

The Big Six Nutrients on Our Plate

Grades 3-6

Goal	This lesson will introduce students to the Big Six—nutrients that we need to grow and survive. Students will understand that fruits, vegetables, grains, protein, and dairy are the essential parts of a healthy diet to get these nutrients.
Objectives	Students will be introduced to the concept that the foods they eat contain six essential nutrients (carbohydrates, protein, minerals, water, vitamins, and fat) which help to keep their bodies healthy and provide energy for their bodies.
Time	50 minutes
Materials	Posters: MyPlate Essential Nutrients Poster Essential Nutrients cards Pre/Post Assessment picture cards Food picture cards, small Hidden Gold materials Clean up your plate materials Tasting materials
Teacher Background	The Six Essential Nutrients Carbohydrates Foods containing carbohydrates are the body's main source of energy. Some good sources of carbohydrates are beans, fruits, low fat dairy foods, vegetables, whole grains (such as whole wheat bread or crackers, brown rice,

	<p>oatmeal), and nuts.</p> <p>Minerals Minerals are nutrients that are needed for the body to grow, work, and fix itself. Minerals help build strong bones, teeth, and turn food into energy. For example, calcium is a mineral which comes from milk and other sources. Calcium is a mineral that works with vitamin D and phosphorous to build strong bones and teeth. Calcium also helps keep a healthy blood pressure, helps keep nerves healthy, and helps muscles move.</p> <p>Proteins Proteins are nutrients found in both plant and animal sources. Proteins are made of amino acids, which the body uses to build and fix itself. Some good sources of protein are beans, eggs, fish, lean meats, low-fat dairy foods, poultry, and soy foods.</p> <p>Water The body needs water to live. Water helps control the body's temperature; use nutrients found in food, and carry oxygen from the lungs and food from the stomach to the rest of the body.</p> <p>Vitamins Vitamins are nutrients that are needed for the body to grow, work, and fix itself. For example, vitamin C helps the body heal cuts and wounds and helps lower the risk of infection.</p> <p>Fat Fats are nutrients that make cells, protect the body's organs, and help absorb certain vitamins. Fats come in many forms and some are healthier than others. Healthy fat sources include avocado, canola oil, some fish, nuts, olives, and olive oil.</p>		
Common Core Vocabulary	Nouns	Describing words (Adjectives)	Verbs
	<p>Nutrient Protein Carbohydrates Fat Vitamins Minerals Water</p>		
Anticipatory set/	<p>Brainstorm – What do our bodies need?</p> <ul style="list-style-type: none"> • Write down ideas 		

<p>Pre-Assessment</p> <p>Closing/Post-Assessment</p>	<ul style="list-style-type: none"> • Circle or highlight the ones that are on the right track towards the Big Six. <p>Closing: Review of Six Essential Nutrients</p> <ul style="list-style-type: none"> ➤ Let's look at the Big Six Nutrients. What nutrient does our body need most of? (water) ➤ Have students name the remaining five nutrients. (carbohydrates, protein, minerals, vitamins, and fat). ➤ Remember each nutrient has a specific job to provide your body with what it needs to stay healthy. ➤ If you eat foods from all five food groups on MyPlate your body will get all six essential nutrients to keep you healthy and give you the energy to keep moving everyday.
<p>Procedure (In the Classroom)</p>	<p>Today we are going to be talking about nutrients, which are the parts in food that our bodies need.</p> <p>Using MyPlate poster, point to the different food groups, and have them repeat after you:</p> <ul style="list-style-type: none"> • Grains: Gives us energy (run in slow motion in place) • Vegetables: For healthy skin (touch skin on face) • Fruits: Help our bodies to heal (point to a pretend scrape on knee) • Dairy: For strong bones and teeth (point to bones and teeth) • Protein: Building block for a healthy body (flex arm muscles) <p>Use one to two pictures of foods from group and tape on MyPlate as you introduce each food group.</p> <ol style="list-style-type: none"> 1. Why is it important to eat food from all of our food groups? (It provides us with energy and keeps our bodies healthy and feeling good.) 2. Review MyPlate and its five food groups. 3. Using pictures from each of the five food groups (fruits, vegetables, grains, protein, and dairy): <ul style="list-style-type: none"> • I need your help to identify each of these foods. • Which food group do they belong to? • Attach each food item to proper food group on poster. <ul style="list-style-type: none"> ➤ Nutrients come to us from foods and liquids we eat, and are broken down into usable form by digestion. ➤ When we eat food from all of these food groups we are providing our bodies with the six essential nutrients our body needs to be healthy so we feel our best. <p>Using <i>Essential Nutrients</i> Poster/Cards, introduce the six essential nutrients</p>

Procedure (In the Garden)

Review outdoor garden agreements
Transition to garden

Opening Circle / Garden Stretches

- Welcome students to the outdoor classroom
- Garden stretches
- Introduce the stations:

Hidden Gold
Clean Your Plate

Divide students into two groups

Station 1: Hidden Gold

Objectives:

- To introduce the concept of nutrients and the six nutrient categories.

Materials:

- Poster with 6 nutrients
- Manila envelopes with name and picture of food on the outside (broccoli, apple, almonds, hummus, pita, blue corn chips) #?
- Pie pieces (nutrient and percentage) with Velcro on back
- Pie chart with Velcro (to put the pieces on)

Discussion:

- Explain that foods all have a variety of nutrients in them – chemical substances that give us energy, help us grow and maintain our bodies. There are 6 groups that these nutrients fall into (use the poster to show): carbohydrates, water, fats, minerals, vitamins, and protein. We have to eat a variety of foods to get all the nutrients our bodies need.

Procedure:

- Group students into groups of 3.
- Give each group a bag (which has the name and picture of the food on the outside) and a pie chart, and

<p>Physical activity component</p>	<p>tell them not to open it yet.</p> <ul style="list-style-type: none"> • Which food do you think is most nutritious? • Play “What’s inside the bag?” – have teams think, pair, share – what nutrients will be in the bag for the food? • Once groups have a chance to share with each other, take a few volunteers to share what nutrients they think they will find in the bag for their food. • Once sharing is done, groups open their bags to discover what nutrients their food has. They will work together to fit pieces onto the pie chart to see that all the nutrients fit together to create a whole – all the nutrients together are what make up the food. • Have groups compare what nutrients their food has. Do all the foods have the same nutrients? The same amount? • Emphasize that all the nutrients hidden in the bag are just like the nutrients – they are hidden inside the food. • Developing ideas to ask: Why are nutrients important? Where do we find nutrients? Do all foods have the same nutrients? What are the six groups of nutrients we find in foods? <p>Closing: Which of these foods has all of the nutrients? Why is it important to eat different foods? Which nutrient do our bodies need most?</p> <p><u>Station 2: Clean Up Your Plate</u></p> <p>10-15 minutes - Classroom teacher</p> <p>Materials:</p> <ul style="list-style-type: none"> • 4 hula hoops • Play foods <p>Set-up</p> <ul style="list-style-type: none"> • 4 hula hoops in each corner of the basketball court • Healthy foods and junk foods in each team’s plates (hula hoops) • More food placed in the center of the basketball court <p>Rules/Directions: Goal: Clean off your team’s plate and replace it with as many healthy foods as possible.</p>
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<p>Tasting component</p>	<ul style="list-style-type: none"> • One team member at a time goes • Each team member can take only one piece of “bad food” off their plate. They may either “empty it” in another teams’ plate or in the center of the basketball court • Then they may steal a healthy food from another plate or grab one from the center • Once they place it into their hula hoop, the next team member may go <p><u>Tasting / Discussion</u></p> <ul style="list-style-type: none"> • Transition back to a whole group • Ask the students if they are ready to eat some vitamins and minerals. Remind them that vitamins and minerals help our bodies stay healthy and strong • Have students wash or sanitize their hands. Review the importance of cleaning off germs to be healthy. • Review tasting etiquette • Hand out the tasting • Lead a closing discussion while the tasting is handed out <p>Why is it important for us to eat food from all five food groups on MyPlate? What are the six essential nutrients? What is the most important nutrient of the six?</p>
<p>Home connection component</p>	<p>Send home the following message</p> <p style="text-align: center;">Big Six Home Connection</p> <p>Dear Parents/Guardians,</p> <p>Today your child had a nutrition lesson in the outdoor classroom. He/she learned about the <u>Big Six Essential Nutrients</u>: water, carbohydrates, fats, vitamins, nutrients, and proteins. The tasting for the lesson was: <u>Organic blue corn tortilla chips and broccoli with a salsa and sour cream dip.</u></p> <p><i>Activity to try at home/Recipe:</i></p> <p><u>Healthy Vegetable Dip</u></p> <p>1 jar of salsa (whatever you prefer)</p>

	<p>1 pint of low-fat sour cream</p> <p>Vegetables for dipping:</p> <ul style="list-style-type: none"> • Bell peppers (red, yellow, orange) • Carrots • Jicama • Celery • Broccoli • Cauliflower <p>Directions: in a bowl, mix together the sour cream and salsa until the sour cream is completely mixed into the salsa. Wash all vegetables and dry them. Slice them into long sticks that would be appropriate for dipping into salsa/ sour cream dip. Enjoy a healthy and delicious snack with your family!</p>
Standards:	
Health Education Standards	<p>Nutrition and physical activity</p> <p><u>Grade 4</u></p> <p>1.1.N Identify and define key nutrients and their functions.</p> <p>1.6.N Explain the importance of drinking plenty of water, especially during vigorous physical activity.</p> <p>1.7.N Describe the benefits of moderate and vigorous physical activity.</p>
Nutrition Competencies	<p>Standard 1: Essential Concepts</p> <p><u>Grades 5/6</u></p> <p>1.1.N Describe the food groups, including recommended portions to eat from each food group.</p> <p>1.2.N Identify key components of the "Nutrition Facts" labels.</p> <p>1.6.N Differentiate between more-nutritious and less-nutritious beverages and snacks.</p> <p>1.7.N Explain the concept of eating in moderation.</p> <p>1.8.N Describe the benefits of eating a nutritionally balanced diet consistent with current research-based dietary guidelines.</p> <p>1.9.N Explain how good health is influenced by healthy eating and being physically active.</p>
Physical	

Education Standards	<p>NC2.a (grades 4-6)</p> <ul style="list-style-type: none"> • Illustrate appropriate serving sizes for foods in each food group of the current USDA guidance for daily food choices. <p>Compare nutritional values of a variety of similar food items.</p> <p>4.4.4: Identify healthful choices for meals and snacks that help improve physical performance.</p>
Math Standards Grades 3-6	<p>Math Standards <u>Grade 4</u></p> <p>4.NF.3.d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.</p> <p><u>Grade 5</u></p> <p>5.NF.2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem.</p> <p>Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.</p> <p><u>Grade 6</u></p> <p>6.RP.3.c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.</p>
Common Core Speaking and Listening Standards	<p><u>Grade 3 - 6</u></p> <p>Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade level topics and texts</i>, building on others' ideas and expressing their own clearly:</p>

Grade 3-6

Grade 3

1. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
2. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
3. Explain their ideas and understanding in light of the discussion.
4. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

Grade 4

1. Follow agreed-upon rules for discussions and carry out assigned roles.
2. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.

Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.

Grade 5

1. Follow agreed-upon rules for discussions and carry out assigned roles.
2. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
3. Review the key ideas expressed and draw conclusions in light of information and knowledge gained.

Grade 6

Listening and Speaking

Comprehension and collaboration

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
 - b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.
 - c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.

	2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, and orally) and explain how it contributes to a topic, text, or issue under study.		
ELD Standards Listening and Speaking	<p><u>Beginning/Early Intermediate</u></p> <ul style="list-style-type: none"> • Ask and answer simple questions with one- to two-word responses, phrases or simple sentences. • Respond to simple directions and questions by using physical actions and other means of nonverbal communication (e.g., matching objects, pointing to an answer, drawing pictures). 	<p><u>Intermediate</u></p> <ul style="list-style-type: none"> • Ask and answer instructional questions by using simple sentences. • Listen attentively to stories and information and identify important details and concepts by using both verbal and nonverbal responses. • Retell stories and talk about school-related activities by using expanded vocabulary, descriptive words, and paraphrasing. • Participate in social conversations with peers and adults on familiar topics by asking and answering questions and soliciting information. 	<p><u>Early Advanced/Advanced</u></p> <ul style="list-style-type: none"> • Listen attentively to stories and information on new topics and identify both orally and in writing key details and concepts. • Narrate and paraphrase events in greater detail by using more extended vocabulary. • Negotiate and initiate social conversations by questioning, restating, soliciting information, and paraphrasing the communication of others.
References:	<p>Network for a Healthy California Nutrition Glossary - http://www.harvestofthemonth.cdph.ca.gov/edcorner/Botanical%2051212/Glossary/CDPH_NutritionGlossary_FINAL.pdf</p> <p>Choose MyPlate - www.choosemyplate.gov</p> <p>Adapted from "Invisible Gold" - <i>The Growing Classroom</i></p> <p>SPARK Curriculum</p> <p>TWIGS: Vitamin Values</p> <p>http://recipefinder.nal.usda.gov/recipes/vegetable-medley-salsa-dip</p>		