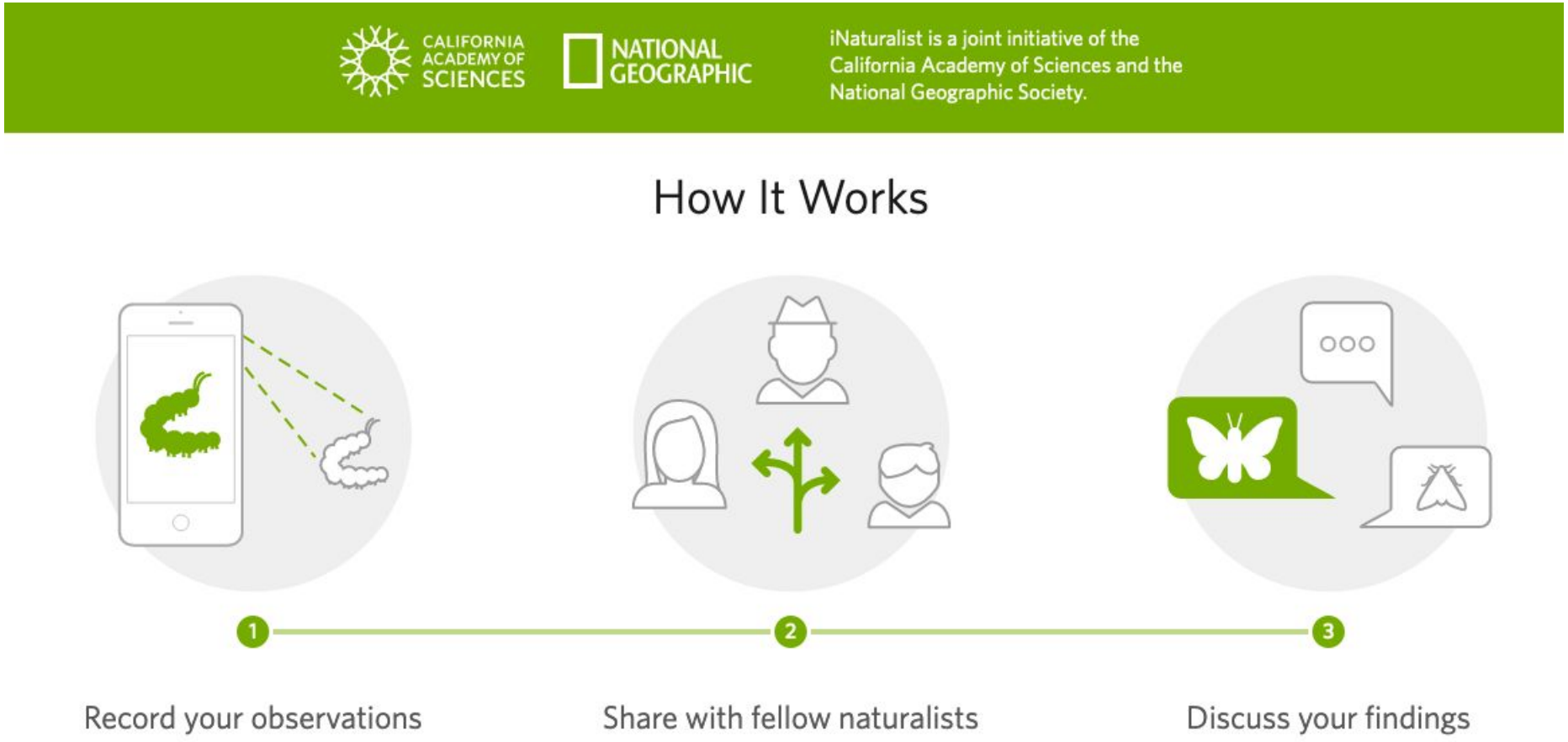
B. 

C. 

F. 

Community Science

inaturalist.org



Questions?

Thank you!

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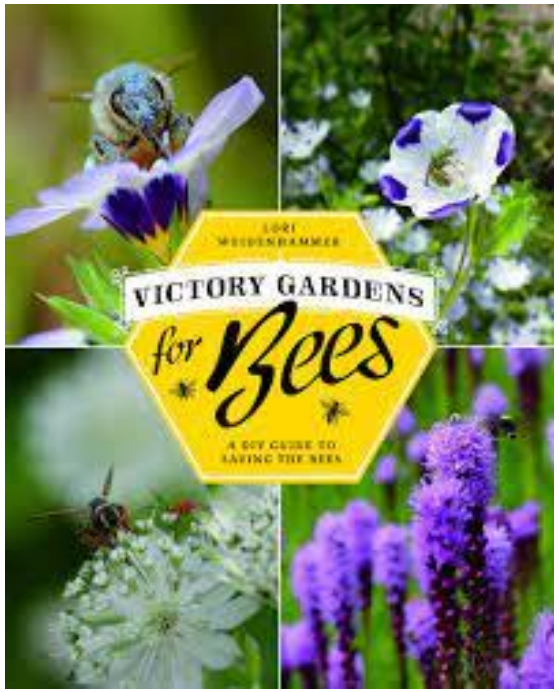

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