

LEARNING WITH *Sweetpotatoes*



Mini-Lesson

How to Grow a Monster

Grades K-2, Agriculture Education

Note: This mini-lesson can be used for high school students to teach elementary school students.

Mini-Lesson Focus:

- Pollination

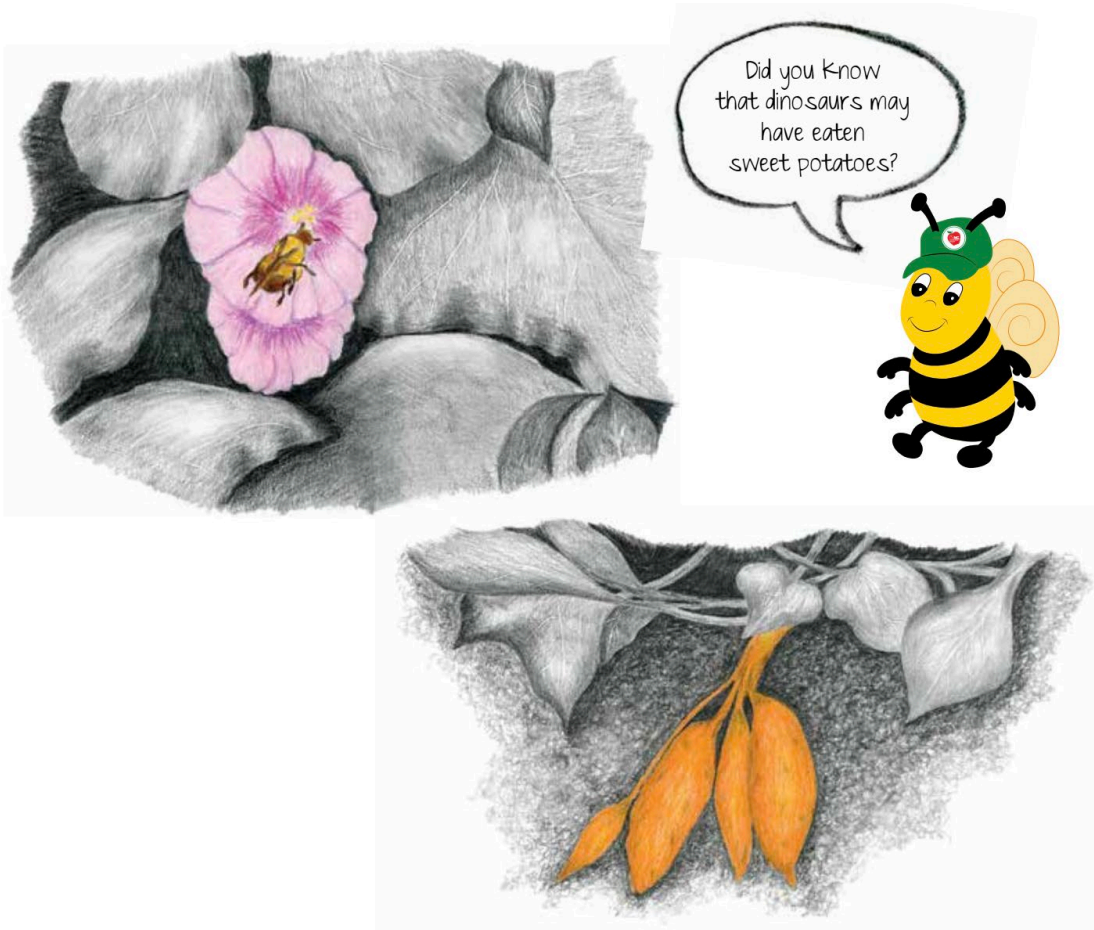
Background Knowledge

What is **pollination**? Pollination is the act of transferring pollen grains from parts of the flower, specifically, the male anther of a flower to the female stigma.

Procedures:

1. Prior to the mini-lesson, read the book [How to Grow a Monster](#).
 - You can also access [this read aloud version](#) if you don't have a copy of the book.
2. After reading the book, focus on one portion of the book to focus student attention to **pollination**.
3. Use the text excerpt from pages 12-13:
 - *"The plants grew bigger. When the flowers appeared, Kara told me the next part of her plan... The first kind of flowers pollinate the second kind. That's why we have to pick these flowers. No flowers, no pollination. No pollination, no zucchini."*
4. Ask students, "What do plants need to survive? What ways plants are pollinated?"
 - Create a storyboard, pinboard (using an old bulletin board, set at the front of the class, let students "pin" their ideas and thoughts using push pins and multiple pieces of scrap paper), or digital board with the different ideas from students.
5. Teachers: Ask specific questions to build thoughts and ideas.
 - *Are there misconceptions? As an educator, what do we need to do to negate the misconceptions?*
 - *How could you teach your students to share this with younger students?*
 - *What activities could you create to engage them in horticulture learning?*

6. Now that we have a great idea about pollination, let's connect it to sweetpotatoes!
7. Say, "Did you know that sweetpotatoes are not self-pollinating? In fact, to set the seed after germination, a sweetpotato flower stigma has to receive pollen grains. It cannot be from the same flower. The pollen has to come from a completely different plant. How does this happen?" Allow students to answer. Then say, "Sweetpotato plants rely on honeybees!"
8. Use the excerpt from the [From Farm to School – Crops of North Carolina: Digging for Sweetpotatoes](#).



Sweet potato vines have pink or purple flowers. Honey bees carry pollen from flower to flower. With their help, farmers can grow lots of sweet potatoes!

9. We can model this through a Pollination Activity!
 - All you need are a few cotton balls, a spray bottle with water and some glitter.
 - Each student will receive a cotton ball. Some students will have dry cotton balls and some will spray their cotton balls lightly with the spray bottle with water.

- Take a plastic cup of glitter and have students with dry cotton balls sprinkle glitter on their cotton ball. Explain to students that this is to show the honeybee collecting pollen.
 - Students with a glittery cotton ball will now walk over and connect their cotton ball with their fellow students with a wet cotton ball. Notice the glitter transfers and stays (from the dry, glittery ball to the wet one).
 - This is how different sweetpotato flowers are pollinated to grow and produce sweetpotatoes.
10. Have students model the pollination of a sweetpotato flower. Explain to students that the importance of pollination is to help grow more sweetpotatoes. It is very important to have healthy, flowering plants to ensure healthy, growing roots under the ground.

Additional lesson plans:

- [Flower Power](#) (Grades 3-5)

Subset of Standards:

Horticulture I

[NCCTE.AP41.03.00](#) - Summarize plant anatomy.

- [NCCTE.AP41.03.01](#) - Discuss biological terms used to describe plants.
- [NCCTE.AP41.03.02](#) - Discuss the anatomy and functions of plants.

Horticulture II

[NCCTE.AP42.01.00](#) - Understand leadership qualities.

English/Language Arts

Kindergarten

RI.K.1/RL.K.1 With prompting and support, ask and answer questions about key details in a text/multimedia.

RI.K.4/RL.K.4 With prompting and support, ask and answer questions about unknown words in a text/multimedia.

1st Grade

RI/RL.1.1 Ask and answer questions about key details in a text.

RI/RL.1.3 Describe the connection between two individuals, events, ideas, or pieces of information in a text.

2nd Grade

RI.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

Science

Kindergarten

K.L.1 Compare characteristics of animals that make them alike and different from other animals and nonliving things.

1st Grade

1.L.1 Understand characteristics of various environments and behaviors of humans that enable plants and animals to survive.

Thank you
to our partners

