January - Lesson Plan Grades 2-3

FOCUS ON FRUITS

Begin each nutrition education lesson with a short physical activity break from the card set provided by IDPH. Have fun and get active with your students!

Objectives

Understand the basic definition of a fruit.

Understand why we need to eat foods rich in vitamin C.

Supplies Needed

January
Pick a **better** snack™ & **Act** bingo card

Mangos

Oranges

Knife

3rd Grade – "Mango Mania" worksheet

Tasting Opportunities

Featured Fruits:
- Mango
- Orange

Background

Fruits are the edible parts of a plant that develop from the flower. (Fruits usually grow on trees, shrubs, or vines that grow for many years.) Fruits are often rich in vitamin C that helps our bodies heal cuts and wounds, and build bones and teeth. When eaten with food rich in iron, it helps your body absorb the iron.

A child, 4-14 years old, needs 1½ cups of fruit per day. It is better to get most of the 1 ½ cups from whole fruit, rather than fruit juice.

The January bingo card features the mango. The mango is called the "king of fruit". It is the most popular fruit in the world. Its taste resembles a mix of oranges, peaches, and pineapples.

The mango originated in India or Southeast Asia nearly 4000 years ago. It grows on evergreen trees. Some grow as tall as 60 feet! The mango tree grows best in sub-tropical and tropical environments. Most of the mangoes sold in the United States are grown in Haiti, South America, Mexico and the Caribbean.

Mangoes are 2-4 inches in length and are very colorful. They are greenish, yellowish, or reddish in color. Inside them is a flat, hairy seed. Mangoes are very rich in vitamins A and C. Vitamin C helps our bodies fight infection and heal wounds. Vitamin A is very important for healthy eyesight, skin, growth, and helps our body resist infection. Compared to other fruits, mango has the greatest amount of beta-carotene. Beta-carotene is part of a family of phytonutrients called carotenoids. Evidence indicates that phytonutrients may protect the human body from certain cancers and heart disease.

The other feature fruit on the bingo card is an orange. Oranges are thought to have originated in Southeast Asia in

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ancient times. They were known to have a bitter or sour flavor at that time. Sweet oranges were first grown in Spain. One kind of sweet orange, the Naval orange, originated in Brazil. Columbus introduced a variety of citrus fruits, including oranges, to the United States in the late 1400's. The United States is now the 2nd largest producer of oranges. Brazil is the leading producer.

Oranges, like mangoes, grow on evergreen trees. The orange trees only grow up to 30 feet tall. Orange trees grow best in sub-tropical and semi-tropical climates.

Like mangoes, oranges are also high in vitamin C. Vitamin C helps our bodies fight off infections and heal wounds. Oranges are also a good source of folate and fiber. Folate is needed for growth and development. Fiber helps move food through our bodies.

Orange juice is made from the juice that is squeezed out of an orange. Fruit juice must be 100% juice to count toward the daily fruit recommendation. If a beverage is labeled a "juice drink," it is not 100% fruit juice. Juice drinks have added sugar and water and are typically fortified with vitamin C. Many popular juice boxes, pouches, and bottles are juice drinks.

Web Site Resources

www.idph.state.ia.us/pickabettersnack
www.fruitsandveggiesmorematters.org
www.choosemyplate.gov

Do the Activity: 2nd Grade

Fruit Riddles – Solve the following riddles with the students. After the riddle is solved, ask whether the item meets the definition of a fruit *(edible part of a plant that develops from the flower, generally found on bushes and trees).*

I grow on a tree and I'm yellow, juicy and oh so fair. What am I? *(Pear)*

I grow on a bush in big purple bunches. With one bite you can eat me. What am I? *(Grape)*

I grow on a tree and I'm round and orange. You can squeeze me for juice or peel and enjoy. What am I? *(Orange)*

I'm the tastiest berry that you ever saw, but I'll tell you I'm not made of straw. What am I? *(Strawberry)*

I grow on a tree with skin oh so fuzzy. Watch out when you bite me because my pit is big. What am I? *(Peach)*

I come in red, green or yellow. Before you eat, turn my skin inside out and watch out for my pit. What am I? *(Mango)*

I'm smooth and I'm yellow. I grow in a bunch. I'm great for lunch-just peel me. What am I? *(Banana)*

3rd Grade

Mango Mania Worksheet – Distribute worksheet to students.

Talk It Over:

How many students have tasted an orange? Have they tasted a mango? Oranges are very popular and have been sold in stores for many years. The mango is becoming more popular but many children have not tried it. *(Teacher may want to tell children how old they were when they first tasted a mango.)*

Which foods in the riddles are on the January bingo card? *(Oranges and mangos)*

Who knows what the difference is between a fruit and a vegetable? *Fruits come from trees and bushes. (An exception to this is strawberries that are small plants that grow low on the ground.) Fruit trees and bushes grow back every year. A vegetable is a plant that must be planted every year from a seed.*

Apply:

How many cups of fruit should an 8 year old student eat each day? *(1 ½ cups)*

How many of you ate 1 ½ cups of fruit yesterday? *(Have some students tell what fruit they ate yesterday. Show a measuring cup and estimate how much fruit the students ate.)*

What are some ways you could get more fruit into your daily diet? *(Include a fruit at every meal, put fruit on cereal or toast, eat a piece of fruit at lunch or for a snack, add fruit to yogurt.)*

What fruits would you find at a restaurant? *(Applesauce, cut fruit in a bowl or on the salad bar, orange juice, fruit and yogurt parfait. Some fast food menus have apple slices and mandarin oranges. Have the children noticed this?)*

Pick a **better** snack™ reminds you that it is easy to eat fruits as snacks.

Tasting Opportunity

Have students wash their hands. Cut up mangos for the students to sample. Cutting a mango is a little challenging because of the large, flat seed inside.

- Begin by washing the mango.
- Then hold the fruit standing on one end and make a vertical slice down one side of the pit.
- Repeat on the other side of the pit.
- Pull the two halves apart and remove the seed.
- Use a paring knife to score the flesh of each half into cubes-using care not to cut through to the skin.
- Turn the fruit inside out so the cut fruit pops outward.
- Cut the cubes off of the skin.

Section oranges for the students to sample. They can then put an “X” through the bingo square of the fruit they sampled.

How would you get a mango ready to eat as a snack?
Mango – **Peel. Cut. Eat. (How easy is that?)**

How would you get oranges ready for a snack?
Orange – **Wash. Peel. Eat. (How easy is that?)**

On the back of the Pick a **better** snack™ & **Act** bingo card for each month, there is information for their parents and grandparents. Have the students take the bingo card home and have their family pick out a snack idea to try at home.

Extend the Activity

Art, Music & PE

Produce Relay: Have students use a spoon to balance an orange and/or mango.

Language Arts & Reading

Books about oranges for students to read or to read to the class: I Like Oranges by Robin Pickering. Children's Press, 2000. Part of the *Welcome Books* series.
Orange Juice by Betsey Chessen and Pamela Chanko. Scholastic Inc., 1998. Part of the *Emergent Readers* series.
What's for Lunch? Oranges by Claire Llewellyn. Children's Press, 1999. Part of the *What's for Lunch?* series.

Math

Make a chart of the different citrus fruits (oranges, grapefruit, limes, lemons, tangerines) using descriptions such as color, taste and how eaten.

Science & Health

Try to sprout the mango seed. Instructions on next page.

Social Studies

Have students research where mangos and oranges are grown.

SPROUTING A MANGO SEED

By Eunice Messner -- CRFG Fruit Specialist Coordinator

There are as many ways to sprout a mango seed as there are growers. After you have enjoyed eating the mango, scrape off as much of the flesh off the seed as possible. Let it dry overnight for easier handling. Then, with a sharp knife, scrape vigorously along the concave edge of the husk. This will enable you to pry the husk open and remove the embryo. Be careful not to damage the seed.

If it is a store-bought mango, you may wish to first test it for viability. (Mangos are sometimes held in storage too long at a grocery store). If the embryo is gray, that is a sign of too much cold storage; if there are black markings, this indicates a fungus. Throw these seeds away. You can test for viability or actually sprout the seed by wrapping it in dampened paper towels; place it in a plastic bag and put it on that warm spot on top of your refrigerator. If a radicle (root) emerges, the seed is viable and it may be planted in a gallon can. Use a good potting mix with a handful of soil. If you have any mycorrhizae (beneficial fungus) on hand, a pinch of it on the root will get it off to a good start. The seed should be planted with the hump halfway above the soil. Some growers put seeds in a bowl of non-chlorinated water for three days (changing it daily) and then remove the outer brown skin before planting it.

If you have a lot of fresh seeds from your own tree, then arrange them in a container at least 4" deep (a plastic shoe box with holes punched in the bottom works well). Use either coarse river sand or a potting mix. Arrange them in the container about 1 ½ inches apart with the hump visible above the soil. Place on a pad with bottom heat or in a propagation box with a light bulb for heat. The temperature in the box can get up to 100 degrees but the mangos love it. When a stem with two leaves emerges, VERY carefully lift out the rooted seed and plant in a pot. Keep in a warm place.

Usually only one stem will emerge from your sprouted seed. However, there are some varieties of mangos, called polyembryonic, that develop several stems. These may be broken apart and planted separately, or all but one snipped off at soil level. The strongest one is the best selection. Chances are most of them will develop into an exact clone of the parent plant. These have developed from nucellar tissue. One may be a hybrid developed from pollen of another tree.

Mango seeds are viable for only a short time. If you are on an extended trip, a dampened paper towel will help to maintain their viability longer. But first, check with your agricultural agent to see if mango seeds can be imported.

Seedling mango trees usually grow BIG, but by pruning after the fruit is gone, size can be controlled. It usually takes about 5 years for a seedling to fruit. Since there has been so much hybridization work with mangos to develop a perfect fruit, chances are your seedling, even from a monoembryonic, hybridized seed, will be a winner. Enjoy!

Source: California Rare Fruit Growers, www.crfg.org

Mango Mania

Peel. Cut. Eat. (How easy is that?)

MANGO MANIA MYSTERY

M___ ___ ___ ___ ___ (animal that hangs around)

A ___ ___ ___ ___ (teacher's favorite fruit)

N ___ ___ ___ ___ ___ ___ ___ (corn husker's state)

G ___ ___ ___ ___ (a jammin' topping for toast)

O ___ ___ ___ ___ ___ (fruit whose color and name are the same)

M___ ___ ___ ___ ___ ___ ___ (a fungus you can eat)

A ___ ___ ___ ___ ___ ___ ___ (a zoo for fish)

N ___ ___ ___ (squirrels love them)

I___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
(another name for July 4th)

A___ ___ ___ ___ ___ ___ ___ ___ ___ (reading, writing & ___)

Adapted from worksheets produced by:

Produce for Better Health® Foundation

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Answer Key

Mango Mania

Peel. Cut. Eat. (How easy is that?)

MANGO MANIA MYSTERY

M _o _n _k _e _y (animal that hangs around)

A _p _p _l _e (teacher's favorite fruit)

N _e _b _r _a _s _k _a (corn husker's state)

G _r _a _p _e (a jammin' topping for toast)

O _r _a _n _g _e (fruit whose color and name are the same)

M _u _s _h _r _o _o _m (a fungus you can eat)

A _q _u _a _r _i _u _m (a zoo for fish)

N _u _t _s (squirrels love them)

I _n _d _e _p _e _n _d _e _n _c _e _D _a _y
(another name for July 4th)

A _r _i _t _h _m _a _t _i _c (reading, writing & __)

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