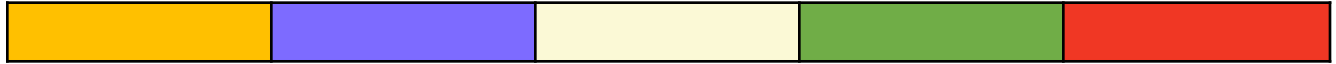


5 A Day The Color Way - Lesson Plan



Goal

- To increase knowledge of fruits and vegetables by color categories.

Objectives

- After this lesson, the student will be able to
 - Name fruits and vegetables that fit into each color group and be able to name the vitamins and minerals associated with that color group.
 - List ways to make healthy choices at fast food places and restaurants using the 5 color system..
 - List ways to buy healthy snacks using the five color system.
 - List ways to alter meals at home to make them healthier using the five color system.

Related Activities/Handouts (below)

- Follow that Food Diary
- Name Those Foods
- Build Up Your Meals Activity

Lesson Plan

1. **Optional: Begin with “Follow that Food Diary” so students can record how many and what color of fruits and vegetables they ate the day before.**
2. **The benefits of eating at least 5 cups of fruits and vegetables each day:**
 - Eating 5 cups of fruits and vegetables daily helps lessen the risk of chronic disease, such as diabetes, high blood pressure and obesity.
 - A variety of fruits and vegetables each day ensures you receive all the vitamins, minerals and fiber that your body needs.
 - One way to get a variety of fruits and vegetables is to eat plant foods from the five color groups that will be discussed later.
 - The fiber in fruits and vegetables is beneficial to the digestive system.
 - Suggestions for increasing your daily intake of fruits and vegetables:
 1. Start the day by including fruit with your breakfast
 2. Increase energy levels with fruit and vegetable snacks
 3. Double up on fruit and vegetable servings
 4. Include fruits and vegetables in recipe ingredients
 5. Experiment with new fruit and vegetable for more variety
- **Let’s review the vitamins.**
 - Vitamin A comes from plants and animals. Vitamin A helps maintain good vision and healthy eyes and keeps the cells in our body healthy. **Apricots** have vitamin A, along with other yellow/orange foods like carrots and sweet potatoes.
 - The B-complex vitamins are a family of eight different vitamins with related roles in your body. Most of these vitamins help your cells produce energy. Several B vitamins are now added to flour to prevent vitamin B deficiencies so eating whole grain **bread** is a good way to get vitamin B.
 - Vitamin C helps our cells stay healthy and helps cuts heal. Vitamin C is also an antioxidant. We get vitamin C through many fruits (especially **citrus** fruits) and some vegetables.
 - Vitamin D is important in the metabolism of calcium in our body. Without vitamin D, our body cannot absorb the calcium our bones need to stay strong. Our body makes vitamin D after we’ve been in the sun (don’t forget the sunscreen!) or we can get this vitamin through fortified milk, eggs or fish.
 - The most important role of vitamin E is improving our ability to fight off disease by acting as an antioxidant. Antioxidants are substances that help protect our cells from damage that could make us more susceptible to disease and illness. Vitamin E can be found in greens, nuts, and seeds such as almonds, peanuts and sunflower seeds.
 - Vitamin K helps our blood to clot. This is really important when we cut ourselves because it prevents us from losing a lot of blood. Our body can make vitamin K from bacteria in our intestine and we can get it from dark green, leafy vegetables.

- **Let's review the minerals.**
 - Sodium, potassium and chloride are a group of mineral salts called electrolytes. They help control the amount of water in your cells and help regulate your blood pressure. Sodium and chloride make up table salt, so most people get more than their body needs. Potassium is found in fruits and vegetables and especially bananas..
 - Magnesium assists many bodily functions including bone and nerve maintenance. Magnesium is found in beans, nuts, and whole grains. (Examples of whole grains are 100% whole wheat bread and brown rice.)
 - Calcium helps you build strong bones and teeth. Calcium helps all of your muscles (including your heart) contract. Calcium is found mostly in dairy products like milk, cheese, and yogurt but can also be found in broccoli and greens.
 - Iron aids the movement of oxygen through your blood. Iron is found in both animal and plant foods; the iron in animal foods is more easily absorbed in the body.
 - Zinc helps your cells to reproduce and your tissues to grow and repair. Without enough zinc, you won't grow as tall. Zinc is present in animal foods including meat and eggs.

- **What is a phytonutrient (also known as a phytochemical)?**
 - Phytonutrients are found in plants but are not vitamins or minerals.
 - Phytonutrients are created by plants to help fight bacteria, fungi, viruses and other disease-causing pests.
 - When we eat plant-based foods, the phytonutrients in those foods provide us with disease-fighting benefits, also.
 - Phytonutrients have been found effective in preventing various types of cancer and other diseases.
 - Scientists have found that similarly-colored vegetables and fruits have similar phytonutrients and provide similar health benefits.
 - Phytonutrients often work together to provide health benefits in ways scientists are still discovering.
 - By eating vegetables and fruits from all five color families, we can maximize the different phytonutrients that we get and help lower the risk of diseases like cancer, heart disease and diabetes.
 - Some common phytonutrients include:
 - Lycopene - found in tomatoes and ketchup.
 - Anthocyanin - gives fruits and vegetables their red color.
 - Indoles - found in the onion family.
 - Beta-carotene - helps give the orange/yellow group their color.

- **Fruits and vegetables of similar colors have similar nutrients.**
 - Plant foods can be broken into five color groups: yellow/orange, blue/purple, white/tan, green, and red.

(Note: The activity, Name Those Foods, can be played now and will cover the remaining material.)

Activity: Name Those Foods

- The yellow/orange group includes produce rich in vitamins A and C. Can you name some yellow or orange fruits and vegetables?
 - Some common plant foods in the yellow/orange group are carrots, butternut squash, sweet potatoes, yellow apples, apricots, cantaloupe, grapefruit, lemons, mangoes, nectarines, oranges, papayas, peaches, pineapples, tangerines, yellow peppers, orange peppers, pumpkin, yellow summer squash, sweet corn, yellow tomatoes, and yellow winter squash.
 - Good choices for Vitamin A in the yellow/orange group are sweet potatoes, butternut squash, yellow and orange bell peppers, carrots, mangoes, papayas, apricots, cantaloupe, and oranges.
 - Vitamin C is present in papayas, pineapples, oranges, cantaloupe, mangoes, lemons, tangerines, and yellow and orange bell peppers.
- The blue/purple color group is smaller than the other groups and has a variety of vitamins including vitamin C. Can you name some blue or purple fruits and vegetables?
 - Some common plant foods in the blue/purple group are blueberries, eggplant, blackberries, black olives, plums, raisins, purple grapes, and purple cabbage.
- The white/tan group has many good sources of the mineral, potassium. Can you name some white or tan fruits and vegetables?
 - Some common plant foods in this group are bananas, dates, brown pears, cauliflower, garlic, ginger, jicama, kohlrabi, mushrooms, onions, parsnips, white potatoes, shallots, turnips, and white corn.
 - Potassium is found in bananas, parsnips, potato, and dates.
- The green group is a good source of vitamin A, C and K. Can you name some green fruits and vegetables?
 - Some common plant foods in the green group are lettuce, greens, green beans, avocados, green apples, green grapes, green olives, honeydew, kiwi, limes, green pears, artichokes, arugula, asparagus, broccoli, brussels sprout, Chinese cabbage, green cabbage, celery, cucumbers, endive, leeks, green onions, okra, green peppers, snow peas, spinach, sugar snap peas, and zucchini.
 - The green leafy vegetables like lettuce, greens and spinach have vitamins A and K.
 - Vitamin C is present in kiwi, limes, broccoli, green bell peppers, spinach and cabbage.
- There are many fruits and vegetables in the red/orange group, and they contain vitamins A and C. Can you name some red fruits and vegetables?

- o Some common plant foods in the red group are red apples, blood oranges, cherries, cranberries, red grapes, pink/red grapefruit, red pears, pomegranates, raspberries, strawberries, watermelon, beets, red peppers, radishes, radicchio, red onions, red potatoes, rhubarb, and tomatoes.
 - o Red bell peppers and tomatoes are good choices for vitamin A.
 - o Cranberries, blood oranges, grapefruit, and red peppers all have vitamin C.
- **Wrap-up**
 - Eating a variety of fruits and vegetables of different colors regularly helps ensure you receive all the vitamins, minerals, and phytonutrients you need to stay healthy.
 - Fruits and vegetables of similar colors have similar phytonutrients.
 - Try to eat plant foods from each group: the red, blue/purple, green, white/tan, and yellow/orange groups.

Name Those Foods!

Instructions:

- **This activity can be paired with the 5 a Day, The Color Way Lesson Plan**
- Students split into four groups
- Assign each group one of the fruit/vegetable color groups from the following list: Yellow/Orange, Blue/Purple, Green, White/Tan, and Red.
- Have each group write down as many fruits and vegetables they can think of that fit in that color group.
- After 5-7 minutes, let each group present the fruits and vegetables on their list.
- For a bonus question, ask each group to name one vitamin and/or mineral that is found in their color group.

My color group is _____

Some vegetables and fruits in this color group are:

A vitamin in this color group: _____

A mineral in this color group: _____

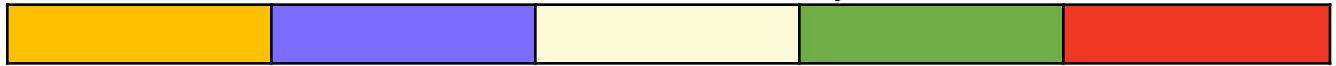
Record any thoughts or comments you had on this activity below:

Answer key for Name Those Foods!

Orange/Yellow	Blue/Purple	White/Tan	Green	Red
Oranges	Blackberries	Bananas	Grapes	Watermelon
Grapefruit	Blueberries	Coconuts	Limes	Strawberries
Lemons	Figs	Bosc Pears	Pears	Raspberries
Apricots	Grapes	Plantains	Kiwi	Apples
Nectarines	Plums	Cauliflower	Honeydew	Grapes
Mangos	Prunes	Onion	Avocado	Red peppers
Persimmons	Raisins	Mushrooms	Apples	Tomatoes
Peaches	Passion fruits	Turnips	Asparagus	Beets
Cantaloupe	Acai berries	Potatoes	Broccoli	Chili peppers
Pineapple	Asparagus	Jicama	Brussel Sprouts	Radishes
Papaya	Cabbage		Celery	
Starfruit	Eggplant		Greens	
Carrots	Carrots		Collard greens	
Sweet Potatoes	Potatoes		Mustard greens	
Pumpkins	Corn		Turnip greens	
Squash	Cauliflower		Spinach	
Corn	Onion		Green beans	
Peppers			Green peppers	
Beets			Cabbage	
Tomatoes			Zucchini	
Onions			Lettuce	
			Okra	
			Cucumber	

Vitamins/Minerals	Vitamins/Minerals	Vitamins/Minerals	Vitamins/Minerals	Vitamins/Minerals
Vitamin A	Vitamin C	Potassium	Vitamin K	Vitamin A
Vitamin C	Vitamin D	Selenium	Vitamin C	Vitamin C
Potassium	Calcium		Potassium	Potassium
			Iron	

Follow That Food Diary



Instructions

- List the fruits and vegetables you ate yesterday in the columns below.

Breakfast	Snack	Lunch	Snack	Dinner

Did you get a fruit or vegetable from each color category? How many of each color did you get?
 (Using your food diary list above, make a check mark in the appropriate color/column for each food. Total the number of check marks.)

YELLOW/ORANGE	BLUE/PURPLE	WHITE/TAN	GREEN	RED
Total #:	Total #:	Total #:	Total #:	Total #:

Did you get at least 5 servings of fruits and vegetables? _____ Yes _____ No

Record any thoughts or comments you had on this activity below:



Bulk up Your Meals Activity

Instructions:

This activity goes with the 5 a Day, The Color Way Lesson Plan

Read each scenario listed below.

In the space provided after each scenario, write down **3** ways you could incorporate more fruits and vegetables.

Example:

You grabbed a 2-piece chicken snack at the local fast food restaurant. It included two pieces of chicken and a biscuit. How can you use fruits and vegetables to make this a better balanced meal?

1.

2.

3.

Example:

You are at the local fast food burger restaurant for lunch. What are some ways you can add some fruits and vegetables to your meal?

1.

2.

3.

Example:

Your typical breakfast is scrambled eggs, bacon and toast. What changes can you make to add fruits and vegetables to your meal?

1.

2.

3.

Example: You are grocery shopping with your parent/guardian and you get hungry. What are some things you can get at the store to provide a healthy fruit or vegetable snack?

1.

2.

3.

Bulk up Your Meals Activity Answer Key

(note: There are multiple possible answers. Below are a few possibilities.)

Instructions:

This activity goes with the 5 a Day, The Color Way Lesson Plan

Read each scenario listed below.

In the space provided after each scenario, write down **3** ways you could incorporate more fruits and vegetables.

Example:

You grabbed a 2-piece chicken snack at the local fast food restaurant. It included two pieces of chicken and a biscuit. How can you use fruits and vegetables to make this a more balanced meal?

1. *Put together a quick salad using a mix of salad greens and other vegetables*
2. *Steam some canned or frozen vegetables in the microwave to go with it.*
3. *Open some canned fruit or applesauce to serve with it.*

Example: You are out at the local fast food burger restaurant for lunch. What are some ways you can add some fruits and vegetables to your meal?

1. *Order a salad. Have some 100% fruit juice instead of soda.*
2. *Have yogurt with fruit for dessert.*
3. *Ask to have extra vegetables added to your sandwich. Eat a baked potato instead of fries.*

Example:

Your typical breakfast is scrambled eggs, bacon and toast. What changes can you make to add fruits and vegetables to your meal?

1. *Drink a serving of 100% fruit juice or have a serving of fresh fruit on the side.*
2. *Put salsa on your eggs. Scramble your eggs with some vegetables.*
3. *Make a fruit smoothie instead of eggs, bacon and toast.*

Example: You are grocery shopping with your parent/guardian and you get hungry. What are some things you can get at the store to provide a healthy fruit or vegetable snack?

1. *Baby carrots or carrot chips, celery and carrot strips.*
2. *Any type of fruit, including raisins.*
3. *Small 100% fruit juice box, a fruit cup in light syrup or applesauce cup with no added sugar.*