LESSON PLAN PACKET

Pre-K and kindergarten

Pre-K to kindergarten, ages 3 to 6

Ages 3 to 6, pre-readers and early readers, with an adult or older buddy.

> **Big idea:** Plants feed animals. Some plants belong here and some do not.

This packet holds a 45-minute lesson, a reproducible student handout, and answer keys. It is built from the same data as the free games and tools on pollinatehappiness.com, a student-led project on Long Island where brothers Aidan and Ben Ellis have installed five native pollinator planters.

Lesson at a glance (45 minutes)

Time	Activity	What students do
0-5 min	**Circle time: who visits flowers?**	Look at a flower (real or a photo). Name animals that visit flowers. Buzz like a bee, flutter like a butterfly.
5-13 min	**Read-aloud picture quiz**	Watch the photo on the big screen, listen to the voice, and point or call out: friend to bees, or trouble?
13-21 min	**Feed the Bird**	Look at the bird. Take turns tapping the plant picture that gives it food.
21-28 min	**Name That Song**	Close eyes and listen to a bird song. Open eyes and choose the matching bird picture.
28-38 min	**Life Cycle in Order**	Put egg, caterpillar, chrysalis, and butterfly in order as a class. Then act it out: curl up, crawl, hang still, fly.
38-45 min	**Draw and tell (exit ticket)**	Draw on the student page while an adult reads each prompt. Tell a buddy one thing a plant gives an animal.

Extensions (another day, or early finishers)

- **Color and talk:** Coloring pages with one sentence each. Read the sentence together.
- **Go outside:** The Backyard bingo card with an adult reading the squares, or a visit to a planter.

Learning objectives

By the end of the lesson, students will be able to:

1. Point to or name one animal that eats a native plant (for example, the monarch caterpillar eats milkweed).
2. Put four pictures of a monarch's life (egg, caterpillar, chrysalis, butterfly) in the right order.
3. Tell a buddy whether a plant is a friend to bees or trouble, and give one reason.

Materials and prep

Materials

- Projector or large screen with speakers (the games read aloud and play bird songs).
- One tablet per small group with an adult, if available (optional; the whole lesson works on one screen).
- Student page from this packet, one per child, plus crayons.
- Optional: a real flower, a milkweed leaf, or a photo of one of our planters to pass around.
- Optional extension printouts: coloring pages and the Backyard bingo card (links below).

Before class

- Open each game link before class and turn on little-kids mode where the link includes ?mode=kids. Test the sound.
- Print the student page. Fold the exit-ticket strip under if children will draw first.
- Plan movement breaks: the life-cycle act-out works well between screen activities.
- Planning a walk? Each of our five planters has a printable field-trip sheet (see the Visit a real planter page).

Online activities (free, no sign-up)

- **Read-aloud picture quiz:** https://www.pollinatehappiness.com/games/native-or-invasive?mode=kids
- **Feed the Bird:** https://www.pollinatehappiness.com/games/feed-the-bird?mode=kids
- **Name That Song:** https://www.pollinatehappiness.com/games/name-that-song?mode=kids
- **Life Cycle in Order:** https://www.pollinatehappiness.com/games/life-cycle
- **Color and talk:** https://www.pollinatehappiness.com/games/coloring
- **Go outside:** https://www.pollinatehappiness.com/games/field-bingo

Vocabulary

Word	What it means
Plant	A living thing that grows in the ground and makes its own food from sunlight.
Native plant	A plant that has always grown here, like milkweed. Our bugs and birds know how to eat it.
Invasive plant	A plant from far away that spreads everywhere and crowds out the plants our animals need.
Pollinator	An animal, like a bee or a butterfly, that carries pollen from flower to flower.
Nectar	Sweet juice inside a flower. Bees, butterflies, and hummingbirds drink it.
Caterpillar	A baby butterfly or moth. It eats leaves and grows and grows.

Discussion questions

Each question is followed by what a strong answer sounds like.

1. **What do bees and butterflies get from flowers?**
   Strong answer: Food: sweet nectar to drink, and pollen for bees to carry home.
2. **What does a monarch caterpillar eat?**
   Strong answer: Milkweed leaves. It cannot eat anything else, so no milkweed means no monarchs.
3. **Why might a bird like a plant with berries?**
   Strong answer: Berries are food for the bird, especially in winter when there are no bugs.
4. **What comes after the caterpillar?**
   Strong answer: The chrysalis. The caterpillar hangs still inside it and turns into a butterfly.
5. **If a plant is trouble, what should we plant instead?**
   Strong answer: A plant that belongs here and feeds our animals, like milkweed or goldenrod.
6. **How did you know which bird was singing?**
   Strong answer: Names a clue: the sound was high or low, fast or slow, or it sounded like words.

Standards touchpoints

- NGSS K-LS1-1 (what plants and animals need to survive)
- NGSS K-ESS3-1 (relationship between the needs of living things and where they live)

Informal mapping to the Next Generation Science Standards; not a formal alignment. New York State's P-12 Science Learning Standards are built on the same framework; check your district's curriculum for exact codes.

STUDENT HANDOUT | free to copy

My Bee and Butterfly Page

Name _____ **Date** _____

An adult reads each part out loud. Draw, circle, and tell your buddy.

1. Draw a flower. Draw a bee or a butterfly visiting it.

2. Circle the plant a monarch caterpillar eats.

Milkweed Pizza Grass

3. Write 1, 2, 3, 4 to put the monarch in order.

☐ Butterfly ☐ Egg ☐ Chrysalis ☐ Caterpillar

4. Tell your buddy: what color flower would you plant? An adult can write it here.

EXIT TICKET

Circle: Do bees need flowers?

Yes No

Circle the one that is a pollinator.

Bee Rock Shoe

Draw one food a bird eats.

Answer keys

Games that draw random questions list the full pool they draw from. Games built live from local data or random recordings have no fixed key, so the teaching point is given instead. A printable set of all keys is at https://www.pollinatehappiness.com/educators/answer-keys.

Read-aloud picture quiz (Native or Invasive, kids mode)

Photos are drawn at random from the site's native and invasive plant lists, so there is no fixed key. The screen shows the answer after each tap. Teaching point: friend-to-bees plants are the ones our insects and birds can eat; trouble plants came from far away and crowd them out.

Feed the Bird

Each round draws from these bird-and-plant pairs.

Bird	Plant that feeds it	How
American robin	Winterberry holly	Robins strip winterberry's red fruit in late winter when little else is left.
Eastern bluebird	Winterberry holly	Bluebirds switch from insects to berries in winter; winterberry and bayberry carry them through.
American goldfinch	Purple coneflower	Goldfinches work coneflower cones for seed from August into February. Leave the stems standing.
Black-capped chickadee	White oak	A chickadee pair needs thousands of caterpillars to raise a brood, and oaks host more than any other tree.
Ruby-throated hummingbird	Scarlet bee balm	The tubular red flowers are built for hummingbird bills; cardinal flower and columbine work too.
Cedar waxwing	Serviceberry	Waxwings arrive in flocks and strip a serviceberry of June fruit in days.
Wood thrush	Northern spicebush	Spicebush's fat-rich red berries fuel thrushes on fall migration.
Gray catbird	Black cherry	Catbirds, along with 30 other bird species, feast on black cherry fruit in August.
Northern cardinal	Blue vervain	Cardinals and sparrows eat vervain seed through fall and winter.
Dark-eyed junco	Little bluestem	Juncos and sparrows glean little bluestem seed from the standing stems all winter.
Baltimore oriole	Serviceberry	Orioles time their arrival to early fruit like serviceberry and to caterpillars on oaks and cherries.
Blue jay	White oak	Blue jays carry and bury thousands of acorns a year, planting the next forest.
Eastern towhee	Highbush blueberry	Towhees scratch in leaf litter under blueberry and eat the fruit in July.

Bird	Plant that feeds it	How
Downy woodpecker	Goldenrod	Downy woodpeckers open goldenrod galls in winter to eat the fly larva inside.
House wren	Sweet pepperbush	Wrens hunt the insects that pepperbush and other native shrubs attract, and nest in the boxes we install.
Wild turkey	White oak	Acorns are a turkey's main fall and winter food.
Song sparrow	Switchgrass	Sparrows shelter and feed in standing native grasses all winter.
Northern mockingbird	Winterberry holly	A mockingbird will defend a fruiting winterberry against every other bird in the yard.

Name That Song

Birds and recordings are chosen at random, so there is no fixed key. The game names the bird after each answer. Teaching point: every bird has its own song, and listening is a way to find birds you cannot see.

Life Cycle in Order

Round 1 is the monarch. Rounds 2 and 3 are the spotted lanternfly and spongy moth, two invasive pests. Months are typical for Long Island.

Monarch butterfly

1. Eggs (Jun, Jul, Aug)
2. Caterpillars (Jun, Jul, Aug, Sep)
3. Chrysalises (Jul, Aug, Sep)
4. Adults (Jun, Jul, Aug, Sep, Oct)

Spotted lanternfly

1. Egg masses (Sep, Oct, Nov, Dec, Jan, Feb, Mar, Apr, May, Jun)
2. Early nymphs (Apr, May, Jun, Jul)
3. Red nymphs (Jul, Aug, Sep)
4. Adults (Jul, Aug, Sep, Oct, Nov, Dec)

Spongy moth (formerly gypsy moth)

1. Egg masses (Aug, Sep, Oct, Nov, Dec, Jan, Feb, Mar, Apr)
2. Caterpillars (May, Jun)
3. Pupae (Jun, Jul)
4. Moths (Jul, Aug)

Color and talk

No answer key. Read each page's one sentence together and ask children to repeat it to a buddy.

Go outside (Backyard bingo)

No answer key. Any square a child can show or describe counts.

Visit a real planter

Pollinate Happiness has five native pollinator planters on Long Island. Most of each planting is native perennials; the art museum's sensory planter and the high school planter also include some non-invasive ornamentals. All are at public or publicly accessible sites; check each site's hours before a visit. Bloom usually peaks July through September.

Wawapek Preserve

Cold Spring Harbor, NY 11724 | Suffolk County

Installed June 2021. Host: North Shore Land Alliance. Wawapek Preserve is open to the public from dawn to dusk. Park in the small lot off Shore Road and follow the meadow trail.

Field-trip sheet: https://www.pollinatehappiness.com/installations/wawapek/field-trip

Hicksville Public Library

169 Jerusalem Avenue, Hicksville, NY 11801 | Nassau County

Installed October 4, 2023. Host: Hicksville Public Library. The planter is in the front garden facing Jerusalem Avenue and can be seen any time the grounds are open.

Field-trip sheet: https://www.pollinatehappiness.com/installations/hicksville-library/field-trip

Theodore Roosevelt Sanctuary & Audubon Center

134 Cove Road, Oyster Bay, NY 11771 | Nassau County

Installed November 23, 2024. Host: Audubon New York. The sanctuary grounds and trails are open daily; the center building has posted hours.

Field-trip sheet:
https://www.pollinatehappiness.com/installations/theodore-roosevelt-sanctuary-audubon-center/field-trip

Nassau County Museum of Art

1 Museum Drive, Roslyn Harbor, NY 11576 | Nassau County

Installed Fall 2025. Host: Nassau County Museum of Art. The sensory planter is on the patio near the Manes Center; the nest boxes are along the meadow edge of the William Cullen Bryant Preserve.

Field-trip sheet: https://www.pollinatehappiness.com/installations/nassau-county-museum-of-art/field-trip

Syosset High School *(newest)*

70 South Woods Road, Syosset, NY 11791 | Nassau County

Installed September 28, 2026. Host: Syosset High School Environmental Club. The planter is at the front of the school beside the red Syosset High School sign on South Woods Road, visible from the sidewalk without entering the campus.

Field-trip sheet: https://www.pollinatehappiness.com/installations/syosset-high-school/field-trip

> **Field-trip sheets:** Each planter has a printable field-trip sheet at pollinatehappiness.com/installations/<slug>/field-trip with the address and host, what is planted, a look-for checklist that changes with the month, a five-question student worksheet, and a QR code back to the planter page.

Credit and sharing

You may copy and share this packet for classroom use. If you adapt it, please keep the credit line below.

How to cite

> Ellis, A., & Ellis, B. (2026). *Pollinate Happiness: native pollinator planters and tools for Long Island*. Retrieved from https://www.pollinatehappiness.com

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About Pollinate Happiness

Pollinate Happiness is a student-led project founded in 2021 by brothers Aidan and Ben Ellis, who started it in 5th and 6th grade. They have installed five native pollinator planters on Long Island and built free games and zip-code tools from public data so any class can use them.

Questions, corrections, or a request for a grade-specific version:
https://www.pollinatehappiness.com/contact

All activities by grade band: https://www.pollinatehappiness.com/educators