



FLORIDA BLUEBERRY



WANT A FUN FIELD TRIP IDEA?

Visit a U-Pick blueberry farm! Students can fill their own buckets of blueberries and learn where their blueberries actually come from.

For more resources, visit these websites:

All About Blueberries
www.blueberrycouncil.org

Blueberry Information
https://edis.ifas.ufl.edu/topic_blueberry

Blueberry Recipes
FDACS.gov/recipes

Florida Farm to School:
FarmToSchoolFL.com

National Farm to School Network:
www.FarmToSchool.org



DEAR TEACHER

This month's Harvest of the Month is the blueberry! The lesson plans and activities provided in this packet were developed to guide your classroom's understanding of the origins and nutritional benefits of the sweet and delicious blueberry. We hope you are able to utilize all of the activities and encourage students to try blueberries with their morning oatmeal, as a snack or in a salad at lunch!

CLASSROOM RECIPE

BLUEBERRY & YOGURT BREAKFAST CUPS

Serves 50

INGREDIENTS:

- 3 1/8 quarts granola
- 6 1/4 quarts low-fat vanilla yogurt
- 4 1/4 pounds blueberries

PREPARATION:

1. Using 1 cup serving cups, put 1/4 cup of granola into each of the cups, then top each with 4 ounces of low-fat vanilla yogurt and 1/4 cup of blueberries.
2. Keep refrigerated until ready to serve.



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MATH

**STANDARDS:** MAFS.4.MD.1.1,MAFS.5.MD. 1.1**ESTIMATED TIME:** 40 Minutes**OBJECTIVE:** Students will convert measures of mass.**MATERIALS:**
No additional materials required.

INTRODUCTION: Background: Blueberries are most often sold in pints which weigh approximately 12 ounces. An average serving size of blueberries is 1 cup or 140 grams which contains about 80 calories and has no cholesterol or fat. Teacher will describe that mass is used to measure the amount of matter in an object. Though similar to weight, mass and weight are not the same. Weight is the measure of the gravitational force on an object. Mass can be measured in metric units (grams, kilograms, centigrams, milligrams) and imperial units (pounds, ounces and tons). See the PowerPoint for additional information and resources for converting units of measure. As practice, ask students to convert the average serving size of blueberries into kilograms and milligrams. Convert the average weight of a pint of blueberries to pounds.

GUIDED ACTIVITY: The teacher will label the four corners of the room -pounds, ounces, grams and centigrams. Next, the teacher will present a series of problems to students using the front board (examples 16 __ = 1 pound). Students will stand and move to the corner of the room that completes the statement. Call on individual students to defend why they choose the station.

INDEPENDENT ACTIVITY: Students will complete the “Measuring Mass” farmers market worksheet provided.



SOCIAL STUDIES

**STANDARDS:** SS.3.G.2.3, SS.5.G.2.1, SS.5.G.4.2, SS.4.G.1.4**ESTIMATED TIME:** 30 Minutes**OBJECTIVE:** Students will identify all 50 states and explore their agricultural impact.**MATERIALS:**
• Coloring materials

INTRODUCTION: Background: After California, Florida is the second largest fruit producing state in the country. Texas, Oregon, Wisconsin, New York and Pennsylvania are among the other top producers. Though blueberries can be grown all over the United States, 38 states grow blueberries for commercial sale. Ten of these states are responsible for 98% of the U.S. production of blueberries. Florida is ranked 8th out of all 50 states for blueberry production. See PowerPoint for additional information and resources.

GUIDED ACTIVITY: As a class, discuss the impacts of living in an agricultural state. How does it affect the economy? The environment? What might it do to the price of local products? What natural resources support an agricultural state? How about climate?

INDEPENDENT ACTIVITY: Using the “State Production” worksheet provided, students will label all 50 states on the map. Using the color-coded key, students will color the top producing states of common fruits.



SCIENCE



STANDARDS: SC.4.P.8.1, SC.5.P.8.2, SC.5.P.8.1, SC.4.N.1.1

ESTIMATED TIME: 60 minutes

OBJECTIVE: Students will identify the common characteristics of acids and bases.

MATERIALS:

- Red cabbage juice indicator
- Blank paper

INTRODUCTION: One of the critical factors for growing and maintaining a successful garden is to measure and monitor the pH of soil. The teacher will describe that solutions can be characterized as acidic or basic. We can measure how acidic or basic a substance is using the pH scale which ranges from 0 (very acidic) to 14 (very basic). A pH of 7 is considered neutral. Acids are sour, and will turn a pH indicator red. Acids fall between 0-6 on the pH scale. Bases are bitter, slippery and turn a pH indicator blue. Bases, or alkaline solutions fall between 8-14 on the pH scale. How does this relate to soil? Well, most crops grow best in a slightly acidic soil, somewhere around 6 and 6.9 on the pH scale. The pH of Florida's soil varies across the state and is influenced by many different factors. Though soil is not a solution, when it mixes with water, the soil's minerals dissolve to form a nutrient rich solution. The median pH of Florida's soil is 6.9. Different plants have adapted to thrive in soil with a various pH levels. Blueberries are unique because they grow best in more acidic soils (pH 4.5-5.5).

GUIDED ACTIVITY: Teacher will prepare a red cabbage indicator the night before. See the PowerPoint for additional information and resources on how to make a cabbage indicator. Next, allow students to test the pH of different liquids - water, soapy water, lemon juice, milk and any other solutions of your choice. Students will first predict if the substance is an acid or base. Then, they will test each solution using the cabbage juice indicator. If the solution is an acidic, the solution will turn red when the juice is added. If the solution is a base, it will turn blue when the cabbage juice is added. Have students complete the "Exploring pH" observation sheet provided.

INDEPENDENT ACTIVITY: Ask students to think about what would happen to plants if the soil was too acidic or too basic? In small groups, ask students to create an experiment to test how soil pH affects plant growth. Discuss the strengths and limitations of each experiment. **Extension:** Try one of the proposed experiments as class.



LANGUAGE ARTS



STANDARDS: LA.3.2.1.7, LA.3.4.1.2, LA.5.2.1.7, LAFS.4.L.3.5

ESTIMATED TIME: 60 Minutes

OBJECTIVE: Students will differentiate between similes and metaphors and cite examples in the poem "Blueberries" by Robert Frost.

MATERIALS:

No additional materials required

INTRODUCTION: Teacher will describe the difference between a simile and metaphor. A simile is a form of figurative language that compares two unlike things using the words like or as. A metaphor is an implied or hidden comparison between two things or objects. As a class, read the poem or excerpt from "Blueberries" by Robert Frost. This is a higher level text so stop along the way to clarify vocabulary and check for understanding. As students listen and follow along, ask them to underline any similes and/or metaphors they come across.

GUIDED ACTIVITY: Students will read the text a second time in small groups. Reading for comprehension, ask students to explain what happens in the beginning, middle and end of the poem.

INDEPENDENT ACTIVITY: As a class, generate a list of words that describe the look, taste, feel and smell of blueberries. Students will create their own short blueberry poem on the "Using Similes and Metaphors" worksheet using the words listed. Challenge students to include one simile or metaphor in their work. Share poems with us at FarmToSchoolFL.com.

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For more information or to provide feedback, please visit us online

FarmToSchoolFL.com

TASTE TESTING IN THE CLASS

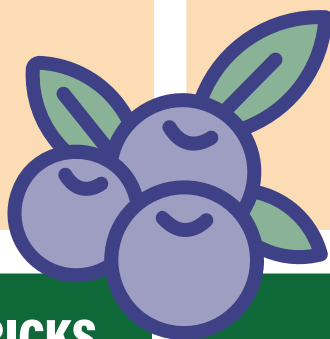
- Ask students about their favorite types of berries. Tell them nutritional benefits of different berries.
- Invite all school employees and even family members to the taste test.
- Make sure all those who assist in making the taste test a success are recognized and encourage their continued involvement.

TASTE

NUTRITION EDUCATION

- Just one 1/2 cup serving of blueberries delivers almost 25% of your daily requirement of vitamin C.
- The pigments that give blueberries their color are antioxidants that help fight cancer-causing free radicals in the body. Research indicates that adding a half a cup of fresh blueberries daily to an average healthy diet would essentially double the body's antioxidant level.

LEARN



SCHOOL GARDEN TIPS & TRICKS

- Blueberries are very cold tolerant and require some chilly nights to grow well.
- Blueberry blossoms need pollination in order to fruit. Choose several different varieties, but check with your local nursery expert first.
- Blueberry bushes are a great addition to any garden. They are easy to maintain and well worth the reward.

GROW

BOOK SUGGESTIONS

“Blueberries for Sal”
by Robert McCloskey

“Jamerry”
by Bruce Degen

READ