

# Native Farm to School

A Project of First Nations Development Institute



## GARDEN LESSONS

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# PLANNING A GARDEN

**Preparation:** Gather materials

**Time:** 30 minutes

**Information:** A successful garden takes some planning. Square-foot gardening maximizes production by using space as efficiently as possible. This lesson uses square-foot gardening to show approximately how much space plants need to grow.

**Materials:** Square-foot Gardening vegetable cards; glue; grid paper

**Topics/Goals/Learning Objectives:** Students will practice planning their own garden before planting their classroom garden. Students will understand different plants need different amounts of space to grow. Students will understand the general process of planning a garden.

**Opening/Hook:** How do we plant a garden? Do we just throw seeds everywhere? (Nooooo)

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## THE PLAN:



**1.** Explain to students that they will be practicing planning a garden. Ask students to stretch their arms out while they are standing near each other - are they comfortable? No. Just like us, plants need space to breathe and grow, and different plants need different amounts of space. Bigger plants need more space, smaller plants need less.



**2.** Distribute vegetable cards and "garden plots" (grid paper). Encourage students to try and "plant" as many vegetables as possible. Have them arrange their garden before distributing glue to glue their "plants" down.



**3.** Ask each student to present their garden. Discuss the possible merits of each.

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## Wrap-Up/Reflection Extensions/Adaptations/Game

If applicable, vote on one or two "garden plots" to use as models for the next season's outdoor classroom garden space. Discuss what was easy/challenging about planning a garden. Discuss other factors to consider when garden planning (direction of sunlight, water, companion planting, etc.)

# THE BIG THREE NUTRIENTS

**Preparation:** Gather materials

**Time:** 30 minutes

**Materials:** Soil testing kits; soil and water mix for testing, nutrient deficiency references

**Background:** Function of each nutrient - nitrogen, potassium, and phosphorus.

**Topics/Goals/Learning Objectives:** Students will understand that that soil contains nutrients that plants need. Students will be able to identify “big three” nutrients for plant growth.

**Opening/Hook:** Ask students what they ate for breakfast and trace each thing back to soil. All our food begins as dirt!

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## THE PLAN:

**Soil testing:** Demonstrate how soil testing kits work. Split students into three groups and test pre-mixed soil and water mixture for each of the three major nutrients: nitrogen, potassium, and phosphorus.

**Nutrient functions:** Explain the function of each of the nutrients (in basic terms).

- **Nitrogen** helps plants get food from the sun and make them green.
- **Potassium** is in charge of water in the plant.
- **Phosphorus** helps develop roots and flowers.

What happens when we don't get the nutrients we need? (fatigue, poor performance, etc.) Same for plants!

**Plant doctors:** Pass out sheets with photos of nutrient-deficient tomato plants. Go to the greenhouse and see if any of our tomato plants look like the photos.

**Predictions:** Make predictions based on our diagnoses. Will our soil be low in nitrogen, potassium, or phosphorus? Look at results of soil tests.



◆ **NATIONAL HEADQUARTERS**

First Nations Development Institute  
2432 Main Street, 2nd Floor  
Longmont, CO 80501

303.774.7836  
303.774.7841

info@firstnations.org

◆ **NEW MEXICO FIELD OFFICE**

First Nations Development Institute  
4263 Montgomery Boulevard NE, Suite I-230  
Albuquerque, NM 87109

505.312.8641  
303.774.7841

info@firstnations.org

**www.firstnations.org**

