

Elementary Health and Nutrition



A collection of lessons and activities for the elementary classroom using Virginia agriculture to teach healthy eating and food choices.



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Bone Up on Calcium

Standards of Learning

Science 4.1

Health 4.1

Objective

Students will:

- Conduct an experiment to demonstrate the benefits of calcium on bones

Materials

- 2 chicken bones
- Vinegar
- Milk
- 2 jars with lids
- Science journals to record observations

Background Knowledge

Milk and other dairy products are excellent sources of calcium, which helps build strong bones and teeth. The My Plate food guide recommends that you get at least 3 servings of dairy a day. Doing so can improve bone mass, which is especially important during childhood and adolescence when bone mass is being built. Vitamin D helps the body absorb calcium, which is why milk is typically fortified with vitamin D.

Procedure

1. Share the My Plate food guide and point out that milk and other dairy products are a part of a healthy diet. Ask students to share their favorite dairy products.
2. Now ask students if they know why milk “does a body good.” Explain that dairy products are an excellent source of calcium, and that calcium is essential for healthy bones.
3. Show students the two chicken bones, tell them that you will be placing one in a jar of vinegar, which is an acid, and one in milk, which has calcium. Ask them to make predictions of what they think will happen to the bones.
4. Place one bone in a jar of vinegar and one bone in a jar of calcium. Place a lid on each jar.
5. Remove the bones after 2 days and try to bend the tips. Have students record what happens then return the bones to the jars.
6. Wait an additional 2-3 days and remove the bones. Try to bend along the middle. Then try to cut with scissors. Which one is softer? Have student record observations. The bone that was placed in the vinegar has become brittle after the acid caused it to lose calcium.



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Building a Balanced Meal

Standards of Learning

Social Studies: 2.8

Health: 1.2, 2.2

Objective

Students will:

- Identify the food groups and the components of a balanced meal
- Barter to create a balanced meal

Materials

- Paper plates
- Scissors
- Markers/crayons
- Glue
- Wide variety of grocery store circulars
- 5 grocery bags

Background Knowledge

A well balanced diet is essential to good health. By learning to make good food choices early, students can begin habits that will prevent health problems later in life, such as obesity, diabetes, and heart disease. When students choose nutrient rich foods from each of the 5 food groups they can fuel their bodies for healthy and active lifestyle. A person's age, gender, and level of physical activity determine how much of each food group they should eat.

Virginia farmers grow or raise food that belongs in each section of the plate. In "Protein" there is poultry, eggs, beef, and hogs as well as soybeans and peanuts. Additionally, Virginia farmers produce many dairy items for the "Dairy" sections. In fact, there are more than 100,000 head of dairy cattle in Virginia, making it the state's third largest commodity (behind chickens and beef, respectively). For the "Fruit" group Virginia growers produce an average of 8-10 million bushels of apples a year, as well as strawberries, grapes, peaches, cantaloupes and watermelons. Next, in "Vegetables," Virginia is the nation's third largest producer of fresh tomatoes. You will also find potatoes, green peppers, and snap beans, as well as many other fresh vegetables. Lastly, in the "Grains" group Virginia farmers produce corn as well as wheat.

Procedure

1. Begin by reviewing and identifying the food groups and components of "My Plate."
2. Organize students into "families" of 2-4 students. Give each family several grocery store circulars.
3. Have students begin by circling the items in the ads with the colors that correspond with the food groups from My Plate (you can find printable posters at www.choosemyplate.gov). Next have them cut out the items that they circled.
4. Place 5 grocery bags at the front of the class, labeled with the food groups.
5. Have families take turns bringing up the food items that they cut out and place them in the correct bags. Check for accuracy.
6. Next, empty the bags and mix up the food items well.
7. Randomly give each family 6-8 items from the bags. Ask them, do you have what you need in order to create a balanced meal (defined as having one item from each food group) for your family?



8. Give them 3-5 minutes to barter with the other families.
9. Have them glue the items to their plate to represent the meal that they ended up with.
10. How many families were able to create a balanced meal? Examine each meal, for those that were lacking a component, what are they missing? For those that have a balanced plate, what did they have to give up in order to get each item?



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Graphing My Plate

Standards of Learning

Math K.1, K.2, K.13, K.14, K.16, 1.1, 1.14, 1.15, 1.17, 2.17, 2.18, 2.19, 2.20, 3.17, 3.19, 4.14, 4.15

Health K.1, 1.2, 2.2, 2.5, 3.1, 3.2, 4.1

Science K.1, 1.1, 2.1, 3.1, 4.1

Objective

The student will be able to:

- Understand the basics of the My Plate food guide.
- Decide if their family's diet is well-balanced.
- Draw a bar graph and develop a conclusion regarding his/her family's diet.

Materials

- My Plate poster(s)
- Food labels
- 1" square graph paper
- Crayons or markers
- Construction paper or card stock
- Glue sticks
- Scissors

Background Knowledge

With the obesity issue prevalent among schools nationwide there has been a heightened need to teach children at a young age to make healthy food choices. Understanding which foods are healthy and which should be consumed in limited quantities equip students to make wise decisions. My Plate is something that your students will need to learn in order to grow into a healthy lifestyle. The ingredients in their foods will tell them what part of the pyramid they are eating from and will tell them what they should eat less or more of. They can also learn how many servings of each section of the plate they should be eating from just by looking at the plate.

Remember to mention that it is also important for your students to incorporate exercise in their diet. Familiarize students with My Plate by showing them the poster. Discuss each category and its contents.

Procedure

1. Have students collect food labels (set a minimum number to be collected) at home for a given period of time (week or two)
2. Bring labels to school.
3. Teacher may want to laminate labels on cardstock or construction paper. (Optional)
4. Divide students into groups of 3 or 4 to represent a "family."
5. Give each group a set of labels in no particular order.
6. Have each group sort their labels into the 6 food groups using the main ingredient in each item. You may want to have a 7th "food group" for miscellaneous items such as soft drinks and "junk food."
7. Using one inch square graph paper, have students create a bar graph, showing the foods eaten by their "family". One square inch will equal one label for each category. Color the squares to coordinate with the colors of My Plate. Orange = grain; green = vegetable; red = fruit; yellow = oils; blue = milk; purple = meat/beans; black = miscellaneous.
8. Students will write a summary about the graph and the food consumed by their family group.
9. Have students cut their graphs apart in strips according to the food group and glue them onto a larger bar graph on the bulletin board.
10. Have students write a summary of the class graph.

Extension

Have students divide their food labels into two categories – plant and animal. Using the plant labels, have students divide them into the six basic plant parts – roots, stems, leaves, flowers, fruits and seeds.

Using the AITC Commodities Map, have students decide which of their food products (plant and animal) were (or could have been) grown in Virginia.



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A Healthy Hand

Standard of Learning

English K.11, K.12, 1.12, 1.13, 2.11, 2.12
Health K.1, 1.2, 2.2, 2.5, 3.1, 3.2, 4.1

Objective

The student will:

- Identify the various components of the My Plate food guide
- Define the importance of exercise in a healthy diet
- Write descriptive sentences and paragraphs.

Materials

- Markers
- Pencil
- Popsicle stick
- Scissors
- Glue
- White paper
- Copy of the My Plate food guide

Background Knowledge

With the obesity issue prevalent among schools nationwide there has been a heightened need to teach children at a young age to make healthy food choices. Understanding which foods are healthy and which should be consumed in limited quantities equip students to make wise decisions.

Exercise is the second key to making healthy choices in food and diet. Integrating exercise into a child's daily routine helps with fitness, brain power, and boost energy levels.

Procedure

1. Display a copy of My Plate. Review the 5 key pieces of the plate. Discuss examples of food that fit under each category.
2. Emphasize the importance of exercise to a healthy lifestyle. Lead the group in a discussion of what types of exercise are conducted at school, at home, and in the community.
3. Provide students with a plain sheet of paper and instruct the group to trace one hand on the paper. Using scissors cut out the hand drawing.
4. Label the paper hand as follows coordinating the color of the food category with My Plate. (The thumb should be on the left side when listing so the food categories read from left to right.)

| | | |
|-----------------|--------------|----------|
| • Thumb | - grain | - orange |
| • Index finger | - vegetables | -green |
| • Middle finger | - fruits | -red |
| • Ring finger | -dairy | -blue |
| • Pinkie | -protein | -purple |
| • Palm | -exercise | -black |
5. On the back of the hand students should write one example of each type of food on the corresponding finger and an example of exercise in the palm.
6. Have students glue the popsicle stick to the hand.
7. Display hands around the room.

Extension

- Create a bulletin board providing examples of stick figures or drawn characters showing



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examples of various exercises. Attach the “healthy hands” with the My Plate and food examples sides showing.

- Have students write sentences using the plate category terms and example food words.
- Instruct students to write a paragraph describing his/her favorite exercise.
- For older students research how many calories various exercises burn and rank exercises in order of efficiency.
- Plan a personal menu which is nutritionally balanced.



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Pass the Apples, Please!

Standards of Learning

Health: K.1, K.2, 1.2, 2.2, 2.3, 3.1, 4.1, 4.4

Objective

The students will:

- describe how germs spread and identify ways to prevent this

Materials

- Up, Up, Up! It's Apple-Picking Time by Jody Fickes Shapiro (optional)
- apples
- flour
- paper towels
- paper plates
- liquid hand sanitizer or soap and water

Background Knowledge

There are a few ways your students can make sure that they prevent the spread of germs so that they do not get sick. If they are sick and contagious, they should not be at school where they can get other students sick. When they cough they should cover their mouth so germs do not spread elsewhere. It is important for your students to always use a tissue when they need to wipe or blow their nose. One of the best ways to prevent the spreading of germs is for you and your students to wash your hands before eating. When it comes to food there are also ways that you can teach your students to be healthy. It is also important to remember to wash your fruits and vegetables and some other foods before consumption. If food that should be cold has been sitting out for a while then it should not be eaten. In this lesson students will learn how to prepare food safely to prevent the spreading of germs.

Procedure

1. Read *Up, Up, Up! It's Apple Picking Time* to the class.
2. Discuss new facts that children learned about apples from the book.
3. Sprinkle flour on several paper plates. Have each student stick one hand in the flour.
4. Pass around an apple allowing each child to handle the apple with floured hands.
5. Point out that the apple now has everyone's floured fingerprints all over it. These represent the germs.
6. Now ask how this could have been prevented.
7. Discuss how the apple and students' hands can be cleaned by washing.
8. Wash the apple thoroughly and show a clean apple to the group.
9. Have students wash hands while singing the "Hand Washing Song".
10. Provide apples for students to eat.

Hand Washing Song

To the tune of Twinkle Twinkle Little Star

I can wash my hands you see
Wash them clean as clean can be
Inside, outside, finger too.
Round my thumbs and them I'm through
Rinse away the dirt and stains
Send those germs right down the drain!

Extension

Have students design and make posters for the school cafeteria to promote hand washing.



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Shopping for a Balanced Meal

Standards of Learning

Health: K.1,1.2, 2.2, 3.1, 4.1

Objective

The student will be able to:

- Categorize foods by food group
- Identify the components of a healthy meal

Materials

- grocery store circulars/ads from multiple stores/weeks - enough for each student or group of students to have one
- paper plates
- scissors
- glue sticks
- markers
 - red = fruits
 - green = vegetables
 - orange = grains
 - purple = protein
 - blue = dairy

Background Knowledge

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Procedure

1. Discuss the food groups and examples within each category. Ask students to share what they had for lunch. Write the foods included in the meal on the board and then have students sort them into the appropriate categories.
2. Discuss the importance of choosing foods from each of the food groups as well as healthy choices within each group. Pass out grocery store circulars and markers to students. Remind students that the different food groups are represented by different colors on the plate. Have students use the appropriate colored markers to circle the various items in the ads. For example, students will circle the chicken, steak, and eggs in purple while they'll circle the bread and cereal in orange.



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3. Have students share a few of the items that they circled. Discuss those items whose ingredients contained multiple food groups.
4. Next pass out one paper plate to each student. Have them cut foods out of the circulars and paste them to their plate to create a meal. They must include at least one item from each food group.
5. Students may share their meals and display around the classroom.

Extension

Bring in examples of healthy snacks for students to taste and enjoy! For example, fruit with yogurt dip and whole grain pasta salad tossed with chopped veggies and grilled chicken cubes.



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