

Spring into Science

POLLINATORS

JOIN US AS WE DISCOVER POLLINATORS!

A pollinator is something that carries pollen from one flower part to another flower part of the same species of plant to fertilize it and help it reproduce. Without pollen, most flowering plants would not be able to produce seeds. Some plants self-pollinate, some are fertilized when pollen is carried by water or wind, and other plants are pollinated by animals such as bees, wasps, butterflies, moths, hummingbirds, beetles and bats. Pollinators are important because they help create much of the food we eat every day like fruits, vegetables and nuts.

Spring is a great time to see pollinator animals in action. When flowers bloom, pollinators will visit flowers to eat and spread pollen as they go.

Let's learn more about pollinators as we spring into science!



For more activities visit samnoblemuseum.ou.edu/samnoblehome

LET'S READ

Find a comfortable spot and read about pollinators! Here are some ideas to get you started:

- *Bee detectives* by Rosie Albright
- *The Reason for a Flower* by Ruth Heller
- *Butterflies* by Karen Shapiro
- *Animal Pollinators* by Jennifer Boothroyd
- *What is Pollination* by Bobby Kalman

You can download digital copies of these books for free from openlibrary.org. Here is how:

1. Go to openlibrary.org.
2. Click the blue "sign up" button on the top right to create a free account. You will be sent a confirmation email.
3. Sign in.
4. Type the book title and author into the search bar.
5. Find your book and click the blue "borrow" button.
6. Don't forget to return your book when you are finished reading it!

KEEP GOING:

Set up an online reading group with some of your friends or family. You can read the same book, then talk about what you learned, or you can read different books and share amazing pollinator facts.

EXPLORING POLLINATORS!

Pollen is the powdery substance in the center of a flower. It can be yellow, brown, red, purple or white. Pollen can look like a circle in the middle of a flower, or lines or circles on tubes that come out of the center of the flower. Pollinators usually drink nectar from flowers. As they drink the nectar and eat pollen from the center of the flower, some of the pollen comes off on their feet, feathers or other body parts. The animal then visits another flower, spreading the pollen. When the pollen is spread, it helps make other flowers. Sometimes it is easy to see pollen in the middle of a flower and sometimes, you have to look more closely to find it. You can search for pollen in different flowers and even collect it like a pollinator does!

Before you start, you should have:

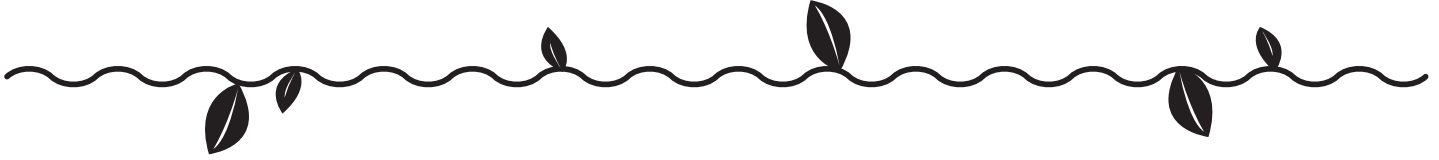
- A few pipe cleaners or pieces of yarn
- Clear tape or white masking tape
- A white piece of paper or journal
- A pencil or pen
- Art supplies like crayons, markers or colored pencils
- A place outdoors where there are flowers (backyard, field, park, etc.)

GET STARTED:

1. Go outside to a place where you can find flowers.
2. Write in your journal about the flowers you see. What colors are they? Do they all have the same shapes or different shapes? Can you see where the pollen is in the flower? What color is the pollen? Can you see any animals visiting the flowers, like bees or butterflies?
3. Take a piece of tape and loop it so that it sticks to itself with the sticky side up. Tape it to your journal.
4. Gently place a piece of string or pipe cleaner on the flower pollen, in the center of the flower. The string or pipe cleaner represents the legs of a butterfly or bee, or the feathers of a hummingbird. The pollen should stick to it.
5. Draw a picture of your string or pipe cleaner with pollen on it.
6. Press the string or pipe cleaner to the sticky side of the tape on your journal. The pollen should transfer to the tape.
7. Draw the flower next to its pollen sample.
8. Collect and draw the pollen and the flower it came from for as many flowers as you like.
9. When you are finished, remember to take all items back inside with you.
10. Think: Could you see the pollen on the flowers before you collected it? Did the pollen from different flowers look the same? Did you collect the same amount of pollen from each flower? Did you see any pollinator animals around the flowers you observed?
11. Share what you observed about flowers and pollen with someone!

KEEP GOING:

- Use different objects to see which collects pollen the best. You can use pipe cleaners, string, popsicle sticks, paintbrushes or straws.
- Group your pollen samples by color. How many colors of pollen can you find?
- Try to identify the species of plants you collected pollen from.



MAKE A POLLINATOR WATERING STATION!

Just like other living things, pollinators need water to survive. Pollinators can get water from puddles, dew on grasses or leaves from ponds. In the heat of summer, many of the smaller water sources that are easy for pollinators to drink from dry up. A pollinator watering station can help pollinators like birds, butterflies and bees get the water they need during the drier months of the summer. They are also a wonderful addition to your yard, porch or garden!

Before you start, you should have:

- A planting dish or pie pan
- Water beads and/or stones
- Water
- Paint
- Paintbrush
- A place outside near plants

GET STARTED:

1. Paint the pie pan or planting dish on the outside and allow it to dry. Do not paint the inside, as this is where the water will go. Bright colors are best to attract pollinators.
2. Fill the pie pan or planting dish with hydrated water beads and/or stones.
3. Find a place in the shade outside, near flowers or other plants, to place your watering station.
4. Gently fill the pollinator watering station with water. Fill it so that the waterline is just below the top of the beads or stones. The bees and butterflies need a dry place above the waterline to stand while they drink.
5. Remember to check your watering station often to refill it and keep it clean.

KEEP GOING:

- Search the internet for what colors attract pollinators. Use these colors to paint your watering station or place the watering station near flowers in colors pollinators like.
- Look up how to make a hummingbird feeder to attract different pollinators to your area.
- Make a log of the different animals that visit your watering station.

LET'S PLAY: FIND THE FLOWER

Bees use pollen to make honey, which they use as food during times when they can't forage. They gather pollen on their feet as they travel from flower to flower and, when they do, some of the pollen can fall off on other flowers, pollinating them! Bees are social insects and they live and work together in a hive. To help each other to survive, bees will tell each other where the best flowers are. Bees move and wiggle their bodies to communicate which direction other bees should go. Can you use movements to tell a partner where to find a flower?

Before you start, you should have:

- Paper
- Scissors
- The flower template provided (have Wilson draw a simple flower)
- Art supplies such as markers, crayons or colored pencils
- Space to move around and hide the flower
- A partner

GET STARTED:

1. Color and cut out the paper flower.
2. Before you start, work with your partner to come up with a motion for each direction. You can use the suggestions below or come up with your own! Make sure to practice a few times:
 - Forward: Jump
 - Backward: Spin in a circle
 - Left: Wiggle your foot
 - Right: Wiggle your arm
 - Down: Touch the floor
 - Up: Hold your hands above your head
 - Stop: Stomp the floor
3. Have your partner close their eyes while you hide the flower.
4. Lead your partner to the flower using the body motions.
5. See if your partner can find the flower using only the movements as directions!
6. After they find the flower, switch places, have your partner hide the flower and try to find it by watching their movements.

KEEP GOING:

- Make different colored flowers and set them all out. Use movements to communicate which color flower your partner should pick.



Sam Noble Home

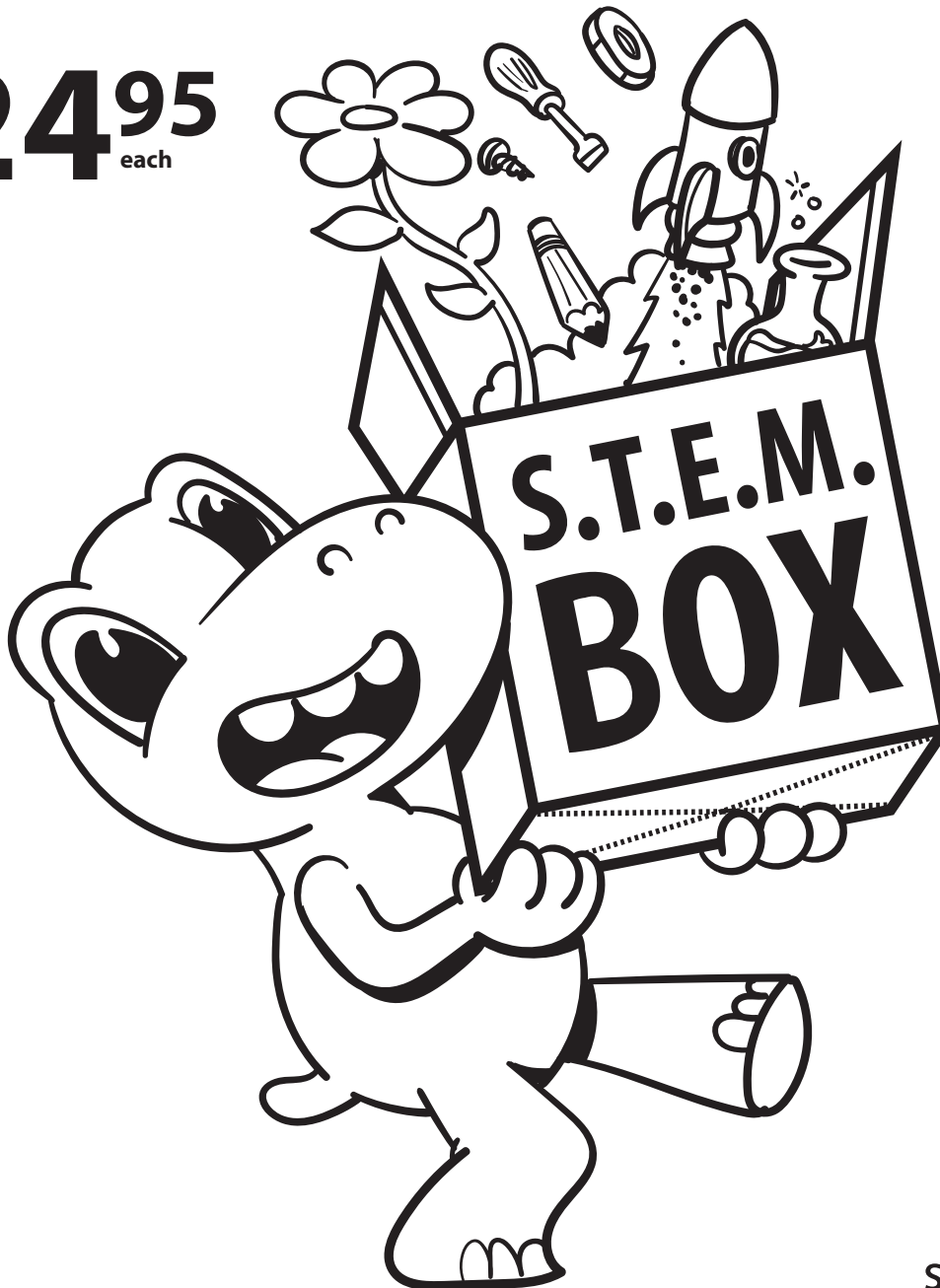


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The Sam Noble Museum brings the excitement of science discovery to learners at home with STEM Boxes.

Each themed box contains step-by-step directions and supplies needed to complete two or more hands-on activities that meet Oklahoma Academic Standards (OAS) and Next Generation Science Standards (NGSS) for grades K to 5.

\$24⁹⁵
each



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