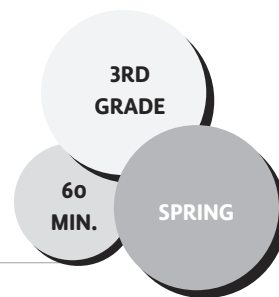


Planting the Three Sisters

THEME: GROWING AND ACCESSING HEALTHY FOOD



ESSENTIAL QUESTIONS

How are plants dependent on one another?

How do we depend on one another?

LEARNING OBJECTIVES

- ✓ Students will be able to plant a garden bed and care for it through harvest.
- ✓ Students will be able to describe the method of companion planting known as The Three Sisters.
- ✓ Students will be able to explain how plants, like humans, can depend on one another.

CONCEPTS

Three sisters interdependence tool safety

Engaging the Classroom Teacher

- Prior to the lesson, ask the teacher about students' familiarity with performing and presenting stories. Together you can determine how to structure Action Step 6 and whether there is a younger class of students who students would enjoy performing for.
- Ask the teacher whether they have established groups of 3–5 students who work well collaboratively.
- During Action Step 2, suggest that the teacher support students in writing down their examples of interdependence.

- During Action Steps 4 and 5, suggest that the teacher supervise groups working on creating their retellings as you plant with groups.

LESSON DESCRIPTION

In this lesson, students learn about the traditional Haudenosaunee planting of The Three Sisters and the accompanying legend. Students will think about the mutual interdependence of the plants, plant a Three Sisters bed, and think about other growing practices they may be familiar with. In groups, they devise a creative retelling of the legend to share with other students. When teaching this lesson locally, it should be planned with and informed by local native and indigenous community input.

MATERIALS

- The Three Sisters' Roles Worksheet (p. 395) for each student
- Index card for each student
- Pencils
- The Three Sisters Poster (p. 396)
- Bag of props for students to use for their Three Sisters representations
- Corn starts, bean, and squash seeds (see Preparation)
- 3–5 trowels
- 3 watering cans
- Hose (for refilling watering cans)
- Paint stirrers (as plant markers)
- Permanent marker

PREPARATION

- › Become acquainted with Haudenosaunee legend The Three Sisters. Consult with local Native and Indigenous communities for input on historical accuracy, significance of the story of Three Sisters, and current growing practices. Note: The Three Sisters planting story and practice may vary across regions and groups of people. Invite these variations based on community and from student experiences with this technique.
- › Research who are the native people(s) of in your region and, if relevant, learn what variation of companion planting is traditionally grown.
- › Consult a local planting guide to make your selection. These crops should be planted after the threat of frost has passed. If garden programming is not in session in summer, you can plant winter squash, dry beans, and popping corn to be harvested in the fall (as opposed to summer squash, pole beans, and fresh corn varieties such as Mountain Pima, Hopi Sweet, Cherokee White).
- › Because corn needs a head start from the beans and squash, plant the corn yourself two to three weeks ahead of your meeting with students, or have corn starts to plant along with the squash and bean seeds.
- › Scout a location for your Three Sisters bed. You'll want it in a place that receives direct sunlight most of the day. There are many design options for your bed, but a 3-foot round mound is a common practice, containing four corn plants, two bean plants, and one squash plant on the outside. If you have a large class, you might have each group plant one Three Sisters mound. But

if you are teaching this lesson to more than one class, and your garden space is limited, each group within a class can plant one sister each.

ACTION STEPS

1. Storytelling: Gather students in a circle, and tell them the story of The Three Sisters. You might display the Three Sisters Poster as you tell the story. Explain, *The Native Americans confederacy of tribes, the Haudenosaunee tell a story of three sisters who love and support one another. There is the oldest sister, Corn, who grows very tall and lends support to her younger sister, Bean, who wraps herself around her older sister. Without Corn, Bean wouldn't have a place to climb and reach closer to the Sun. Bean helps her sisters by feeding food to the soil through her roots. Then there's the youngest sister, Squash, who's happy to stay close to the ground where she can fan her wide leaves out and bathe in sunlight from down there. She helps her sisters by shading the ground, keeping the earth moist with water, and preventing other weed plants from growing.* As you name each crop, offer a hand gesture or ask students for suggestions to associate with them. For example, for beans you might twirl your finger up toward the sky. Ask, *Why do you think the three crops of food that are grown are called sisters?* (5 min.)

2. Discussing Interdependence: Hand out an index card to each student. Explain, *When you have a relationship with someone or something where you each depend on one another, that's called interdependence.* Have students repeat the word, and ask, *We have interdependence in our classroom; where else do we have interdependence?* Say, *Think of someone you rely*

on. Describe in a sentence on your card how you depend on them. For example, maybe it's depending on a classmate to hold the door for you or a caregiver to take care of you when you're sick. Give students a moment to write their sentence, then say, *Now turn your card over and write something you do to help that person.* Have students share examples of the interdependence among their friends and family. **(10 min.)**

3. Explain: Pass out Three Sisters' Roles Worksheet, and show students the Three Sisters Poster. Go over the role of each sister crop, and have students match the roles to the crop on their worksheet. Ask, *Are you familiar with the three sisters planting method or other companion planting techniques? What, if any, traditional planting techniques does your family use? or What are some other examples of interdependence you notice in the garden?* **(5 min.)**

4. Three Sisters Role Play: Explain to students that they'll get into groups to come up with a creative way of telling The Three Sisters story while groups take turns planting. Say, *You can create a skit, and act out the roles of The Three Sisters; you can write a poem; or you can sing a song.* Explain that they should have one person be the recorder for their group, and they'll be sharing their version with the class after everyone has planted. **(25 min.)**

5. Planting: Call up one to two small groups at a time to help with planting. Demonstrate tool safety and proper planting techniques for the group before you pass out seeds or starts. Emphasize respect for the plant. Demonstrate for students how they might speak to the

plants to encourage their growth and express gratitude for the abundance they'll provide. Have each group water their plants and identify them with plant markers **(8 min. per group)**

6. Performing: Gather students in a place where each group can present their story of The Three Sisters. Remind students to be a respectful audience to their peers. **(15 min.)**

REFLECTION

Have students discuss the following questions in small groups, then share with the class: **(5 min.)**

Social and emotional learning

- *Working in your groups today, when did you show interdependence or relying on one another?*
- *Ask yourself: Was I safe and respectful planting in the garden today?*

Check for understanding

- *What did you think was the most important point to get across in your retelling of The Three Sisters story?*
- *How do The Three Sisters crops depend on one another to grow and stay healthy?*
- *How do you depend on others to grow and stay healthy?*
- *As we watch the three sisters crops grow, What examples of interdependence do you expect to see?*

ADAPTATIONS

Cooking Extension: Create a Three Sisters meal such as a salsa, stew, or tacos with corn tortillas, zucchini, and beans.

Nutrition Extension: Adapt the first grade lesson Go, Grow, Glow to show how each of

The Three Sisters is a go, grow, or glow food. Point out to students that eating the Three Sisters together provides all the nutrients we need, which further demonstrates the idea of interdependence.

Flour Extension: Have students shuck ears of corn, and use a grinder to turn the corn into flour.

Graphic Novel Adaptation: Instead of a skit, or in addition, have your students fold a piece of paper into eight equal sections and then create a cartoon or graphic novel depicting The Three Sisters and how they help one another.

Sharing with Younger Students: Have students share their retelling of the legend of The Three Sisters to younger grades who can help with tending the beds.

ACADEMIC CONNECTIONS

English Language Arts Common Core State Standards

CCSS.ELA-LITERACY.W.3.3

Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Next Generation Science Standards,
Disciplinary Core Idea

NGSS.LS2.A

Interdependent Relationships in Ecosystems

The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals

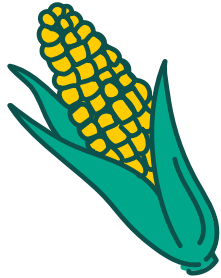
eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as “decomposers.” Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.

Name: _____ Date: _____

The Three Sisters' Roles Worksheet

Directions: Match each plant with what it provides to its plant sisters.

CORN



SHADE

BEANS



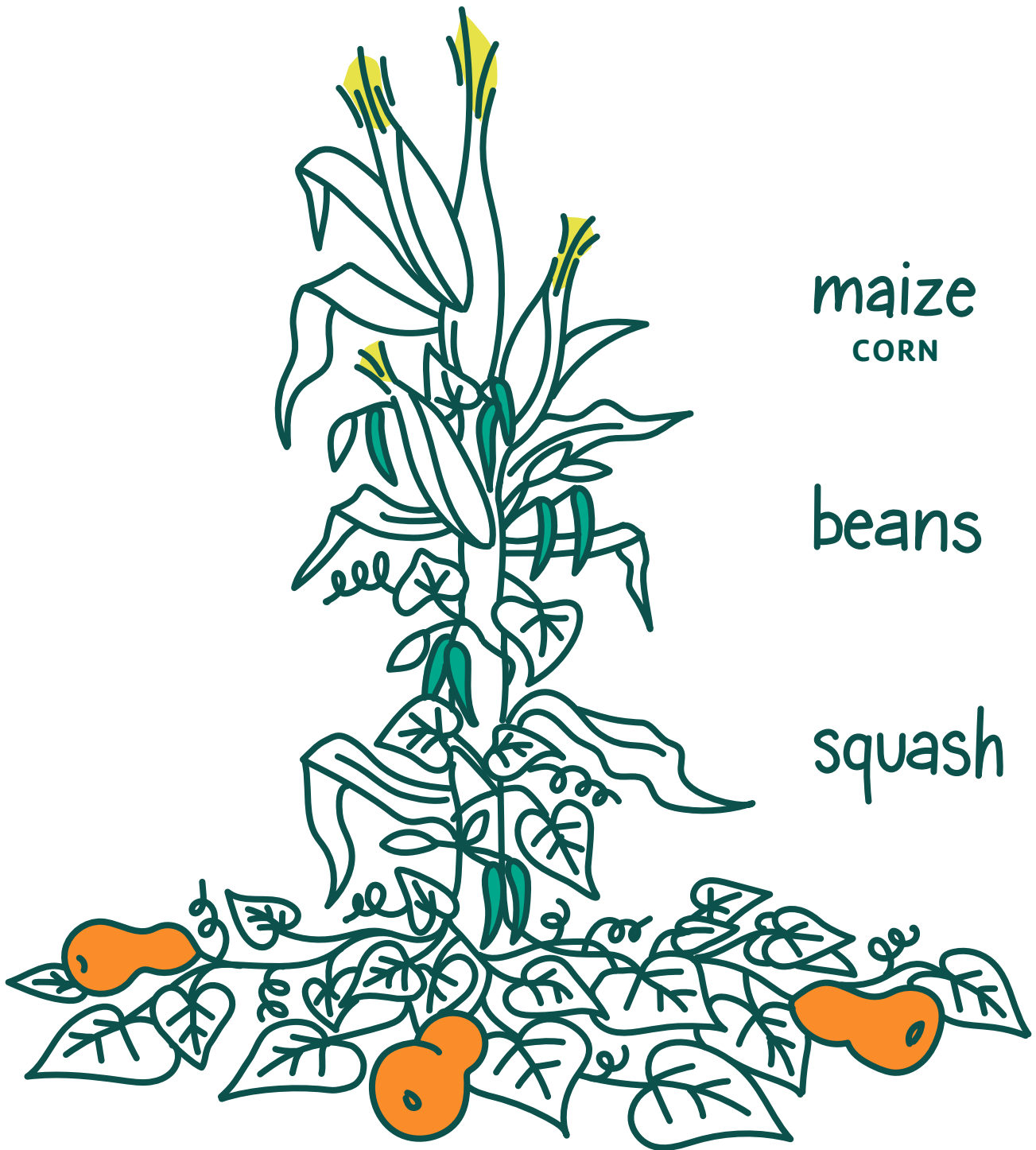
TRELLIS

SQUASH



NUTRIENTS

THE THREE SISTERS



maize
CORN

beans

squash