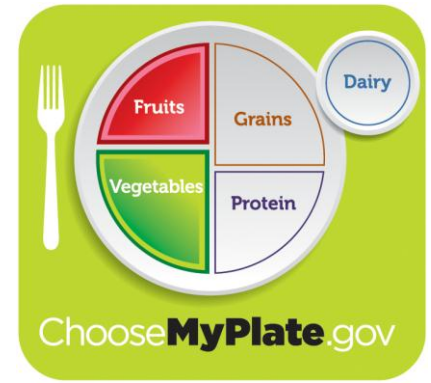


Lesson Overview

Students will learn about fruits and vegetables in relation to MyPlate, how much fruits and vegetables they should eat and that all forms of fruits and vegetables count. Fruits and vegetables come in a variety of colors, different colored fruits and vegetables offer different benefits to the body. Finally, students will explore where different fruits and vegetables grow.



Lesson Objectives

- » Name your favorite fruits and vegetables.
- » Identify how much of the plate is fruits and vegetables.
- » Name the different forms of fruits and vegetables.
- » Understand the importance of eating a variety of fruits and vegetables.
- » Identify how fruits and vegetables grow.

Arizona Department of Education (ADE) Academic Standards

Math Standards

Third Grade

3.NF.1 Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.

Fourth Grade

4.NF.1 Explain why a fraction a/b is equivalent to a fraction $(nxa) / (nxb)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

English Standards

Third Grade

3.RL.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

3.SL.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

3.W.4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Fourth Grade

4.RL.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

4.SL.3 Identify the reasons and evidence a speaker provides to support particular points.

4.W.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Advanced Preparation

- ✓ Make sure Powerpoint and projection is set up; bring up PowerPoint Presentation via website.
- ✓ Plan for handouts or possible activity items.

Materials and Equipment

- ✓ MyPlate poster
- ✓ MyPlate handouts (for student)
- ✓ Food Models (optional for demonstration)
- ✓ School Lunch Menu (optional print off from school website for discussion)

Incentive Gifts

- » MyPlate Activity Books
- » Pencils
- » Colored Pencils
- » Bookmarks
- » Stickers
- » Silly Food Group Eye Glasses
- » Hacky sacks or Frisbees
- » Beach Ball
- » Recipes
- » Fun Food News

Please contact us to see if you are eligible to receive some of these incentive gifts.

Estimated Time

30 minutes for PowerPoint, additional time for the activities.

Presentation

This lesson plan is designed to help assist you and students in identifying fruits and vegetables, encouraging a variety of fruits and vegetables and learning about how fruits and vegetables grow. Below are the notes from each slide within the Fruit and Vegetable PowerPoint. It is designed to be adaptable for grades third and fourth.

Slide #1

Today's lesson is about fruits and vegetables. We will learn how these foods help us to do, feel, and be our best! When we are at our best, we are happy. When we are happy, we smile!

Slide #2

Specifically, we will see in what way fruits and vegetables can be included in our meals by taking a look at MyPlate. We will name some fruits and vegetables and learn the different forms of fruits and vegetables. We will learn exactly how much we should eat. We will learn what it means to eat a rainbow and why we should eat a rainbow. Lastly, we will discover where fruits and vegetables grow.

Slide #3

Q.) Has anyone seen this picture before? What does this picture show us?

A.) This is a picture of MyPlate. MyPlate shows us how we should be eating each day. It shows five sections, all which represent the five food groups.

Today we will be talking about two food groups, the fruit group and the vegetable group.

Q.) Who sees the fruit group on MyPlate? What about the vegetable group? What colors are they?

A.) The fruit and vegetables groups are on the left side of the plate. The fruit group is red. The vegetable group is green.

Q.) How much of the plate do these two groups take up?

A.) $\frac{1}{2}$ the plate is made up of the fruit and vegetable groups.

Q.) What do you think that means?

A.) $\frac{1}{2}$ of our plates should be made up of fruits and vegetables. We can also get fruits and vegetables in between meals as snacks.

Slide #4

So why should students learn about fruits and vegetables and healthy eating now? Well, now's the best time to develop healthy habits.

Q.) What is a habit?

A.) A habit is a pattern of behavior acquired through frequent repetition. Brushing our teeth every night is a habit. Always looking both ways before we cross the street is a habit. Other habits include always wearing a seat belt when riding in a vehicle, eating breakfast every morning, and raising our hand in class to answer a question.

Q.) What are some other habits that you have?

A.) Answers will vary.

Did you know habits that you form now as children will often stay with you as you grow up to become adults? Developing the habit of healthy eating now will help so that you continue to eat healthy in the future when you are older. It can be hard to change habits the older we get so now is the time to form them.

Let's now explore some different kinds of fruits and vegetables!

Slide #5

Q.) What are some names of fruits?

A.) Answers will vary

Q.) Name some of your favorite fruits.

A.) Answers will vary.

Q.) What are some fruits you commonly eat at school? At home?

A.) Answers will vary.

Fruits can be called ‘nature’s candy’ because they naturally contain sugar. This sugar gives them a sweet taste.

Slide #6

Q.) What are some names of vegetables?

A.) Answers will vary

Q.) Name some of your favorite vegetables.

A.) Answers will vary.

Q.) What are some vegetables you commonly eat at school? At home?

A.) Answers will vary.

Slide #7

Activity: Have the students draw their favorite fruit or vegetable or both.

Slide #8

Activity: Have the students name the fruits and vegetables seen in this picture. Or ask them to find the tomatoes, the apples, the grapes, etc...

Slide #9

Now we will talk about the different forms of fruits and vegetables.

Q.) So what do I mean when I say ‘different forms’ of fruits and vegetables?

A.) Fruits and vegetables come in many different forms which include fresh, 100% juice, frozen, dried, and canned. All of these forms of fruits and vegetables are healthy!

Let’s talk about each form now in more detail.

Slide #10

Fruits and vegetables that are *fresh* are ones that are in their original form just as they are found in nature. They can be cut up and put into other dishes or eaten ‘as is.’ This picture shows fresh vegetables that have been gathered from a garden.

Slide #11

Fresh fruits and vegetables are what make up a majority of the produce section at the grocery store.

Q.) Raise your hand if you have been to the produce section at the grocery store? What did you see?

A.) The produce section contains a lot of different fruits and vegetables, many different colors of fruits and vegetables, misters spraying water on the fruits and vegetables, etc.

Activity: Name five red fruits and vegetables you have seen in the produce section. Orange? Yellow? Green? Blue? Purple? White?

Slide #12

Juice is another form of fruits and vegetables. Juice is the liquid part of fruits and vegetables. It is taken or squeezed from the fruit and vegetable so that we can drink it.

If we are going to drink juice, we should drink 100% juice. 100% juice means no sugar has been added to it. Look for labels that read “100% juice”. (Show a label from a juice that is 100% juice.)

Q.) Name some different kinds of 100% juices.

A.) Apple juice, carrot juice, orange juice, prune juice, etc.

Slide #13

Frozen fruit and vegetables are ones that are picked and then immediately frozen. They can then later be thawed and eaten. Frozen fruits can also be used to make smoothies or added to water to add flavor. Frozen vegetables can be used to make soups and added to other baked dishes.

Q.) Raise your hand if you have ever tasted a fruit smoothie?

Q.) Raise your hand if you have ever had a soup that contains vegetables such as tomato soup or chicken noodle soup.

Slide #14

Dried fruits and vegetables are ones that have been dehydrated, meaning the water naturally found in them has been removed.

Q.) What are some examples of dried fruits and/or vegetables?

A.) Answers include banana chips, raisins, prunes, kale chips, dried tomatoes, onion flakes, red peppers flakes, etc.

Slide #15

Canned fruits and vegetables are those that have gone through a specially treated and sealed in a can. This process prevents the fruits and vegetables from spoiling so they can be eaten at a later time.

Q.) Raise your hand if you have walked down the canned food section at the grocery store?

Q.) What are some examples of canned fruits and vegetables?

A.) Answers include peaches, pineapples, fruit cocktails, tomatoes, peas, green beans, etc.

Slide #16

Fruits:

Boys and girls your age (9-13 years old) should be eating at least 1 and ½ cups (1.5 cups) of fruit each day. One cup of fruit is equal to the size of one small apple or the size of a baseball. (Show students a small apple or a baseball.)

½ a cup (0.5 cup) of dried fruit is equal to 1 cup of fruit.

Q.) Name some ways to get 1 and ½ cups of fruit each day.

A.) Examples include 1 small apple and ½ cup of raisins. Or 1 cup (8 ounces) of 100% fruit juice plus a ½ an orange.

Slide #17

Vegetables:

Boys your age should be eating at least 2 and ½ cups (2.5 cups) of vegetables each day.

Girls your age should eat 2 cups of vegetables each day.

(2 cups of leafy greens, such as spinach or lettuce, counts as 1 cup towards the daily requirement.)

Q.) Name some ways to get 2 and ½ cups of vegetables each day.

A.) Examples include 1 cup of carrots, 2 cups of lettuce salad, and 3 slices of tomato.

Slide #18

Q.) Has anyone ever seen a rainbow before?

Q.) What colors are in the rainbow?

A.) Red, orange, yellow, green, blue, and purple

Q.) Do you think it is possible to eat a rainbow?

A.) Yes, it is possible to eat a rainbow- a rainbow of fruits and vegetables! Fruits and veggies come in all colors! It is important to eat a variety of fruits and vegetables so that we can eat all the colors found in a rainbow! Each color has different benefits that help our body and brains to function so we can look, feel, and do our best!

Slide #19

Many fruits and vegetables contain vitamin C. Vitamin C helps strengthen our immune system which helps us from getting sick. It also helps when heal our cuts and bruises. If you fall and scrape your knee, it's vitamin C that helps to heal that scrape. Vitamin C also helps keep our gums healthy so they don't bleed. Healthy gums gives us a healthy looking smile.

Slide #20

Many fruits and vegetables also contain vitamin A. Vitamin A gives us healthy eyes skin and eyes. It helps us see better at night. We need healthy eyes to be able to see our friends, to read books, and to see the teacher at the front of the classroom.

Q.) What else do we need healthy eyes for?

A.) Answers vary

Slide #21

Fruits and vegetables gives us energy to better be able to pay attention in school. Some fruits and vegetables also help our brains to function and can help us have a better memory. More energy and healthier brains help us to be our bests

Slide #22

Fruits and vegetables also contain nutrients that naturally give us more energy.

Q.) For what do we need energy?

A.) We need energy to play, to not fall asleep in class, to walk, to run, to move!

(photo courtesy of muzsy / Shutterstock.com)

Slide #23

Fruits and vegetables are also very good for our hearts. A healthy heart is able to pump blood and oxygen throughout our bodies. Our brains need oxygen to think and work properly. The rest of our body needs blood and oxygen just to be able to move.

Slide #24

Q.) Raise your hand if you agree that fruits and vegetables are important for us.

Fruits and vegetables are cool because they keep us healthy!

Q.) Who here thinks it is cool to be healthy?

Slide #25

Picture, no notes.

Slide #26

Fiber is another nutrient found in fruits and vegetables. Fiber is only found in plant foods. It acts as a scrub brush that cleans out our digestive tract or “food tube.” A healthy, clean digestive tract helps us make use of the foods we eat so our bodies can function properly. Fiber also fills us up so we feel full so we are not constantly eating. Fiber may also reduce our risks for certain diseases such as heart disease and type 2 diabetes.

Slide #27

The digestive system consists of the organs in our body that help turn food and liquids into fuel and building blocks the body needs. Digestion starts in our *mouth* when we chew foods. We then swallow the chewed up food and it goes through our *throats*. This lump of food (called a bolus) is pushed down into our stomachs by our *esophagus*. The *stomach* makes digestive juices that breakdown the food even more, turning it into a thick paste or liquid which then enters the *small intestine*. The fiber found in food does not get broken down. The fiber helps to push this thick paste or liquid through the small intestine. Here in the small intestine is where a lot of nutrients are absorbed into the body. The portion of food that hasn't been absorbed in the small intestine continues to travel further into the *large intestine* with the help of fiber. Here in the large intestine is where other nutrients are absorbed. Fiber then helps push any leftovers not used by the body further to our *anus* where it can then leave our body, also known as excretion.

The *liver* and *gallbladder* also both play important rolls in digesting the foods we eat. For example, the liver stores energy from food and the gallbladder releases a substance called bile which helps to break up the fat found in food.

Slide #28

Q.) Can anyone guess the length of your digestive system?

A.) For children your age, it is about 20 feet long. Imagine if five of you stood next to each other, held your arms out to your side, and held hands. The length from the farthest end to the other is about 20 feet! (A ruler can also be used to show this length.)

Q.) Who here thinks that is long?

Our digestive system grows another 10 feet as you grow to become an adult.

Q.) How long would that make an adult's digestive system?

A.) 30 feet (20 feet + 10 feet)

Slide #29

Water works with fiber by pushing it through our digestive system. So when we eat fiber-rich foods, such as fruits and vegetables, we also need to remember to drink water. Did you know our bodies are made up of approximately 60-70% water? Water helps to take away thirst, cool the body, digest food, carry nutrients through the body, keep skin soft, and contract our muscles.

It is very important to drink enough water! How do you know if you are drinking enough water? Look at the color of your urine. You know you are drinking enough water if your urine is light in color like the color of lemonade. If it is dark in color, like the color of apple juice, that means you need to drink more water.

Q.) Raise your hand if you think it is important to always drink enough water.

A.) Drinking enough water every day is very important for our bodies and health!

Slide #30

Earlier we learned that fruits and vegetables are found in the produce section.

Q.) Where do you think those foods came before they got to the grocery store?

A.) Answers on next slides.

Slide #31

Some fruits grow on trees.

Has anyone seen an orange tree or a lemon tree or a lime tree? Arizona has a lot of these kinds of trees.

Apples, peaches, plums, bananas, pineapples, cherries are other examples of fruits that grow on trees.

Slide #32

Lots of vegetables grow underground.

Q.) What two veggies do you see here that grow under the ground?

A.) Carrots and radishes. Onions, potatoes, beets, and turnips are also examples of vegetables that grow underground.

Slide #33

Q.) What vegetable do you see here?

A.) Corn. Corn and beans grow on a stocks.

Slide #34

Lots of fruits and vegetables grow on top of the ground.

Cabbage, lettuce, broccoli, cauliflower, asparagus, peppers, eggplants and peppers are all examples.

Slide #35

Other fruits and vegetables grow on bushes.

Blueberries and other berries grow on bushes.

Slide #36

Fruits and veggies also grow on vines.

Q.) What fruit do you see here?

A.) Grapes. Grapes, kiwis, tomatoes, cucumbers, and pumpkins are all examples of fruits and vegetables that grow on vines.

Slide #37

That concludes our lesson on fruits and vegetables. Let's do a quick review:

Q.) Name three fruits. Name three vegetables.

A.) Answers vary

Q.) What are the five forms of fruits and vegetables?

A.) Fresh, 100% juice, frozen, dried, and canned

Q.) What does it mean to 'eat a rainbow'?

A.) It is important to eat a variety of fruits and vegetables so that we can eat all the colors found in a rainbow! Each color has different benefits that help our body and brains to function so we can look, feel, and do our best!

Q.) What two vitamins are commonly found in fruits and vegetables?

A.) Vitamins A and C

Q.) What is the name of the nutrient found in fruits and vegetables that works like a scrub brush to keep our digestive tract clean and healthy?

A.) Fiber

Q.) What are three ways fruits and vegetables grow?

A.) On trees, underground, on stalks, on top of the ground, on bushes, and on vines

Slide #38

Be cool and eat your fruits and vegetables. Remember, these foods help us to do, feel, and be our best! When we are at our best, we are happy. When we are happy, we smile!

Background information

You may want to read this section before presenting to give yourself a little more information about the slides and lesson plan.

Below is some information from MyPlate and Fruits and Veggies More Matters to increase your knowledge of fruits and vegetables.

Vegetable:

Any vegetable or 100% vegetable juice counts as a member of the Vegetable Group (green group). Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed. Vegetables are organized into 5 subgroups, based on their nutrient content, the darker the vegetable the better.

Eating vegetables is important because they provide vitamins and minerals and most are low in calories. Vegetables are naturally low in fat and calories, none have cholesterol. Vegetables are important sources of many nutrients, dietary fiber, vitamin A, and vitamin C. Vitamin A keeps eyes and skin healthy and helps to protect against infections. Vitamin C helps heal cuts and wounds and keeps teeth and gums healthy. Vitamin C also aids in iron absorption.

How Many Vegetables Are Needed Daily or Weekly?

The amount of vegetables you need to eat depends on your age, sex, and level of physical activity. Recommended total daily amounts are shown in the first chart. Recommended weekly amounts from each vegetable subgroup are shown in the second chart.

Daily Recommendations		
Children	2 -3 years old	1 cup
	4-8 years old	1 ½ cups
Girls	9-13 years old	2 cups
	14-18 years old	2 ½ cups
Boys	9-13 years old	2 ½ cups
	14-18 years old	3 cups
Women	19-30 years old	2 ½ cups
	31-50 years old	2 ½ cups
	51+ years old	2 cups
Men	19-30 years old	3 cups
	31-50 years old	3 cups
	51+ years old	2 ½ cups

Fruit:

Any fruit or 100% fruit juice counts as part of the Fruit Group. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed.

Eating fruit provides health benefits just like vegetables. People who eat more vegetables and fruits as part of an overall healthy diet are likely to have a reduced risk of some chronic diseases. Fruits provide nutrients vital for health such as dietary fiber, and vitamin C. Most fruits are naturally low in fat, sodium, and calories. None have cholesterol. Vitamin C is important for growth and repair of all body tissues, helps heal cuts and wounds, and keeps teeth and gums healthy.

Discover the many benefits of adding vegetables and fruits to your meals. They are low in fat and calories, while providing fiber and other key nutrients. Most Americans should eat more than 3 cups—and for some, up to 6 cups—of vegetables and fruits each day. Vegetables and fruits don't just add nutrition to meals. They can also add color, flavor, and texture.

Key message: Remember; make half your plate fruits and vegetables.

How Much Fruit Is Needed Daily?

The amount of fruit you need to eat depends on age, sex, and level of physical activity. Recommended daily amounts are shown in the chart.

Daily Recommendations		
Children	2-3 years old	1 cup
	4-8 years old	1 to 1 ½ cups
Girls	9-13 years old	1 ½ cups
	14-18 years old	1 ½ cups
Boys	9-13 years old	1 ½ cups
	14-18 years old	2 cups
Women	19-30 years old	2 cups
	31-50 years old	1 ½ cups
	51+ years old	1 ½ cups
Men	19-30 years old	2 cups
	31-50 years old	2 cups
	51+ years old	2 cups

Healthy Reasons to Eat a Rainbow of Colorful Fruits and Vegetables

Red fruits and vegetables contain natural plant pigments called "lycopene" or "anthocyanins." Lycopene in tomatoes, watermelon and pink grapefruit, for example, may help reduce risk of several types of cancer. Anthocyanins in strawberries, raspberries, red grapes and other fruits and vegetables act as powerful antioxidants that protect cells from damage. Antioxidants are linked with keeping our hearts healthy, too.

These are some examples of the red group:

- Red apples
- Beets
- Red cabbage
- Cherries
- Cranberries
- Pink grapefruit
- Red grapes
- Red peppers
- Pomegranates
- Red potatoes
- Radishes
- Raspberries
- Rhubarb
- Strawberries
- Tomatoes
- Watermelon

Orange/yellow fruits and vegetables are usually colored by natural plant pigments called "carotenoids." Beta-carotene in sweet potatoes, pumpkins and carrots is converted to vitamin A, which helps maintain healthy mucous membranes and healthy eyes. Scientists have also reported that carotenoid-rich foods can help reduce risk of cancer, heart disease and can improve immune system function.

Some examples of the orange/yellow group include:

- Yellow apples
- Apricots
- Butternut squash
- Cantaloupe
- Carrots
- Grapefruit
- Lemons
- Mangoes
- Nectarines
- Oranges
- Papayas
- Peaches
- Pears
- Yellow peppers
- Persimmons
- Pineapple
- Pumpkin
- Rutabagas
- Yellow summer or winter squash
- Sweet corn
- Sweet potatoes
- Tangerines
- Yellow tomatoes
- Yellow watermelon

Green fruits and vegetables are colored by natural plant pigment called "chlorophyll." Some members of the green group, including spinach and other dark leafy greens, green peppers, peas, cucumber and celery, contain lutein. Lutein works with another chemical, found in corn, red peppers, oranges, grapes and egg yolks to help keep eyes healthy.

Some leafy greens, like collards and kale, are particularly rich in calcium, which helps keep your teeth and bones strong and reduces your overall risk for osteoporosis. Calcium also contributes to muscle function and blood-pressure management.

Some examples of the green group include:

- Green apples
- Artichokes

- Asparagus
- Avocados
- Green beans
- Broccoli
- Brussels sprouts
- Green cabbage
- Cucumbers
- Green grapes
- Honeydew melon
- Kiwi
- Lettuce
- Limes
- Green onions
- Peas
- Green pepper
- Spinach
- Zucchini

Blue/purple fruits and vegetables are colored by natural plant pigments called "anthocyanins." Anthocyanins in blueberries, grapes and raisins act as powerful antioxidants that protect cells from damage. They may help reduce risk of cancer, stroke and heart disease. Other studies have shown that eating more blueberries is linked with improved memory function and healthy aging.

These are some examples of the blue/purple group:

- Blackberries
- Blueberries
- Eggplant
- Figs
- Juneberries
- Plums
- Prunes
- Purple grapes
- Raisins

References:

MyPlate: <http://www.choosemyplate.gov/>

Fruit and Veggies, More Matters: <http://www.fruitsandveggiesmorematters.org/>

Activities

See activities folder for various age appropriate activities.