# Gardening for Pollinators 🖄

# Art + Environmental Science Curriculum for Grades 3-8



### Contents

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- Accompanying worksheets
- Pollinator matching cards
- Native plant flash cards

### About the Curriculum

This material is part of the Great Plains, Great Brains afterschool curriculum supported by Beyond School Bells and developed by the Great Plains Art Museum with its parent organization, the Center for Great Plains Studies. This informal curriculum was developed for afterschool or summer learning and is founded on **place-based, eco-art education**, an approach to integrate art education with environmental education. The overall goal of this curriculum is to foster a wonder of and appreciation for the Great Plains through nature-based art activities.

#### The Gardening for Pollinators curriculum focuses on:

- The fundamentals of pollination and local pollinators
- Native plants of the Great Plains
- The benefits and design of pollinator gardens

#### The activities in this curriculum include:

- Eco-art activities (coloring flower models and native seed papermaking)
- Games (pollinator matching and pollination simulation)
- A design challenge to build a pollinator garden model





### **Facilitator Notes:**

- This curriculum does not cover the logistics of planting a pollinator garden. We hope you will consider this, though, and reach out to local partners or community connections to get started on any gardening projects.
- The best time of year to teach this curriculum is during spring early fall while plants are in bloom. However, you can adapt lessons for the winter by exploring plant and garden images and videos online.
- <u>Recommendations for a club leader:</u>
  - ♦ These lessons will cover concepts of art and environmental science, therefore having someone with a background/interest in either (or both!) of these fields is recommended.

### **Overview of Lessons:**

- Lesson 1 The Science of Flower Pollination (45 min)
- Lesson 2 Meet the Pollinators (30 min)
- Lesson 3 Pollination Simulation (45 min)
- Lesson 4 Native Plants: A Pollinator Superfood (1 1.5 hrs)

Design Challenge - Build a Pollinator Garden Model for your School/Community! (2 - 4 hrs)

#### • Things to anticipate for each lesson plan:

- ♦ Lesson 1: Bring in a real flower to show an example of a flower's parts (optional).
- Lesson 2: Print off the pollinator matching cards ahead of time if they are not in your curriculum kit. Students may need to familiarize themselves with each pollinator before starting the activity so that they can best create "Yes/No" questions.
- Lesson 3: This activity is best done in an open area outside, but a gym or large room will suffice.
- Lesson 4: This activity will take 2-3 days between soaking the paper, shaping the paper, and drying the paper. If you are doing the shorter version of making seed bombs, this activity can be completed in one day, while allowing the seed bombs to dry overnight if needed.
- Design Challenge: Print off the native plant flash cards ahead of time if they are not in your curriculum kit. Collect cardboard ahead of time for the pollinator garden model foundations. This activity can be completed in 2-4 days, depending on how detailed of a model students would like to build. If it is feasible, invite a landscape designer to speak on their design process and work with students as they build their pollinator garden designs.

#### **Resources:**

- Possible Partners:
  - Master Gardeners
  - ♦ <u>Master Naturalists</u>
  - ♦ <u>Nebraska Extension</u>
  - Nebraska Statewide Arboretum
  - Nebraska Game & Parks Commission
  - Nebraska Beekeepers Association
  - Nebraska Natural Resource Districts (NRD)
- Field Trip and Guest Speaker Connections:
  - ♦ Community gardens and greenhouses
  - ♦ Local nature centers
  - Gardening clubs and societies
  - ♦ Beekeepers
  - ♦ Landscape designers
  - ♦ Horticulturists

### **Questions:**

About the **lesson plans**, contact <u>The Center for Great Plains Studies</u>. Email: cgps@unl.edu | Office phone: 402.472.0602

About the **kits**, contact <u>Beyond School Bells</u>. Email: bsbinfo@nebraskachildren.org | Office phone: 402.476.9401

# Supplies used in this curriculum:

- <u>Tissue paper 360 sheet pack (1)</u>
- <u>Chenille stems 1050 pieces (1)</u>
- <u>World of Pollinators book (1)</u>
- Mould and deckle papermaking kit (1)
- <u>Milkweed wildflower seed packets (4)</u>
- Prairie Moon Nursery seed packets (6+)
- <u>Prairie Moon Nursery Pollinator introduction kit (1)</u>
  - Prairie in Progress sign
  - Pollinator-Palooza seed mix 1000 sq ft
  - Native bee nesting shelter with tubes
  - Native Plant-Insect Interactions Guide
- Modeling clay set 144 pieces (1)
- <u>Crayola Super Tips washable markers 50 ct. (1)</u>
- <u>Crayola colored pencils 50 ct. (2)</u>
- Crayola boxed crayons 64 ct. (1)
- Crayola construction paper 240 ct. (1)
- Pollination simulation kit:
  - o <u>Yellow pom poms (26)</u>
  - o Mini multicolored pom poms (200)
  - o <u>Plastic straws (30)</u>
  - o <u>Plastic cups (16)</u>
  - o Jewelry bags (16)
- Guess Who Pollinator matching cards (24)
- Great Plains Native Plant flash cards (53)

#### Other supplies you might need:

- Glue sticks and liquid glue
- Scissors
- Tape
- Ruler

# **The Science of Flower Pollination**

#### Lesson 1

Big Question: What is pollination and why do flowers need to be pollinated?

**Learning Objectives:** Students will be able to...

- Describe basic concepts of how pollination works and how flowers reproduce.
- Identify the parts of a flower that play a role in pollination.

#### Activity: Create a Labeled Diagram of a Flower

#### **Educator Prep:**

- Review flower reproduction and pollination science (see links under "Procedure").
- Print out Parts of a Flower worksheets for each student.
- Optional: Bring in a real flower with distinguishable parts (e.g., lily, tulip) for live demonstration.

#### Time: 45 minutes

#### Materials:

- Parts of a Flower worksheets (pp. 7-9)
- Scissors
- Glue sticks
- Coloring materials: Markers, crayons, pencils
- Optional: Colored construction paper, string, clay, etc. (to add 3D details)

#### Warm up:

- Share as a group what comes to mind when we hear "pollination". What insects are pollinators?
- Watch <u>How Pollination Works</u>: 3:03 minutes (Cincinnati Nature Center)

#### **Procedure:**

- Show an example of a flower producing pollen (e.g., a flower outside, a flower from a bouquet, or an image of one). Reiterate the concepts in the video and teach students <u>the parts of the flower and their definitions</u>. Play a learning game to reinforce learning such as <u>What are the Parts of a Flower?</u> (UIUC Extension).
- Hand out the Parts of a Flower worksheet and slips of the jumbled word bank. Show an example of a completed flower model and instruct students to create their own.
- Encourage students to color the flowers and add any details such as soil, grass, or sky. Students will then cut out the flower part labels and glue them to their corresponding spots.

#### **Reflection:**

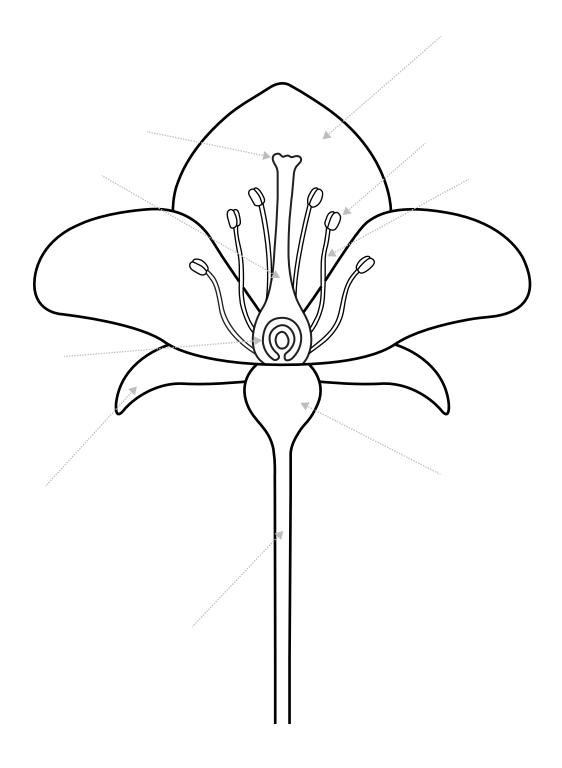
• Ask – What might happen to a flower if it is not pollinated? Will it be able to reproduce?

#### Notes:

- If it's nice outside and there are flowers in bloom, visit a garden to observe any pollinator interactions. Point out the parts of the flower that are contributing to pollination.
- Alternatively, you can bring in a real flower and demonstrate the pollination parts.

# Parts of a Flower

**Instructions:** Add some color and 3D texture to this flower. Next, cut out the labels from the word bank and glue in their correct spot.

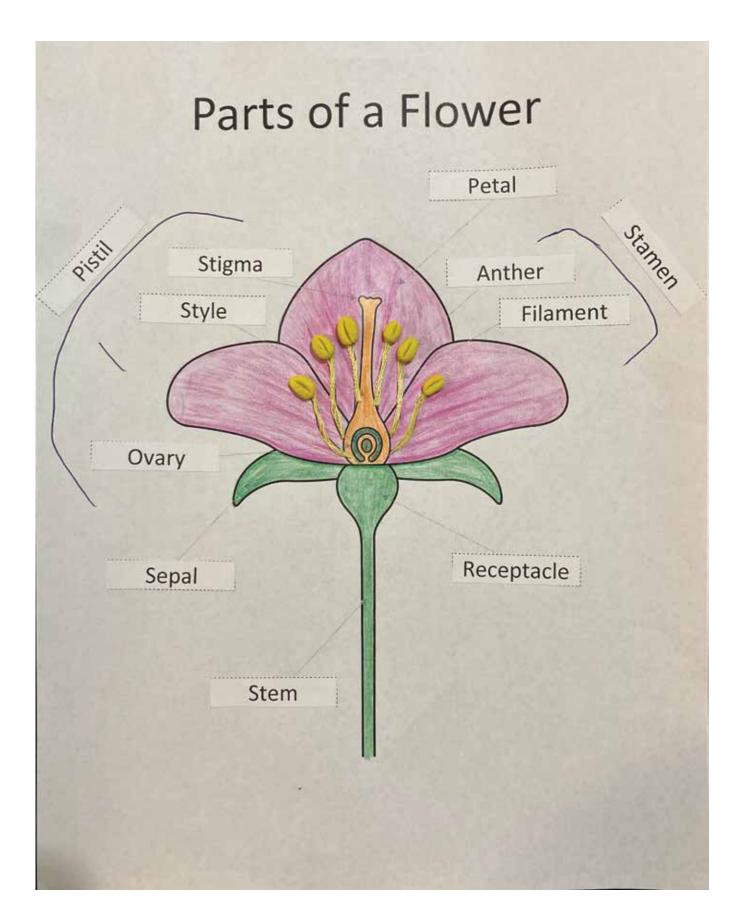




### Parts of a Flower Word Bank (Cut out 5)

|          |        | -,         |        |          |
|----------|--------|------------|--------|----------|
|          | Sepal  | Ovary      | Anther | Stamen   |
|          | Stigma | Style      | Pistil | Filament |
|          | Stem   | Receptacle | Petal  |          |
|          |        |            |        |          |
|          |        |            |        |          |
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|          | Sepal  | Ovary      | Anther | Stamen   |
|          | Stigma | Style      | Pistil | Filament |
| -        | Stem   | Receptacle | Petal  |          |
| L-       |        |            |        | 4        |

# Example of completed worksheet:



# **Meet the Pollinators**

Lesson 2

Big Question: Who exactly pollinates flowers? Are there other pollinators besides bees?

**Learning Objectives:** Students will be able to...

- Recognize the diversity in pollinators that visit plants for food (e.g., pollen, nectar, seeds) and help flowers reproduce.
- Identify the names of Great Plains pollinators and discuss some of their fun facts.

#### **Activity: Pollinator Matching Game**

#### **Procedure:**

- Show students the collection of Guess Who Pollinator matching cards. In groups, pass out a few cards and have students pair and share.
- Ask What did you learn about the pollinators you got? Do any of these pollinators surprise you?
- Next, split the students into two groups. Each student in group one will receive a pollinator card that corresponds with another student having that same card in group two.
- The objective of the game is for students to find their match by asking a series of yes/no questions. Group One will be the Asker and Group Two will be the Responder.
- Once all Askers have found their match in the Responder group, the groups can swap roles to play again after shuffling the cards and reassigning pollinator cards.
- Rules:
  - Students can only ask yes/no questions to find their match. For example, "Do you have wings? Do you make loud sounds?"
  - Responders must hide their cards from the Askers and not share their pollinator identity with others.
  - Once pairs find their match, they can step aside from those still searching in the game.
  - $\circ$   $\,$  Encourage students to ask for help if they get stuck asking questions.

#### Time: 30 minutes

#### Materials:

• Guess Who Pollinator matching cards (p. 22)





#### **Reflection:**

• Ask – Which pollinators surprised you the most? Have your feelings toward spiders and wasps changed now that you know they can be helpful pollinators?

#### Notes:

- Take the time to ensure students are familiar with the pollinators on the flash cards so that they are best prepared to ask questions in the matching game.
- If time remains and the weather is nice, go outside to see if there are any pollinators in a school or neighborhood garden.

# **Pollination Simulation**

#### Lesson 3

Big Question: How do pollinators move pollen from one plant to another?

Learning Objectives: Students will be able to...

- Summarize why bees seek out nectar from flowers and pick up pollen in the process.
- Demonstrate how honey bees pollinate flowers in a simulation activity.

#### **Activity: Honey Bee Pollination Simulation**

#### **Educator Prep:**

- Divide your group in half and assign roles for worker bees and flowers + one queen bee (e.g., 15 worker bees, 15 flowers, 1 queen bee).
- Each bee will need one large yellow pompom, a straw, a small bag, and a bee headband.
- Each flower will need one cup filled with water, one cup filled with 12 mini pompoms (aim for one color of each to show pollen mixing at the end), and a flower headband.

#### Time: 45 minutes

#### Materials:

- Large yellow pompoms (Bee)
- Small cups with mini multicolored pompoms (Pollen)
- Small cups of water (Nectar)
- Straws (Proboscis)
- Small reseatable bags (Honey Sac)
- Materials to make pollinator and flower headbands:
  - $\circ \quad \text{Colored construction paper}$
  - o Chenille stems
  - o Glue and stapler
  - o Scissors

#### Warm up:

• Share ideas: How do you think pollinators carry pollen and transfer it from one plant to another? Where do pollinators store the nectar and pollen they get from flowers?

#### **Procedure:**

- Introduce the three roles of the honey bee—the queen, workers, and drones. Watch <u>BEE |</u> <u>Animals for Kids</u>: 3:05 minutes (All Things Animal TV).
- Next, explain the goal of the activity is to simulate the roles of the queen bee and worker bees in pollination. Choose half of the students to represent flowers, half to represent worker bees, and one student to represent the queen bee.
- Instruct students to build headbands for each of their roles using construction paper. Be creative with cutting out different flower shapes and stapling chenille stems to bee headbands to



represent antennae. The queen bee can create a crown-shaped headband.

- Select a large area to represent the "garden" and a smaller area to the side to represent the "beehive." This activity works best outside, but a space indoors will do.
- For each Flower, hand out one cup filled up with 1-2" of water to represent nectar and one cup filled with about 12 colored mini pompoms to represent pollen.
- For each Worker Bee, hand out one large yellow pompom to represent the bee, one small bag to represent the honey sac, and one straw to represent the proboscis.
- Instruct the Flowers to spread out in the garden and the Worker Bees to gather in the beehive. At the call of the



Queen Bee, the Worker Bees will leave the beehive in search for nectar and pollen.

- When a Worker Bee finds a Flower, they will land their yellow pompom into the cup of mini pompoms. The Bee will then simulate collecting nectar by inserting their straw into the cup of water. Bee students will then close off the open end with their finger to create a vacuum that sucks up the water and deposit this into the small bag they are holding with their free hand. See an example of this <u>here.</u>
- Next, the Worker Bee will collect their yellow pompom from the cup and any mini pompoms that stuck (simulating the way pollen sticks to a bee's fuzzy body).
- After collecting pollen and nectar from one flower, the Worker Bee will then find a new flower. Before landing, they will brush off some of the collected pollen from the previous flower into the new flower's cup of mini pompoms to simulate cross-pollination. They then repeat the previous step to collect more pollen and nectar.
- For the purpose of this simulation, only two Bees may simultaneously visit a flower and each Bee should strive to visit each Flower at least once.
- Once a Worker Bee has filled their honey sac with nectar, they will then return to the hive. The activity concludes when all Worker Bees return. To simulate another round, swap roles, but first discuss the questions in the Reflection.

#### **Reflection:**

- Discuss What did you observe during the simulation?
- Investigate and Discuss Each Flower had a cup that started out with various colors of each pompom. How did the colors of pollen change in the end for each Flower? (cross-pollination)
- Describe How do bees make honey with the nectar they collect?

#### Note:

• This lesson plan was adapted from <u>Honey bees: A pollination simulation</u> (National Agriculture in the Classroom, 2020, <u>CC BY-NC-SA 4.0</u> license).

# **Native Plants: A Pollinator Superfood**

Lesson 4

**Big Question:** What plants are native to our prairie ecosystem and why is it important to grow them?

**Learning Objectives:** Students will be able to...

- Identify common native plants in the Great Plains region.
- Apply native plant knowledge in creating plantable wildflower seed bombs and paper.

#### Activity: Handmade Wildflower Paper & Seed Bombs

#### Notes on Lesson 4:

- Activities:
  - $\circ$  There are two activities. You may choose to do one or both.
  - The seed bomb activity has an easy level of difficulty while the papermaking activity has a medium level of difficulty and may be best suited for grades 5-8. Watch the video linked below from Su Jae Paper to review the papermaking process beforehand or bring in help from an artist or art student.
- The paper activity requires 3 days to complete: Day 1) Create paper pulp; Day 2) Shape paper and let it dry overnight; Day 3) Paper is ready.

#### **Educator Prep:**

- Bring scraps of paper for students to cut up.
- Be prepared to have students copy the planting instructions on the back of the seed packets before throwing them away. Alternatively, you can prepare these ahead of time for students. This will come in handy for parents/guardians if students plant their seed bombs or paper.

#### Warm up:

• What does it mean for a flower or grass plant to be "native"? Why might these plants be good for the pollinators and the land that recognize them? Time: 1 - 1.5 hours (3 days)\*

\*Note: This activity will take 3 days from soaking to shaping to drying the paper.

#### Materials:

- Paper cut up into small pieces
  - Copy paper is best
  - Tissue or construction paper works as well
- Native wildflower seeds
- A closed container to soak paper and shake by hand to break down
- <u>Mould and deckle papermaking kit</u> (not required for seed bombs)
- Shallow tub
- Towels
- Scissors

#### Paper Pulp Prep (Day 1):

- Have each student cut up 1-2 sheets of scrap paper into tiny pieces (ideally ½" by ½" squares). The smaller the squares, the finer the paper pulp will be.
- If you would like, keep colored paper separate to avoid colors mixing. These will need to soak in their own containers.
- Once completed, place all scraps into a plastic container and fill with <u>WARM</u> water. Ensure all paper is submerged to soak overnight and close the lid tightly.

#### Paper Creation (Day 2 & 3, two activity options):

#### Wildflower seed bombs | Level: Easy

- Hand out one packet of wildflower seeds for every group of 3-4 students. Instruct students to write down the planting directions on the back of the seed packet and the name of the wildflower on a sheet of paper.
- Ask What wildflowers did everyone receive? What are the flower characteristics?
- Pour the paper pulp into a shallow tub. Work with students to break down any large pieces of paper as needed.
- Have each student grab a small clump of paper about golf ball size. Sprinkle in some of the seeds and roll the paper into a ball. You can sprinkle in some water to help the ball take shape.
- Let the balls dry overnight and take home until they are ready to be planted according to the seed packet instructions.

#### Wildflower paper | Level: Medium

- Gather a few types of wildflower seeds and instruct students to write down the planting directions on the back of the seed packet and the name of the wildflower on a sheet of paper.
- Ask What wildflowers did everyone receive? What are the flower characteristics?
- Pour the paper pulp into a shallow tub. Work with students to break down any large pieces of paper as needed.

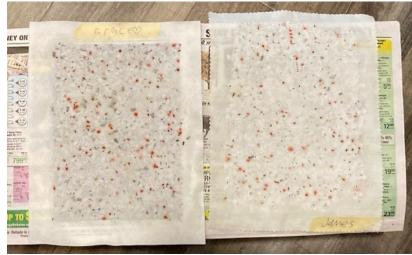
 Next, follow the steps to create handmade paper using a mould and deckle. Watch <u>DIY</u> <u>Handmade Paper</u> (Su Jae Paper). This video explains the process step-by-step from forming

the paper to drying. This can be a tricky process and may take some experimentation to get right.

• Let your paper dry flat and exposed to air on sheets of felt, fabric, or newspaper overnight.

#### **Reflection:**

 Discuss – What would happen if you planted the wildflower paper or seed bomb outside in your backyard?



• Describe – What would you need to do to keep the plant growing once it sprouted?

# Design Challenge: Create a Pollinator Garden for your Community!

Final Project

**Big Question:** What makes a space outside welcoming for your native pollinators? How can you design this type of garden?

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Learning Objectives: Students will be able to...

- Apply learned concepts of attracting pollinators and growing native plants.
- Determine the qualities needed for a thriving pollinator garden.
- Collaboratively design a miniature model of a pollinator garden for their school/community.

#### Activity: Design a Pollinator Garden Model

#### **Educator Prep:**

- Plan for students to work in groups of 3-4 to build their garden models.
- Bring examples of garden designs from magazines, books from the library, or browse the internet with students.
- Print out the Garden Design Planning worksheets. Each group will need one sheet.

#### Design Planning and Land Evaluation (Day 1):

- Intro Explain to students they will be designing pollinator garden miniature models for the school or community inspired by pocket prairies (small, pollinator-friendly "pockets" of native plants).
  Show examples of pollinator gardens online or from garden magazines.
- Engage (outside) Bring students outside to observe an existing garden they could redesign or an open area for a potential garden. Ask them to describe how the garden looks, the types of plants there, and what could be improved.

#### Time: 2 - 4 hours\*

\*Note: This activity can take up to 3 - 4 days.

#### Materials:

- Garden Design Planning worksheets (pp. 20-21)
- Great Plains Native Plant flash cards (p. 22)
- Model foundation
  - o Shoe box
  - Flat piece of carboard
- Modeling clay
- Chenille stems
- Popsicle sticks
- Wooden dowels
- Glue (wood, liquid, hot)
- Colored paper (construction and tissue)
- Coloring materials: Markers, crayons, colored pencils
- Pieces of grass, twigs, plant clippings
- Pencils

- Explain what a pocket prairie is and brainstorm out loud why pocket prairies are beneficial for everyone:
  - Pollinators benefit from native food sources of pollen and nectar.
  - Pocket prairies can be pollinator refuges in urban areas.
  - Native plants contribute to soil health by reducing erosion and filtering runoff.
  - Pocket prairies store carbon in the environment.
  - They're beautiful to look at!
- Split the group into teams of 2-3. Explain each team will be collaborating to create a model of a new garden design.
- Hand out Garden Design Planning worksheets, pencils, and something to write on. Next, hand out 8-12 Great Plains Native Plant flash cards for each team. These will be used to inspire their garden model. Have design teams sketch out plans and add notes according to the worksheet criteria (i.e., soil, light, pollinators).
- Gather inspiration (inside) Come back inside and continue design work. Look up landscape design plans for inspiration online, using books, or gardening magazines.
- Draw design ideas and plot out spacing using the flash cards of Great Plains native plants. Consider grouping plants by similar traits such as sun exposure and watering needs. Don't forget to mix in different colors, heights, and bloom times to create visual interest.
- If time allows at the end, begin making design models. Students can use cardboard to create a base for their model.



#### Model Creation (Day 2 & 3):

- Students will continue to work on their garden design models on Day 2 and 3 as needed.
- Watch <u>Pollinator Garden Design Ideas</u>: 5:46 minutes (Garden Design) for help/inspiration before designing.
- Begin creating models on a cardboard base. Students can create a more diorama-style model in a shoebox or create a city plan-style model on a flat piece of cardboard.
- Use any available materials to create miniatures of flowers, grasses, garden beds, small ponds, bee houses, bird baths, etc.
- Go outside to collect grass clippings, twigs, etc. to use natural materials.
- Encourage students to make a small sign to notify visitors that the garden is a pollinator garden.
- Continue working on the models until completion. If students need more time, this can be continued for subsequent days.

#### Design Plan Review and Group Share (Last Day):

- Once everyone is finished, have each group share their models and their design process.
- Ask What did you learn? What was challenging and how did you overcome challenges? How would your garden design benefit the school and the pollinators? How can we make a real pollinator garden for the school?
- Celebrate each team's design and a job well done.



Examples of pollinator garden shoebox models from an afterschool club in Lincoln, NE.

#### **Enrichment:**

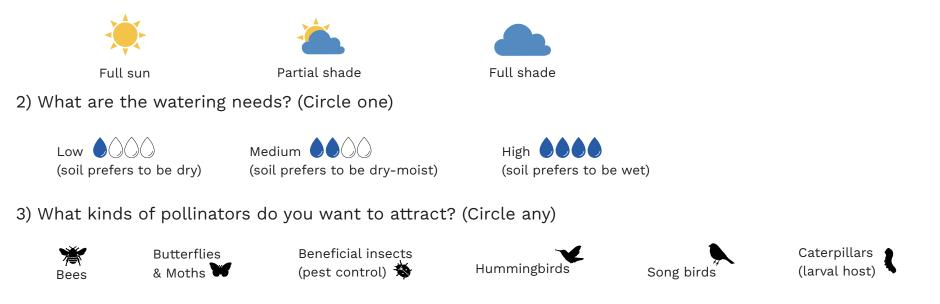
• Consider sharing pollinator garden models in a parent/community showcase. Share designs with school administrators to see about planting a pollinator garden in the future if you do not have one.

## **Garden Design Planning Worksheet**

**Instructions:** Go outside and examine an area of your school or community where a pollinator garden might thrive. Answer the questions below with your team to determine the sun, soil, and pollinator needs for your garden.



1) How much sunlight does this area receive? (Circle one)



**Instructions:** Next, select plants for your garden design plan using the Great Plains native plant flash cards. Look at the plant qualities on the back of the flash card and select plants that match your watering, sun, and pollinator needs.

| 4) List 1-3 grasses or shrubs  | to plant: |
|--|-----------|
| 5) List 5-8 flowers to plant:  |           |
| Tip: Be sure to mix early spring, summer,<br>and late summer bloom times to have<br>an active garden for many months |           |

Instructions: Lastly, draw a layout of your garden design on this landscape plan worksheet. Use this layout to plan your 3D model.

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| Draw your landscape design plan here |   |  |  |  |
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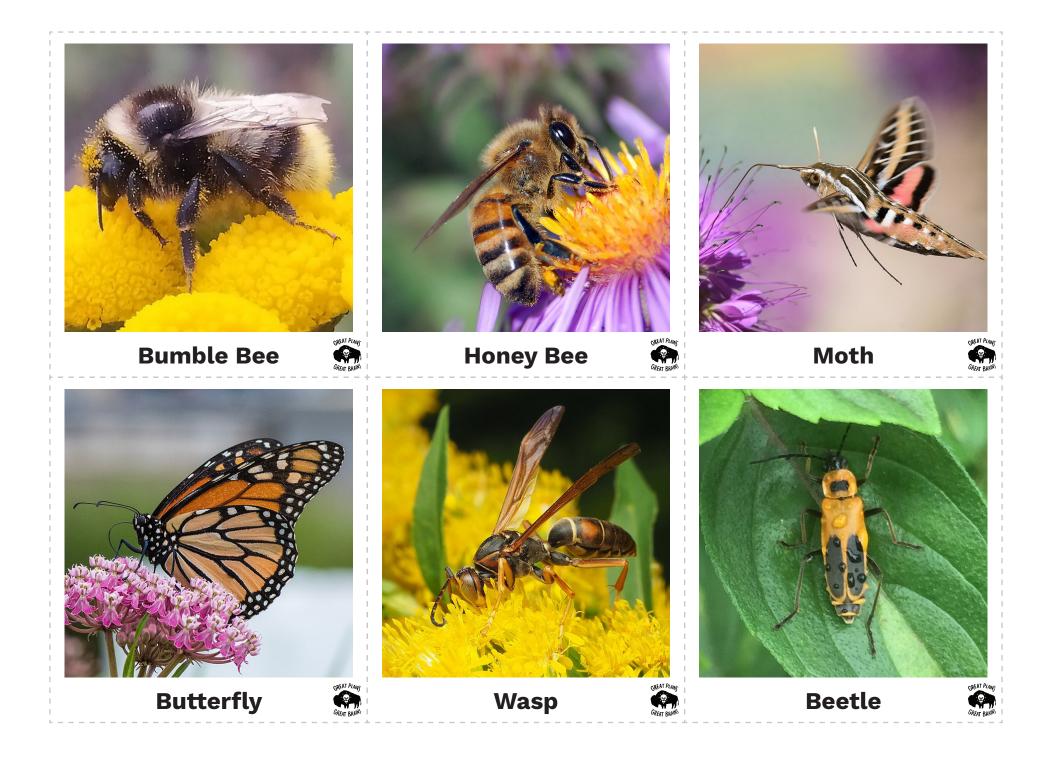
## **Printing Instructions for Gardening for Pollinators Cards:**

#### **Guess Who Pollinator matching cards**

- Printing settings:
  - ♦ Double-sided
  - ♦ Color (recommended)
  - ♦ Actual size for correct dimensions
- Print out with above settings. You will need 2 copies for matching cards.
- Cut out along the dashed lines (these only show up on the front face of the card).

#### **Great Plains Native Plant flash cards**

- Printing settings:
  - ♦ Double-sided
  - ♦ Color (recommended)
  - ♦ Actual size for correct dimensions
- Print out with above settings. You do not need to print out all of the flash cards if you would like to give students a smaller set. The last page contains a key to explain the symbols on the back of each card.
- Cut out along the dashed lines (only on front face) in between cards.





### White-lined sphinx

**moths** are also known as hummingbird moths because of their similar body shape and quick wings that help them hover over flowers.

# 👻 Did you know? 🖲

**Honey bees** are not native to the United States. They were originally brought over by European settlers in the 1600s. Today, honey bees are one of the most important pollinators of food crops.



**Bumble bees** are excellent pollinators. They are able to vibrate their wings rapidly to release pollen, which sticks to their fuzzy bodies and is carried from flower to flower. This is called buzz pollination.

🗑 Did you know?

**Soldier beetles** can be mistaken for fireflies. While these insects do not produce light, they are important pollinators. You can find them in the summer visiting flowers to feed on pollen and nectar.

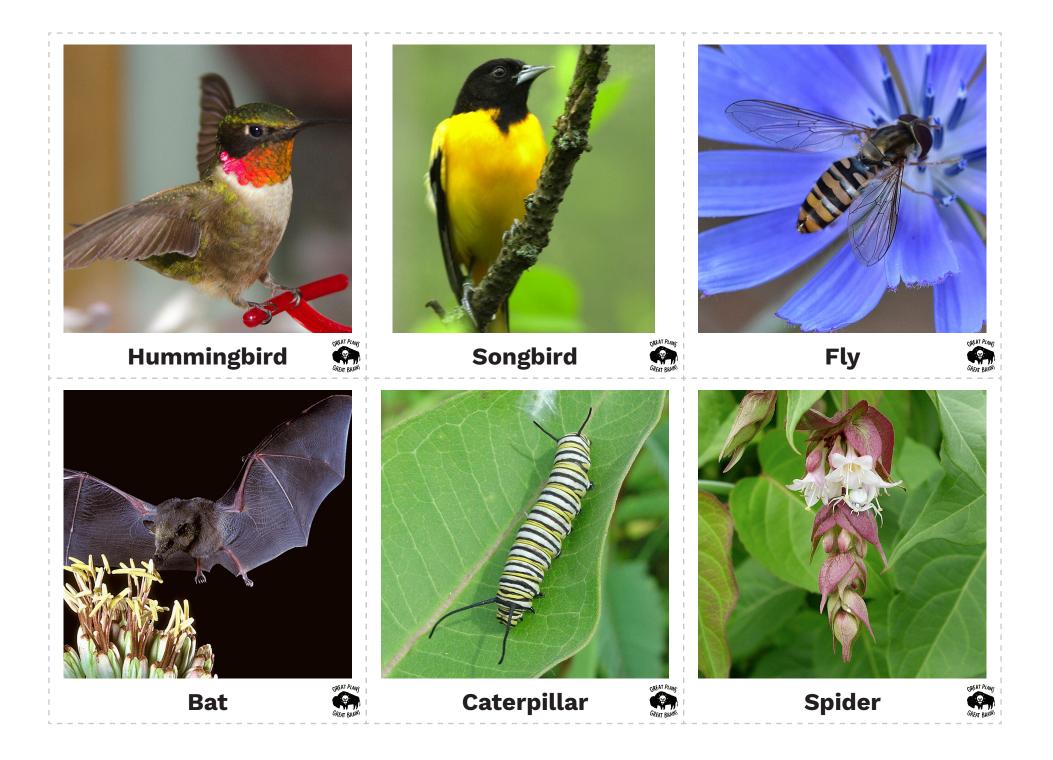
# 👻 Did you know?

**Paper wasps** pollinate flowers by accident as they search for nectar. They get their name from the paperlike texture of their nests. They are not aggressive unless their nests are disturbed.

# 👰 Did you know?

Monarch butterflies only

live about 2 to 6 weeks on average. However, the generations born at the end of the summer migrate 3,000 miles to Mexico for the winter and can live up to 8 or 9 months.



👻 Did you know?

**Hover flies** "hover" over flowers like hummingbirds do to drink nectar. Their hairy bodies pick up pollen in the process, which gets transferred to other flowers. They also help control garden pests. 👳 Did you know?

**Baltimore orioles** are not intentional pollinators. They transfer pollen by accident as they visit flowering fruit trees and plants for nectar.



**Ruby-throated hummingbirds** beat their wings about 53 times a second. They prefer red and orange flowers with a tube shape, which accommodates their long beaks and tongues.

Did you know?

**Crab spiders** may not be very pleasant to encounter in a garden, but they are great ecosystem helpers. They pollinate flowers as they drink nectar and help control insect populations like mosquitoes.

# 👻 Did you know?

Monarch caterpillars only eat one thing: the leaves of the milkweed wildflower (a host plant) before they become a butterfly. You can help protect these butterflies by planting milkweed in your garden.

🙍 Did you know?

**Mexican long-tongued** 

**bats** visit night-blooming flowers throughout Mexico and the Southern U.S. to feed on nectar. They are key pollinators of fruit crops such as bananas and mangoes.

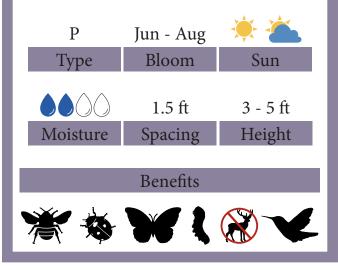






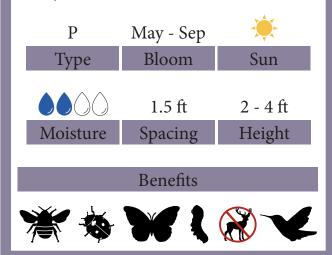


Common Milkweed



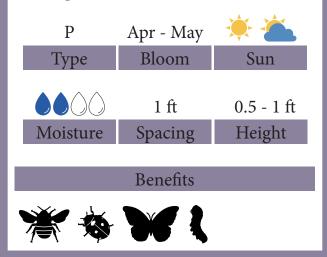


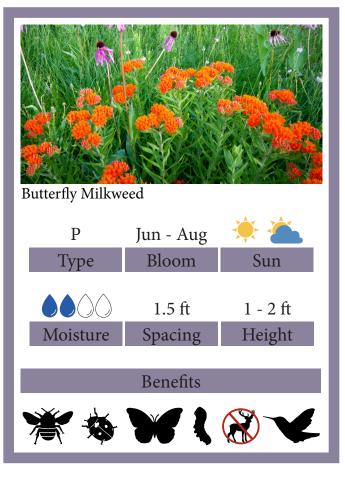
Showy Milkweed



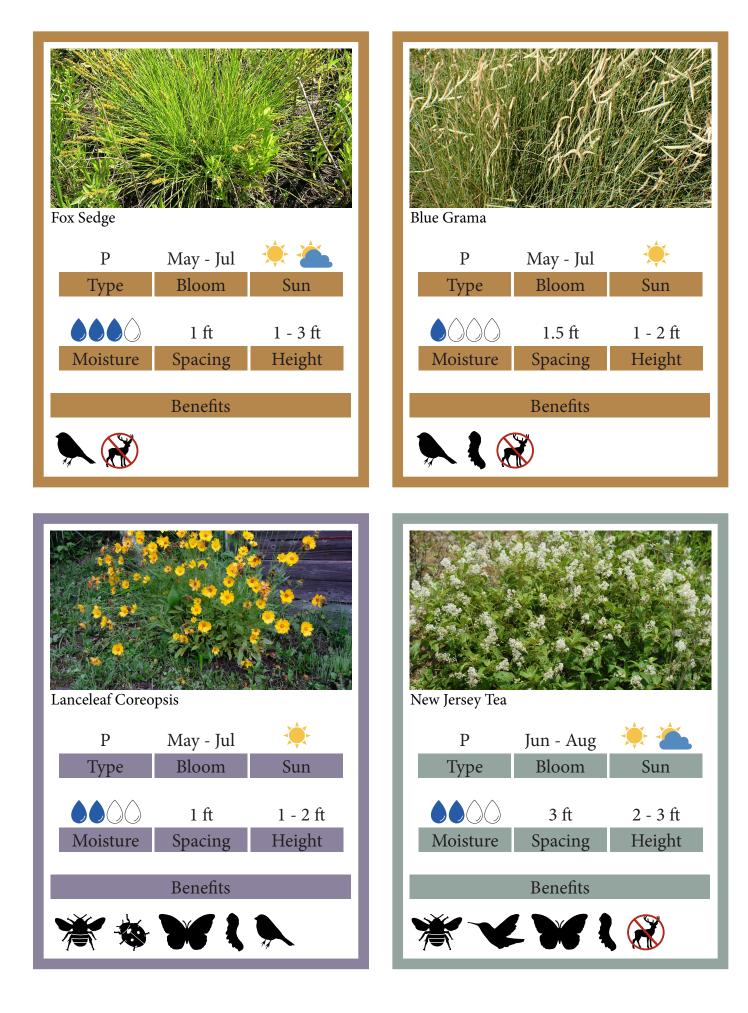


Groundplum Milkvetch





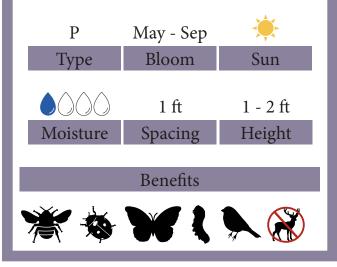








White Prairie Clover





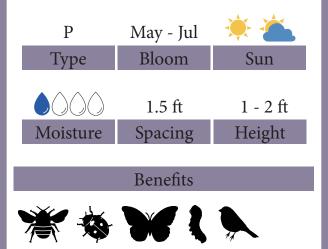
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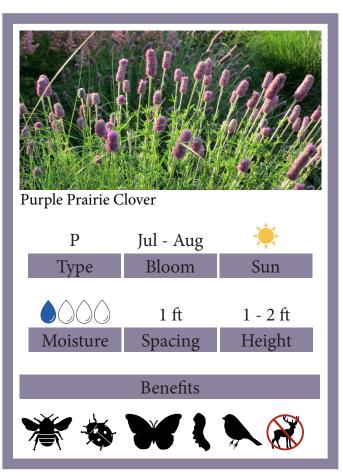
Benefits





Narrow-leaf Coneflower









1 ft

Spacing

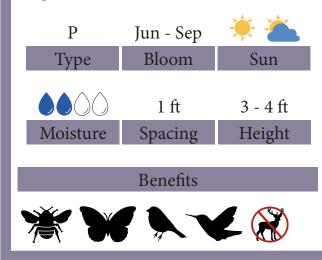
Benefits

4 - 5 ft

Height



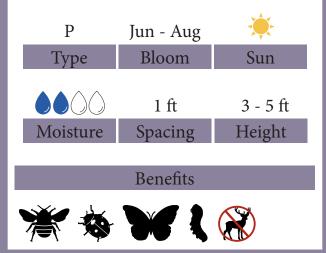
Purple Coneflower

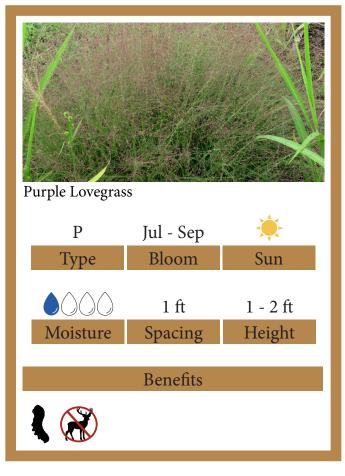




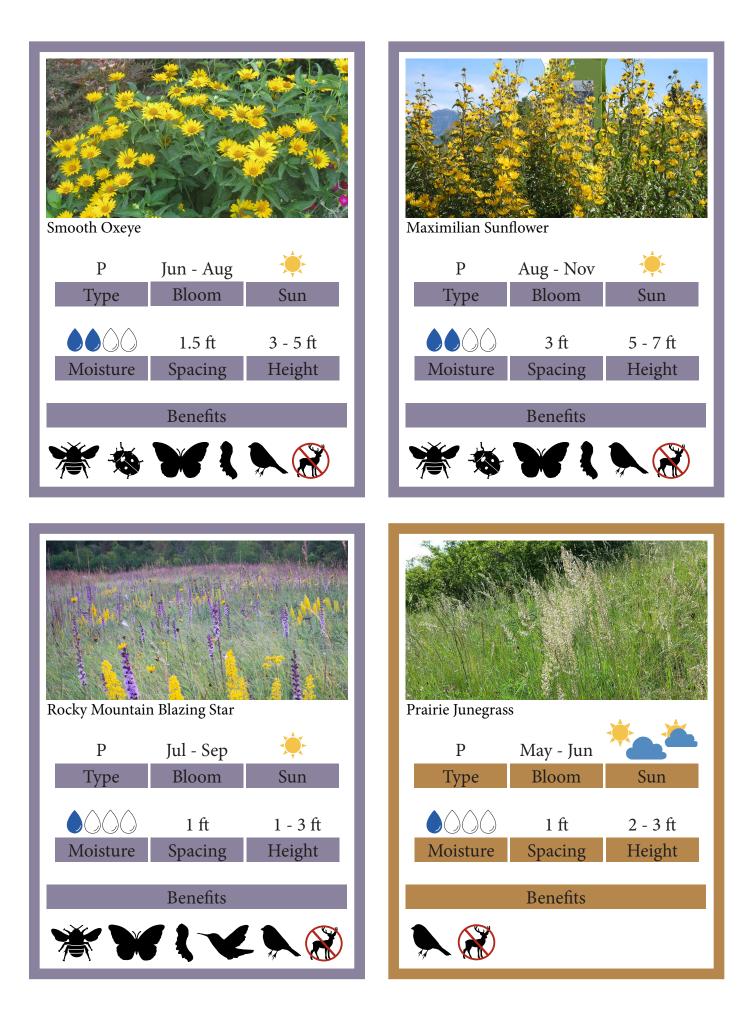
Rattlesnake Master

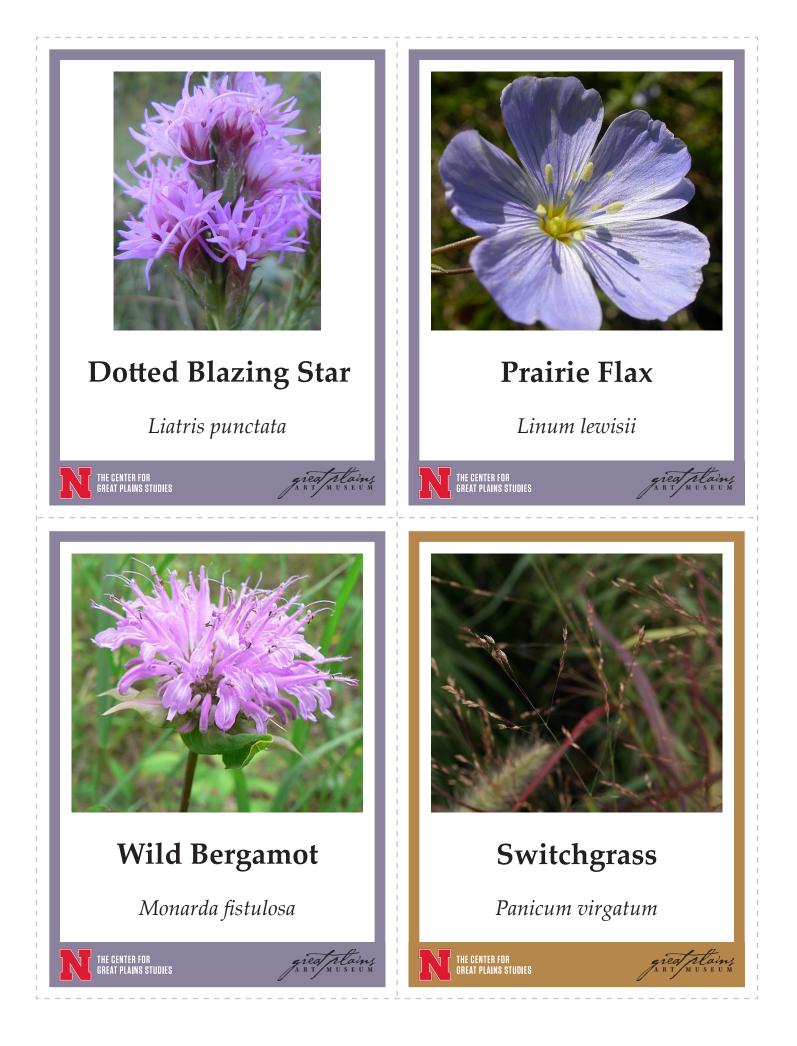
Moisture





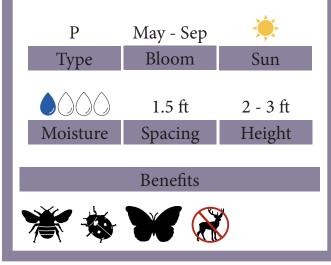






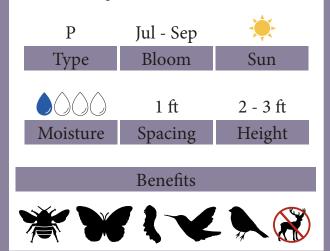


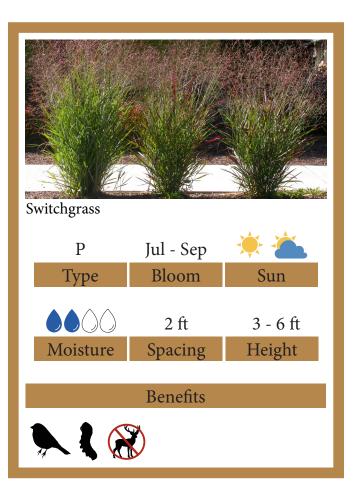
Prairie Flax

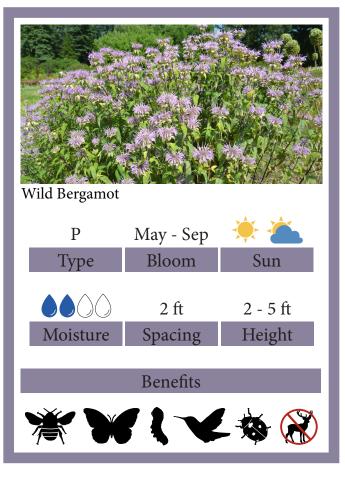




Dotted Blazing Star



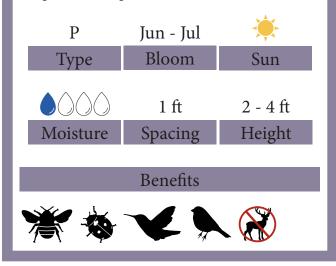








Large Beardtongue



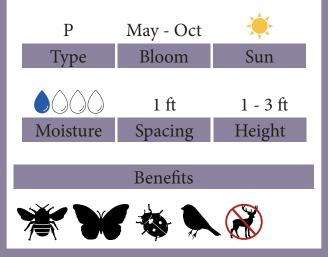


Foxglove Beardtongue

| Р        | Jun - Jul | 🔆 📥      |
|----------|-----------|----------|
| Туре     | Bloom     | Sun      |
|          | 1.5 ft    | 3 - 4 ft |
| Moisture | Spacing   | Height   |
|          |           |          |
| Benefits |           |          |
| × × 🛞    |           |          |



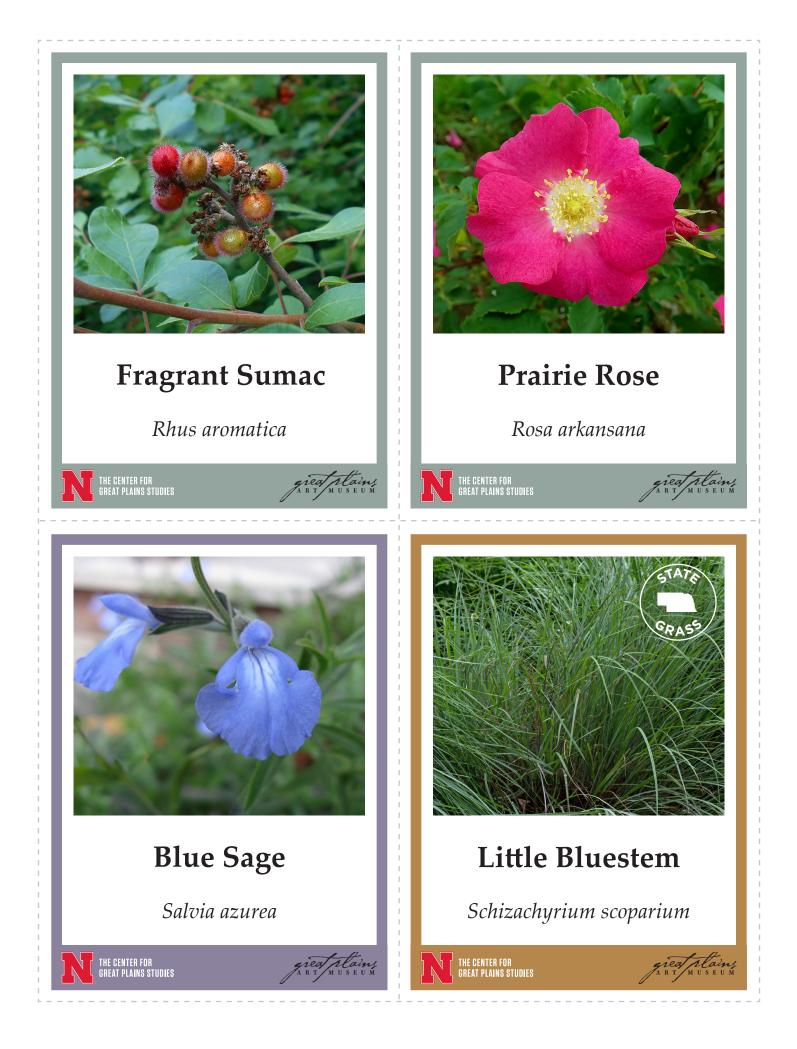
Upright Prairie Coneflower





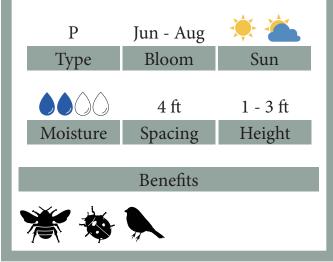
Virginia Mountainmint

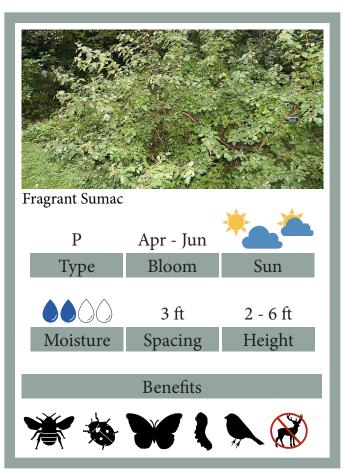
| Р        | Jun - Aug | 🔆 📥      |
|----------|-----------|----------|
| Туре     | Bloom     | Sun      |
|          | ) 1 ft    | 2 - 3 ft |
| Moisture | Spacing   | Height   |
| Benefits |           |          |
| X 😽 🕉 🛞  |           |          |

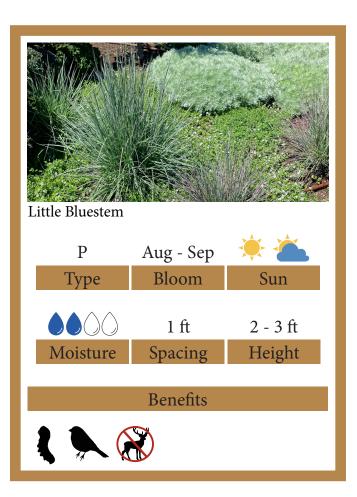


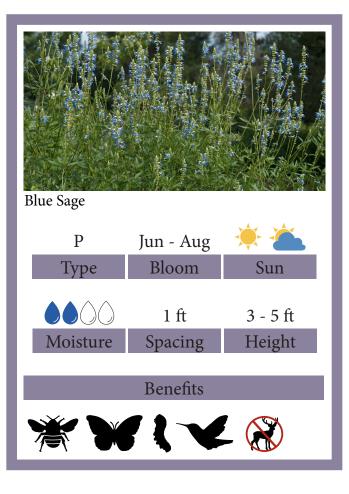


Prairie Rose

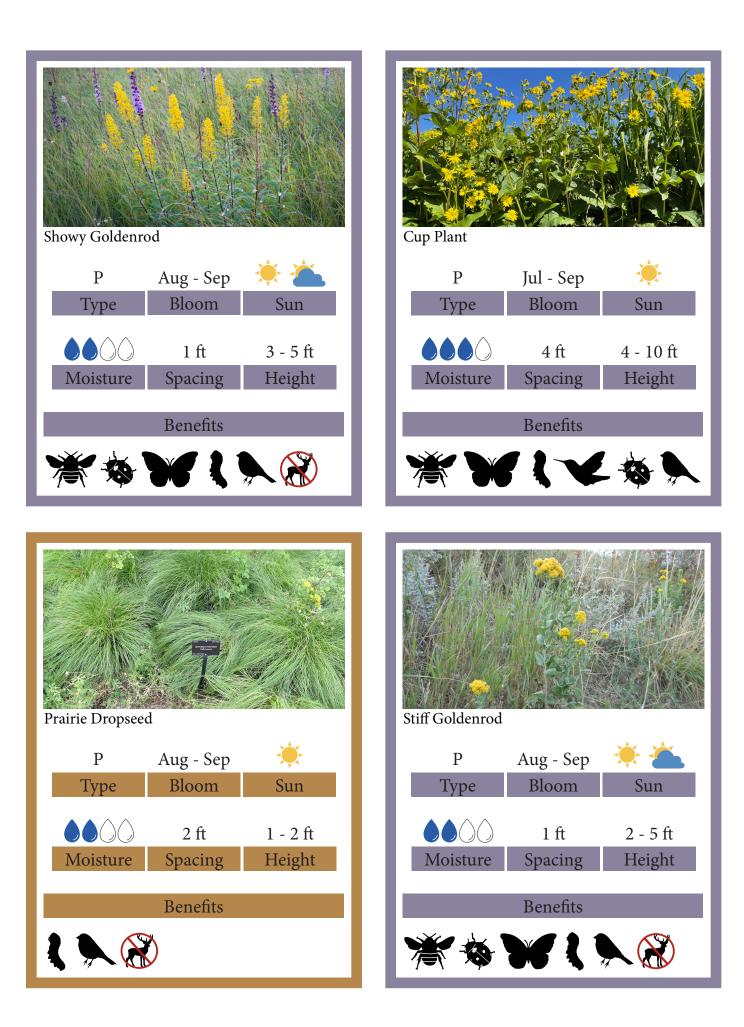


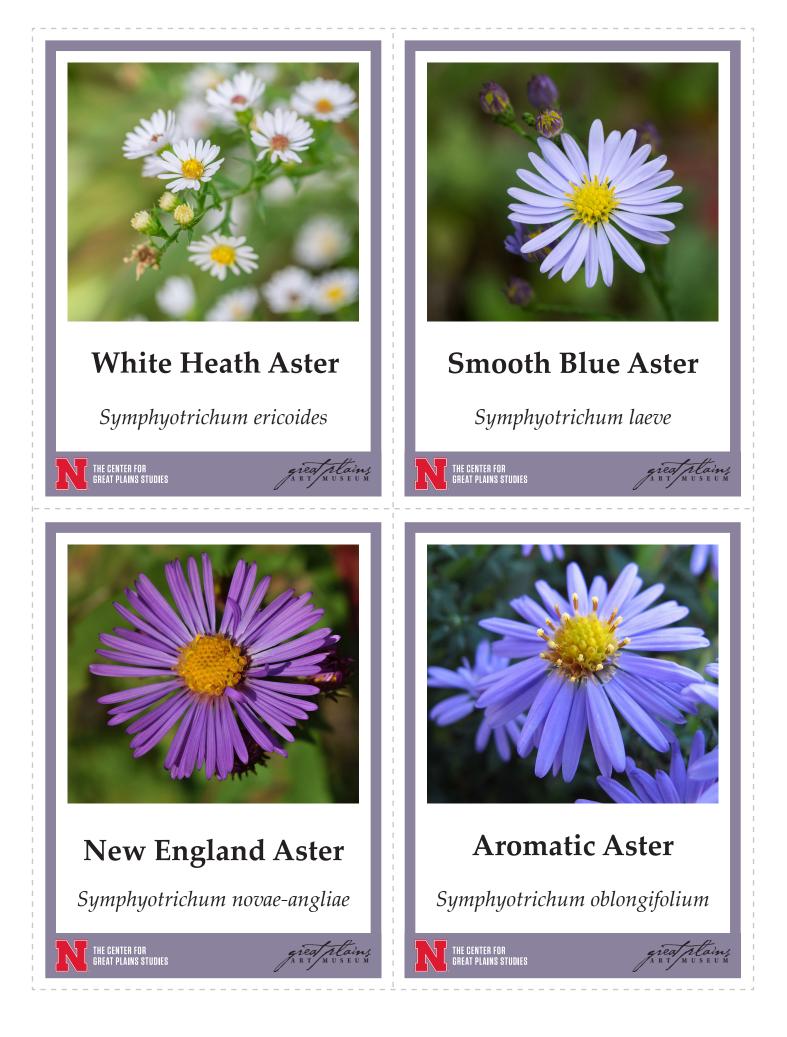






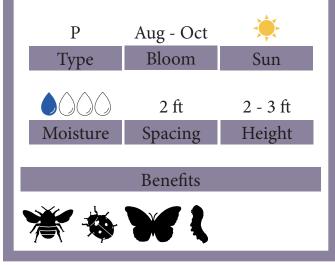






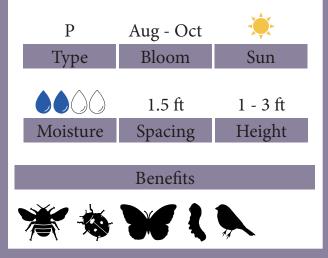


Smooth Blue Aster



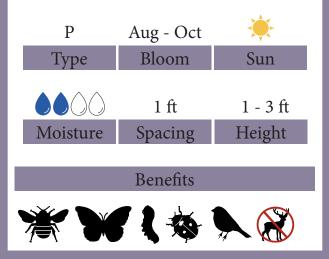


White Heath Aster





Aromatic Aster

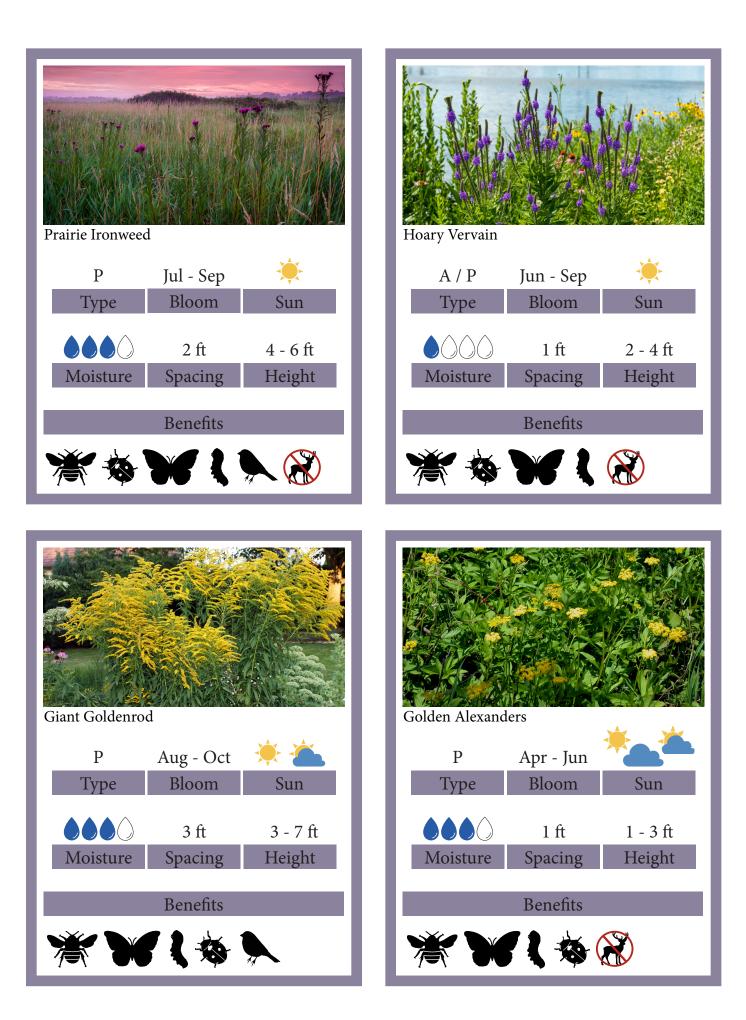




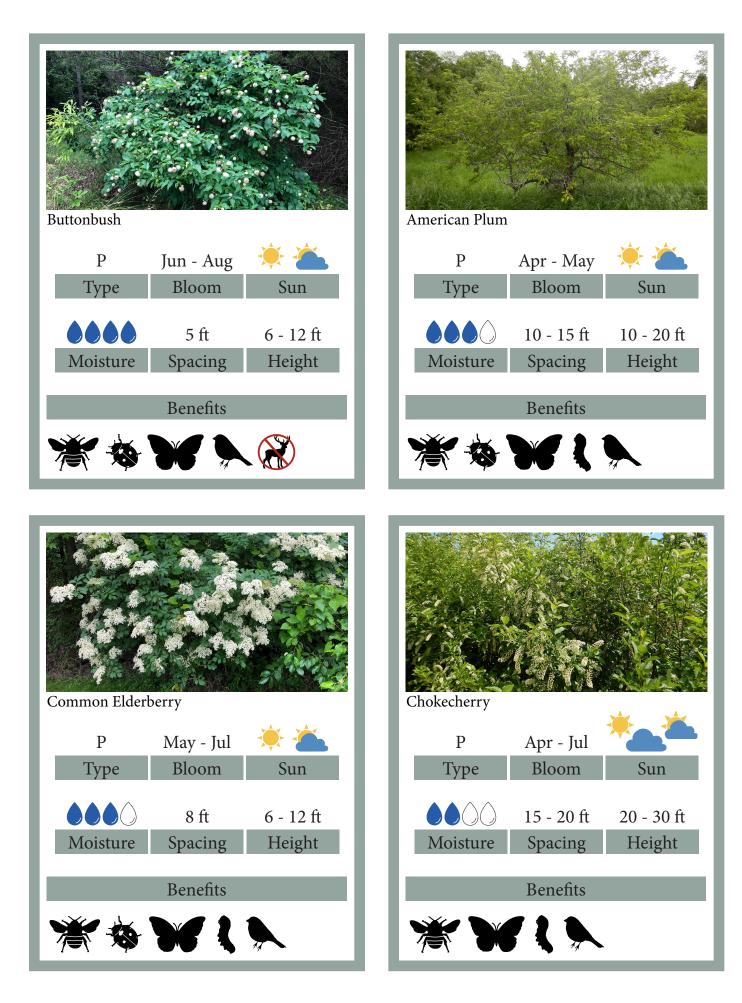
New England Aster

| Р              | Aug - Oct | ف 🔆      |
|----------------|-----------|----------|
| Туре           | Bloom     | Sun      |
|                | 1.5 ft    | 3 - 6 ft |
| Moisture       | Spacing   | Height   |
| Benefits       |           |          |
| ** <b>** {</b> |           |          |

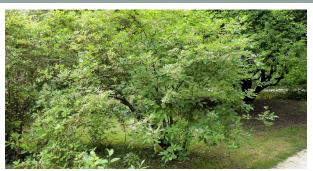




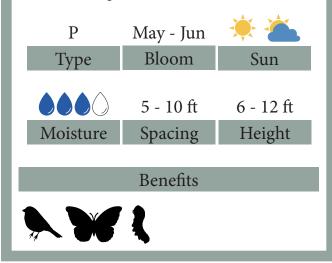


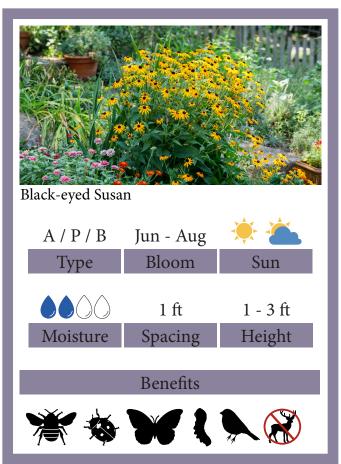


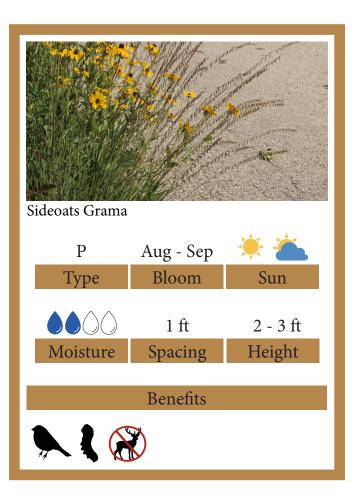


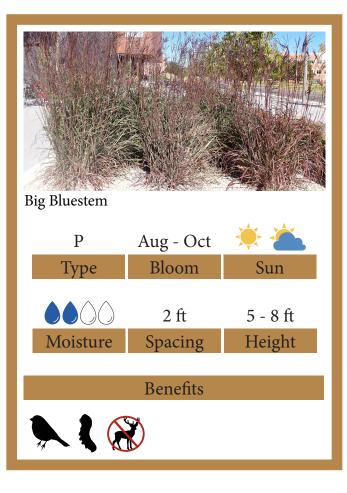


Red Osier Dogwood





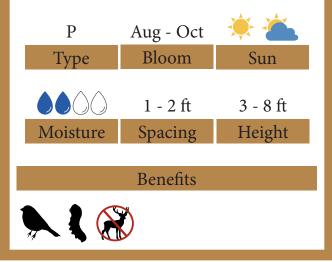






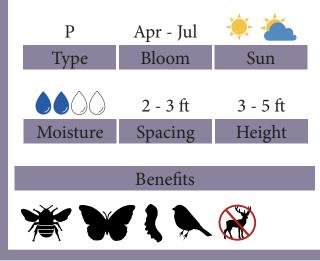


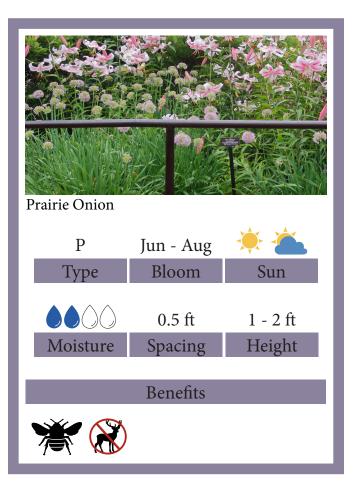
Indian Grass





Blue False Indigo





Key

## Benefits



Supports bumble bee & specialist bee pollinators

Supports butterfly & moth pollinators



Host plant for butterfly & moth larvae



Attracts birds for food, perching, or nesting sites



Hummingbird favorite for nectar



Attracts beneficial insects that pollinate & control pests



Resistant to deer foraging

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