



# Plant Science: Pollinators



Horticulture focuses on activities related to raising a garden or flowers. This includes planning, planting, experimenting, understanding soils, seeds, insects, plant care, harvesting, weed identification and control, processing, exploring careers and the relationship between trees, people, and communities.

You don't need a lot of space to start a pollinator garden. Even a few containers of flowers can attract hungry bees and butterflies. To succeed you must provide basic wildlife needs — food, water, shelter, and places to rear young.

## Inspire Kids to Do

### Skill Building

- Learn about pollinators and their impact on the environment.
- Plan, plant, and raise a pollinator garden.

### Goals

- Research different plant species that are beneficial to pollinators.
- Discuss the benefits of pollinators to the environment.
- Learn how to protect pollinators and provide resources for them.

### Project Ideas

- Create a container garden.
- Plant a butterfly garden.
- Hang planters around the area.
- Build a bee hotel.

### Starting Out

#### Learn About Pollinators

- Learn about native pollinators in my area. What are their habitat requirements?
- Select the pollinators that you want to attract.
- Discuss the pollinator garden budget with your parent or adult helper.

### Learning More

#### Learn About Pollinator Gardens

- Research pollinator-friendly plants that grow well in your area before you plan your design.
- Use the Plant Library from Dyck Arboretum to decide which plants are best for your area or ask your local K-State Research and Extension agent for a list.

### Expanding Horizons

#### Design Your Garden

- Once you have researched which plants you would like to use, it is time to put a design together.
- Select your location.
- Map out your garden plan.
- Plant your pollinator garden.

### Self-Evaluation Before

Using the rating scale below, answer the following:

- 1 = not at all
- 2 = a little
- 3 = a lot

#### I know how to...

- Identify a pollinator and how pollination works ..... 1 - 2 - 3
- Identify which plants are best to include in my garden ..... 1 - 2 - 3
- Plan a pollinator-friendly garden ..... 1 - 2 - 3

# Plant Science: Pollinators

Challenge Instructions	Helpful Tips	Leadership	Curriculum and Resources
<p><b>Lesson:</b> Planning a Pollinator Garden (page 3)</p> <p>Kansas Plant List: <a href="https://dyckarboretum.org/native-plants/#!/all">https://dyckarboretum.org/native-plants/#!/all</a></p> <p><b>Learn More:</b> Build a Bee Hotel — <a href="http://jmgkids.us/kids-zone/pollinator-hotel/">http://jmgkids.us/kids-zone/pollinator-hotel/</a></p> <p><b>When finished, please visit:</b> <a href="http://www.tinyurl.com/KS4HChallenge">www.tinyurl.com/KS4HChallenge</a> to tell us what you learned.</p>	<ul style="list-style-type: none"> <li>• Avoid using plants with red flowers as some pollinators cannot see red.</li> <li>• Choose fragrant plants with pleasant scents.</li> <li>• Choose a spot for a garden that receives at least 6 hours of sunlight every day.</li> <li>• Have some type of water feature near your garden.</li> <li>• Keep bird houses a safe distance away from your pollinator garden.</li> <li>• Choose plants that produce flowers through both spring and summer.</li> </ul>	<p><i>(Suggested for Intermediate and Advanced Levels.)</i></p> <ul style="list-style-type: none"> <li>• Teach the lesson to other 4-H members.</li> <li>• Teach the lesson to classmates or friends.</li> <li>• Invite friends and neighbors for a pollinator garden tour.</li> <li>• Other _____</li> <li>_____</li> <li>_____</li> </ul>	<p><a href="http://kidsgardening.org">kidsgardening.org</a></p> <p>Dyck Arboretum Plant List <a href="https://dyckarboretum.org">https://dyckarboretum.org</a></p> <p>Pollinator People – Jr. Master Gardener — <a href="http://jmgkids.us/kids-zone/jmgkidsweb/pollination/">http://jmgkids.us/kids-zone/jmgkidsweb/pollination/</a></p>

## Life Skills Learned (check all that apply)

- Positive Self-Concept
- Inquiring Mind
- Concern for Community
- Sound Decision-Making
- Healthy Interpersonal Relationships

## Share

- Create a small container garden for someone else.
- Create a presentation of your pollinator garden to display at the fair.
- Post a picture of your pollinator-friendly garden on social media and share how they can create their own.
- Other \_\_\_\_\_

## Evaluate Your Experiences!

What is the definition of pollination? \_\_\_\_\_

What are the necessary resources pollinators need? \_\_\_\_\_

Which color of flowers should you NOT use? \_\_\_\_\_

How many hours a day should a pollinator garden receive sunlight? \_\_\_\_\_

What was the most important thing you learned about planning a pollinator garden? \_\_\_\_\_

**To complete the Challenge,** take a selfie while doing the activity. Upload the photo and take the survey about your Challenge experience.

[www.tinyurl.com/KS4HChallenge](http://www.tinyurl.com/KS4HChallenge)

## Local Contact Information

## Self-Evaluation After

Using the rating scale below, answer the following:

- 1 = not at all
- 2 = a little
- 3 = a lot

### I know how to...

Identify a pollinator and how pollination works ..... 1 - 2 - 3

Identify which plants are best to include in my garden ..... 1 - 2 - 3

Plan a pollinator-friendly garden ..... 1 - 2 - 3

## Kansas Clover Classroom

Adapted from NW 4-H Advisory Challenge created by Lauren Fick, Horticulture Agent, Cottonwood Extension District

# Planning a Pollinator Garden

## Materials

- Paper
- Pencil
- Calculator
- Internet for research

## Making Decisions

1. The first thing to think about when deciding you want to make a pollinator garden is a budget. Talk to your financer about how much money you want to put towards your garden. Plants and materials to create the garden can add up very quickly so creating a budget first is extremely important.
2. Decide what the purpose of your garden is. What are you wanting to use your pollinator garden for? Are you trying to invite bees and butterflies to your garden or are you wanting birds? This is an important decision to make because each plant will attract a different species. I personally like to use garden books, magazines, or the internet to gain inspiration for my garden.
3. Next on your list should be deciding where you garden will go and how big it will be. Do you have room for a large garden or is your garden going to be in a flower pot on your deck?
4. Once you have made these three important decisions, it's time to do some research!

## Research

1. Use the internet and do research on the different types of local pollinators. To find what kind of pollinators we have in Kansas you can use this link to help you! <https://www.pollinator.org/pollinator-prairie>
2. Now that you've decided which pollinators you want to attract, you have to research which types of plants they like and the requirements for those plants. Using the website listed in step 1, you can find which plants are best for each pollinator. You can also use this link from Dyck Arboretum to research native plants. <https://dyckarboretum.org/native-plants/#!/all>
3. Next you need to use a calculator to determine how much square footage you are working with and how many plants can fit inside that space. You will want to space your plants about 12 inches apart in a flower bed. If you are using a flower pot, your spacing will

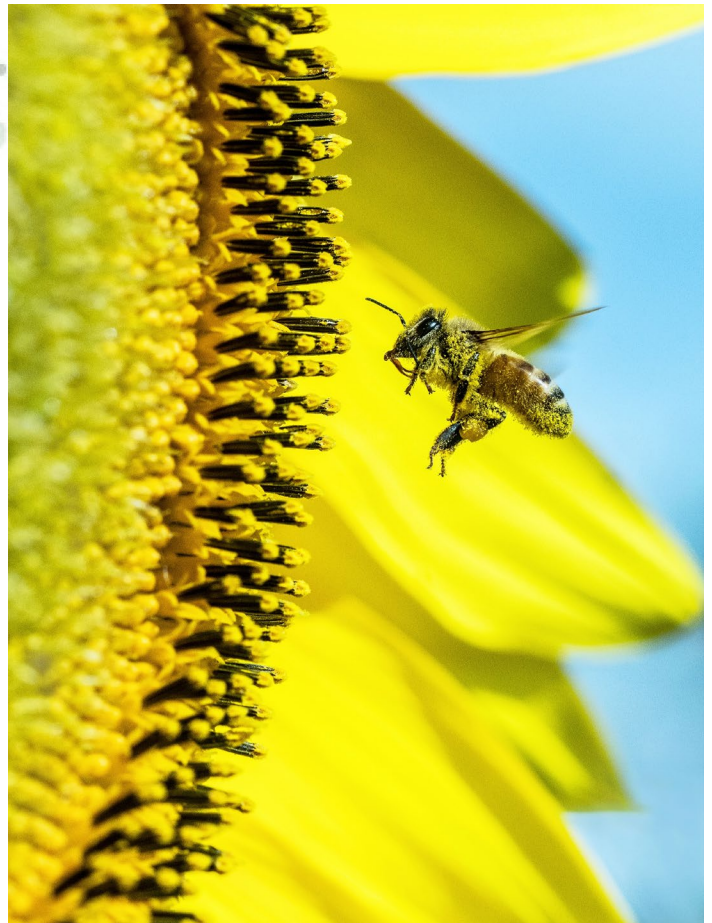


Photo by David Clode on Unsplash

be much smaller and you will space them about 3 inches apart. If you need help calculating square footage you can use this site:

<https://sciencing.com/calculate-square-foot-math-7840189.html>

4. Now that you've done your research we can start planning the garden!

## Garden Planning

1. The first steps in planning you garden are complete. You have made three important decisions about your garden and researched useful information to help your garden succeed and meet your goals.
2. Now it's time to put the whole idea together. Using a piece of paper and a pencil draw out your garden plot using a square (for a flower bed) or a circle (for a flower pot).
3. Since you have done your research, you should have decided on which plants you are interested in planting in your garden. A design rule that should always be used is to design in odd numbers. What this means is that if I have chosen a lily that I like, I should plant either 1 large one as a centerpiece or (more likely) plant 3, 5, or 7 to support the overall flow of

the garden. You will want to design your garden bed so that the plants are spaced in triangle formations.



If you are needing further help about pollinator gardens or landscape design, please follow the links below or contact your local extension office.

*Landscape Design, MF2925* —  
<https://bookstore.ksre.ksu.edu/pubs/MF2925.pdf>

*Landscaping with Native Plants* —  
<https://www.johnson.k-state.edu/docs/lawn-and-garden/in-house-publications/garden-design/Landscaping%20with%20Native%20Plants.pdf>

4. Using an X or any shape you would like, mark on your garden plot (square or circle) where you plan to place your plants. Drawing your plants in their places beforehand will make the planting process much quicker and easier.
5. Now that you have designed your pollinator garden it's time to plant! Watch the video at this link to learn how to plant your pollinator garden.  
<https://www.youtube.com/watch?v=epgpuiF-P30&t=97s>
6. Share your garden with the world!

