Pollinator Conservation

By _____

https://www.boundless.com/biology/textbooks/boundless-biology-textbook/evolution-and-the-origin-of-species-18/formation-of-new-species-125/reproductive-isolation-504-11730/
http://padena.org/wp-content/uploads/2015/04/Pollinator-slider1.jpg

Who are the pollinators?

Besides honey bees, name five other animal pollinators.

1. Honey bees

2._____

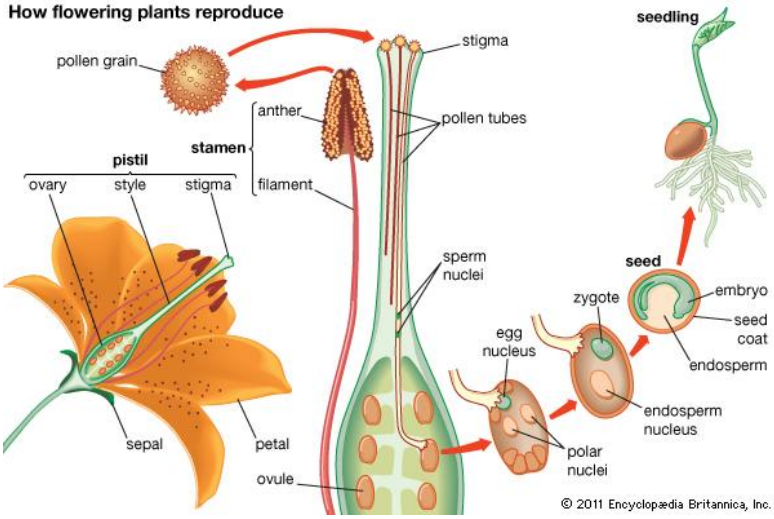
3._____

4._____

5._____

6._____

In cross-pollination, pollinators move pollen from the stamens of one flower to the pistil of another flower of the same species. This can lead to fertilization and the formation of seeds and fruits.



https://media1.britannica.com/eb-media/41/62941-004-E3F5377B.jpg

Why are pollinators important

…to plants?

_____

….to other wildlife?

_____

…to humans?

_____

In the box below, draw or write the name of your favorite fruit that pollinators make possible.

Pollinators need flowers* that bloom in Spring, Summer and Fall.

*Some pollinators only drink the nectar from flowers but others may use both nectar and pollen as food.

List two native plants that bloom in each of these seasons.

 Spring March-April-May	1. _____ 2. _____
 Summer June-July-August	1. _____ 2. _____
 Fall Sept-Oct-Nov	1. _____ 2. _____
 Winter Dec-Jan-Feb	Most pollinators are not active during the Winter months and do not need nectar or pollen sources.

http://image.shutterstock.com/z/stock-vector-maple-tree-isometric-trees-in-vector-four-seasons-series-108816008.jpg

Butterflies require specific host plants on which their caterpillars (larvae) feed.

For each of the butterflies listed, name <u>one</u> of its host plants.

Monarch *Danaus plexippus*			Swamp Milkweed *Asclepias incarnata*
Eastern Tiger Swallowtail *Papilio glaucus*			
Cloudless Sulphur *Phoebis sennae*			
Fiery Skipper *Hylephila phyleus*			
Eastern Tailed-Blue *Cupido comyntas*			
Gulf Fritillary *Agraulis vanillae*			

http://www.butterfliesandmoths.org/
http://bugguide.net/node/view/15740

Not all bees live in hives!

Some native bees make their nests in soil and…

https://www.pinterest.com/pin/565835140652797068/

others, in cavities or tunnels.

http://honeybeesuite.com/tag/mason-bees-2/

Name two types of native bees that are ground-nesters.

1._____

2._____

What is something that you can do to help create habitat for these ground-nesting bees?

_____

_____

Name two types of native bees that are tunnel-nesters.

1._____

2._____

What is something that you can do to help create habitat for these tunnel-nesting bees?

_____

_____

Become a Citizen Scientist!
Observe pollinators, record and report your data.

Observers: _____

Date: _____ **Start Time:** _____ am/pm **End Time:** _____am/pm

Pollinators observed: *Use tally marks to count numbers of each type.*

- ☐ Bumblebees _____
- ☐ Carpenter bees _____
- ☐ Western Honey bees _____
- ☐ Other bees (describe in notes) _____
- ☐ Unknown bees _____
- ☐ Birds _____
- ☐ Butterflies (or Moths) _____

Be sure to list each type of pollinator (beetle, wasp, fly, etc.) separately and count the number of times it visits the flower.

- ☐ Other _____
- ☐ Other _____
- ☐ I did not see any pollinators.

Names of plants on which pollinators were observed and the number of blooms on each type

Example: Blueberry	*30*
1.	
2.	
3.	

https://www.greatsunflower.org/

Weather conditions:

Temperature _____ ^{0}F/C Cloud cover: _____% Rain in past 24 hours: _____

Notes/ comments: _____

Planning your garden – think like a pollinator.

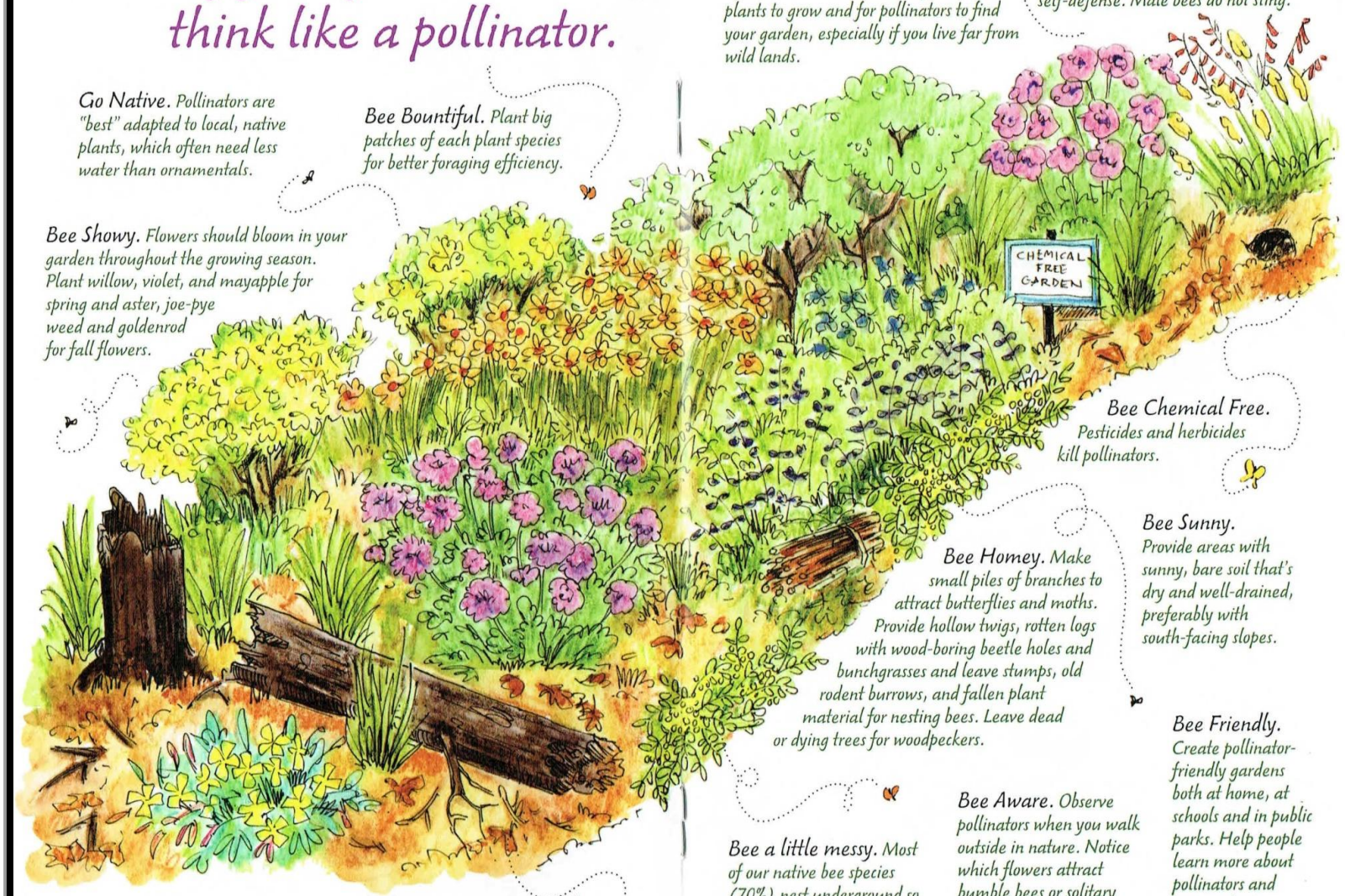
Go Native. *Pollinators are "best" adapted to local, native plants, which often need less water than ornamentals.*

Bee Bountiful. *Plant big patches of each plant species for better foraging efficiency.*

Bee Patient. *It takes time for native plants to grow and for pollinators to find your garden, especially if you live far from wild lands.*

Bee Gentle. *Most bees will avoid stinging and use that behavior only in self-defense. Male bees do not sting.*

Bee Showy. *Flowers should bloom in your garden throughout the growing season. Plant willow, violet, and mayapple for spring and aster, joe-pye weed and goldenrod for fall flowers.*



Bee Chemical Free. *Pesticides and herbicides kill pollinators.*

Bee Sunny. *Provide areas with sunny, bare soil that's dry and well-drained, preferably with south-facing slopes.*

Bee Homey. *Make small piles of branches to attract butterflies and moths. Provide hollow twigs, rotten logs with wood-boring beetle holes and bunchgrasses and leave stumps, old rodent burrows, and fallen plant material for nesting bees. Leave dead or dying trees for woodpeckers.*

Bee Friendly. *Create pollinator-friendly gardens both at home, at schools and in public parks. Help people learn more about pollinators and native plants.*

Bee Aware. *Observe pollinators when you walk outside in nature. Notice which flowers attract bumble bees or solitary bees, and which attract butterflies.*

Bee a little messy. *Most of our native bee species (70%) nest underground so avoid using weed cloth or heavy mulch.*

Bee Diverse. *Plant a diversity of flowering species with abundant pollen and nectar and specific plants for feeding butterfly and moth caterpillars.*

How will you design your Pollinator Habitat?

- ✓ Food
- ✓ Water
- ✓ Shelter
- ✓ Places to raise young

Sketch or list your ideas here.